What’s in a verb?

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What's in a verb?

Studies in the verbal morphology of the languages of the Americas

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Preface

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The purpose of this volume is threefold. First, it recognises the unparalleled impact that the study of indigenous languages of the Americas has had on progress in linguistics, in particular in the area of morphosyntax, since the early 20th century. This book is devoted to verbal morphology, which tends to be the most complex grammatical component in the languages of the Americas and often constitutes the first challenge that a researcher of an undescribed or poorly studied language encounters. It would be difficult, if not impossible, to provide a fully representative picture of the diversity of structural complexity that verbal forms exhibit in the indigenous American languages in one volume. However, the present book offers a synopsis of the morphological categories that play an important role in verbal morphology and that have attracted the attention of linguists active on the American continent.

Second, the rich linguistic variety in the Americas has given rise to a number of regionally specialised groups of experts. The present volume overrides regional boundaries and provides an overview of interesting verbal phenomena across North, Central, and South America, hoping to contribute to more interaction in the field of Americanist studies.

Last but not least, we wish to take stock of the long-standing tradition of Dutch and the Netherlands-based linguists working in the Americas and give an overview of current Dutch involvement in the study of these languages. The contributors to this volume are therefore either Dutch themselves or have been affiliated with a Dutch research institute while carrying out their research. In recent years the Dutch involvement in the study of indigenous languages of the Americas has been growing rapidly, in particular in South America. We therefore hope this volume will soon be followed by others that will report on the results of current and future Dutch research in the Americas.

This volume is a collection of articles presenting original fieldwork results and/or innovative comparative research, often on little known languages and phenomena, and illustrated with unique data. Each contribution provides a brief outline of the verbal morphology of the language under consideration and an in-depth analysis of a selected topic.

Several of the papers focus on issues related to transitivity, which highlights the significance of this morphological category in indigenous Ameri-

can languages. Van Eijk considers transitive verb inflection in Lillooet Salish from a typological perspective. Van de Kerke discusses the distribution of object marking in Leko and its interaction with case, animacy, and saliency. Rowicka examines the function and the origin of the transitive linker in Upper Chehalis. Veerman-Leichsenring analyses the valency-changing effects of inflection and derivation in Metzontla Popoloc. The remaining contributions address a wide range of other verbal phenomena. Adelaar considers the development of derivational affixes expressing direction into aspectual and related affixes in Tarma Quechua. Bakker presents a new detailed model of affix ordering in Plains Cree. Carlin gives a semantic analysis of the verbalizers in Trio, showing how linguistic distinctions can be directly correlated with cultural distinctions. Crevels discusses verbal number, i.e. number relating to events rather than to entities, in Itonama from a typological perspective. Meira concentrates on the morphosyntactic properties of stative verbs in Mawé and the Tupian family, and compares their analyses as verbs and as nouns. Muysken & Hannss reconstruct the structure of the verb in Uchumataqu and compare it to that in related Chipaya. Nater adopts a diachronic perspective in his account of complex morpho-phonological alternations in Tahltan verb stems. Telles & Wetzels describe the complex system of evidentiality in Lakondê.

The diversity of the Americanist research in the Netherlands is reflected in the variety of approaches that the authors adopt in their papers. Many studies represent the descriptive tradition (van de Kerke, Telles & Wetzels, Veerman-Leichsenring, Bakker, and van Eijk). Several adopt a typological and/or comparative perspective (Adelaar, Bakker, Crevels, Meira, van Eijk, and Rowicka). A few include an analysis of language internal development (Adelaar, Muysken & Hannss, and Nater). One represents the anthropological linguistic tradition (Carlin).

We would like to express our gratitude to a number of people who helped us to make this volume reality. We thank our colleagues who acted as anonymous reviewers and whose commentaries helped to assure the quality and clarity of the papers. Thanks to our partners, Jeroen van de Weijer and Maarten Mous, for their help during various stages of this project and for their full support until its completion. We owe special thanks to the Leiden University Centre of Linguistics (LUCL), whose financial assistance made the publication of this volume possible. Finally, we express our appreciation to all the authors who contributed their papers to this collection and continued their support for this project despite the fact that it took longer than originally planned.

Part I

North and Central America

Algonquian verb structure: Plains Cree[1]

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1 Introduction

In this paper I discuss some aspects of verbs in Plains Cree, an Algonquian language of Canada. I will focus on the structure of stems, and on the order of affixes in the Cree verb. First, I will try and construct a descriptively adequate morpheme template for Cree, and then investigate a number of theoretical models to account for that. Most literature on Cree verbal morphology discusses inflection and paradigmatic relations. My attention will go to stem formation (primary and secondary derivation) and the linear combinability of elements in the verb. I will provide a descriptively adequate morpheme template for Cree, and point out some implications for cross-linguistic models of affix ordering.

First, I will sketch briefly the place of Plains Cree within the Algonquian family (§2). Then I will discuss Cree word classes (§3) after which I will focus on verbal semantic distinctions in §4 and stem structure in §5. In §6, I survey approaches to Algonquian/Cree affix order, ultimately presenting a description of verbal affixation. In §7 I will discuss these facts in the light of cross-linguistic approaches to affix order, and some implications of this are discussed in §8 and conclusions drawn in the final section.

2 Family relations

Cree is a member of the Algonquian language family. The Algonquian languages are the geographically most widespread of North America, with speakers in British Columbia (Cree, Ojibwe) in the west to the coastal area of Labrador and Newfoundland in the east. The Algonquian languages and two languages of California, Yurok and Wiyot (the Ritwan languages) form the Algic phylum. The Plains Cree language is part of a cluster of dialects that form part of the Cree-Montagnais dialect or language continuum.

The Algonquian family consists of some 40 languages that have been

[1] The transcription used for Plains Cree is the standard orthography where vowel length is indicated by macrons or circumflexes. For clarity, length is indicated by double vowels for the other Algonquian languages, and when quoting directly from an author who uses vowel doubling.

I want to express my thanks to the anonymous reviewers.

documented to some extent. Names like Cheyenne, Blackfoot, Chippewa/ Ojibwe, Illinois and Cree are well-known. The most completely documented Algonquian languages are probably Ojibwe, Cree and Fox, but even for these languages much more fieldwork and documentation is needed. All Algonquian languages are endangered. About a dozen languages formerly documented as spoken along the US east coast are now extinct. Only Kickapoo and some dialects of Cree and Ojibwe are still being learnt by children.

The Cree-Montagnais cluster can be divided into Montagnais-Naskapi and Cree. The Montagnais-Naskapi (including the Crees of Eastern James Bay, Quebec) call themselves *ilnu*, *iyiyu*, *innu* 'people', whereas the Crees call themselves *neehiyaw/neehiraw* (of contested etymology) etc. The Montagnais-Naskapi dialects are spoken in the Québec-Labrador peninsula and Cree from Alberta to Québec. We limit ourselves here to the Cree (**neehiLaw*) branch, specifically Plains Cree.

Cree dialects are usually distinguished on the basis of the reflex of Proto-Algonquian **l* of unknown phonetic realization, as in **neehiLaw*. This has become /r/, /l/, /n/, /δ/ or /y/ in the different Cree dialects, as in the word for 'me'. From east to west we hear: Attikamek (Québec) *niira*, East Swampy Cree (Ontario) *niila*, West Swampy Cree (Ontario, Manitoba) *niina*, Woods Cree/ Rock Cree (Manitoba, Saskatchewan) *niiδa* and Plains Cree (Saskatchewan/ Alberta) *niya*. The Cree dialects are similar enough that they can be understood after a brief immersion.

Plains Cree has the widest geographical spread and the highest numbers of speakers of all Cree dialects. Plains Cree is spoken in Canada in Alberta, Saskatchewan, and by a few people in southwestern Manitoba. Furthermore, there are sizable numbers of immigrant speakers in British Columbia and the Northwest Territories. In the United States, it is spoken on the Rocky Boy Reservation in Montana, and until the 1990s also by a few people on the Turtle Mountain Reservation in North Dakota. Wolfart (1996) mentions between 60,000 and 70,000 Cree speakers in 1970, 26,000 of whom speak the Plains dialect. In interethnic contacts with neighboring peoples, it was often Cree that was used, for instance by Denes, Ojibwes and the Blackfoot (Bakker & Grant 1996). This may be responsible for the fact that Plains Cree is simplified in comparison to the other Cree dialects. Some of the paradigms as documented for e.g. Swampy Cree (Ellis 1983) are not found in Plains Cree, and several paradigms that are still found in earlier grammars of Plains Cree, such as the one by Lacombe (1874) and in earlier texts from the 1930s, are not common anymore in Plains Cree (e.g. the morphological dubitative evidential and two preterit forms).

Plains Cree may be simplified in relation to neighboring Cree dialects; the

language does display a complex verbal morphology. Several aspects of its structure are still not well understood, including the limits of its verbal derivational possibilities.

3 Cree

Cree is a typical polysynthetic language in the sense that almost all of the grammatical information is given in the verb, and very little in the noun. This means that verbs are frequent and also morphologically complex. Before discussing the verb, I will first briefly discuss other word classes and their morphological properties. Cree has nouns, verbs and particles. Under 'particles' one can identify adpositions and several kinds of pronouns and adverbs.

Nominal morphology is limited to a handful of suffixes: there is a **diminutive** suffix, a plural **number** suffix, and a **locative** suffix, all three with fairly simple and predictable allomorphs. Further there is one nominal inflectional ending, called **obviative** in the literature, which contrasts with zero-marking, called **proximate**. The obviative is used to keep the third person agent and patient distinct in a discourse. The topic is typically unmarked, whereas the newly introduced third person is marked obviative. There are **possessive** affixes: nouns can have possessive prefixes, sometimes combined with affixes, and also some extra suffixes to mark further obviative, or rather possession by a possessed entity (e.g. 'his father's horse'). Possessive affixes mark the possessor, and possession is marked obligatorily for, roughly, inalienable possession.

Most of these nominal suffixes recur in the verbal paradigms, with roughly the same forms and meanings. The rest of the paper zooms in on verbs.

4 Verbs in Cree

Verbs contain most of the information. It contains obligatory reference to grammatical roles and number of its arguments (subject, direct and indirect object), and optionally also several valency-changing affixes (causative, applicative, detransitivizer, passive), gender-changing suffixes (from animate to inanimate, and the reverse) plus adverbial modifiers, tense, mood, aspect, Aktionsart, discourse markers, and further also incorporated nouns, classifiers, and diminutive suffixes. Even the stems are complex, most verbs consisting of at least two formative elements suggestive of a form of Aktionsart. Consequently, one Cree verb can sometimes be equivalent to a whole sentence in English.

Cree nouns and verbs make a few inflectional distinctions that need explanation before embarking on Cree verbal morphology. First, Cree grammar distinguishes between **inclusive** and **exclusive** 'we'. Inclusive (marked 12 in glosses) includes the hearer ('we humans') and the exclusive does not include

the hearer ('our son'). This distinction is found in many American languages. It is marked in personal pronouns, possessive inflection of nouns and verbal inflection in Cree.

Second, Cree has a category of **obviation**. The obviative is marked on the (animate) noun and in the verb. Its function is to keep two third persons in a discourse apart, by marking the least topicalized with an obviative suffix *-a/ -wa*, which is neutral for number. In addition, it is used to mark agreement with a possessed noun (**possessive agreement**), e.g. 'his (older) brother': *ostês-a*. The obviative is also marked in the verb: possessed subjects or objects trigger the suffixes *-yi-* and *-im-* in different positions in the verb.[2]

(1) a. *ostês-**a*** *wâpam-ê-**yi**-w-a* (subject is third person possessed)
brother-OBV see.VTA-DIR-POSS-3-OBV
'His/her (older) brother sees him.'
('him' refers neither to 'he/she', nor to the 'brother')

b. *ostês-**iyiw-a*** *wâpam-**im**-ê-w* (object is third person possessed)
brother-4-OBV see.VTA-DIR-DIR-3-OBV
'He/she sees someone else's (older) brother.'

Third, Cree has a **person hierarchy**, which is reflected in the order of person-marking morphemes in the verb and in the transitive verb morphology. This person hierarchy is:

(2) 2 > 1 > 3 > 3' (new third person, or obviative)

In overt person marking, the person markers higher in the hierarchy will always

[2] The following abbreviations are used: ABS = absolutive (transitive object, intransitive subject), AGR = agreement, AI = animate intransitive, AN = animate, APPL = applicative, BEN = benefactive, CAU = causative, CON = conjunct order, DEAN = deanimatizer, DETR = detransitivizer, DIR = direction marker, direct, DUR = durative, F = final, FUT = future, I = initial, II = inanimate intransitive, INAN = inanimate, INC = incorporation marker, INC.N = incorporated noun, INDEF = indefinite, INDEP, IO = independent order, INFL = inflectional, INST = instrumental affix, INV = inverse, IRR = irrealis, ITER = iterative, LEX = lexical, M = medial, MID = middle, NEG = negative, negation, O = object, OBV = obviative, P = person inflection, PASS = passive, PL = plural, POS = positive, POSS = possession, POT = potential, PRED = predication, PST = past, REC = reciprocal, RED = reduplication, REFL = reflexive, REL = relational, SOA = state-of-affairs, S = subject, SYNT = syntactic, TA = transitive animate, TI = transitive inanimate, TMA = tense, mood, aspect, VAI = intransitive animate, VII = intransitive inanimate, VTA = transitive animate, VTI = transitive inanimate and VOL = volitional.

linearly precede the ones more to the right in the hierarchy. In addition, there is an element in the verb, preceding the person suffixes and following possible derivational suffixes which marks whether the semantic roles of the persons follow the person hierarchy (**direct**) or not (**inverse**). In both examples (3a) and (3b), the second person precedes the first linearly. The direct and inverse suffixes indicate the semantic roles, where *-i-* is a direct marker in (3a) and *-iti-* the inverse in (3b):

(3) a. *ki-wâpam-i-n* 'you see me' (2-1 semantic, 2-1 linear; direct)
b. *ki-wâpam-iti-n* 'I see you' (1-2 semantic, 2-1 linear; inverse)
2-see.TA-DIR.or.INV-non3

If the semantic roles follow the person hierarchy in (2), then direct forms are used. If they go against the hierarchy, then the inverse forms are used. Examples (3a,b) relate to the first and the second person. If third persons are involved, the direct and inverse markers have different shapes: direct *-ê-* for 3S >3O, direct *-â-* for 3S-non3O, and inverse *-ik(w)/-ik(u)* for 3S.

(4) a. *wâpam-ê-w* 'he sees him/the other' (*ê* - direct)
b. *ni-wâpam-â-w* 'I see him' (*â* - direct)
c. *wâpam-ik[w]* 'the other sees him/ he is seen by someone' (*ik(w)* - inverse)
d. *ni-wâpam-ik* 'he sees me' (*ik* - inverse)

These constructions should not be confused with passives: in contrast to the latter, direct/inverse forms are obligatory. Cree also has passive constructions with their own morphological marking.

Fourth, all nouns belong to **animate** or **inanimate gender**. Wolfart (1996) makes the following generalization with regards to nouns: human beings, animals, spirits, trees, animal hides and garments, some body parts (e.g. kidney), some natural phenomena (snow, rock, sun/moon), some household items (snowshoe, sock, kettle) and certain plants and their products (nut, bread) are animate. Abstract nouns, formed with the deverbal suffix *-(i)win*, and instrumental nouns, formed with the suffix *-(i)kan*, are always inanimate (*nêhiyawê-* 'speak Cree', *nêhiyawêwin* 'Cree language'; *cîkah-am* 'he chops it', *cîkah-ikan* 'axe'). **Animacy** is not overtly expressed in nouns, but demonstratives and verbs display agreement in animacy with nouns. Verbs sometimes have different stems for different subjects (in intransitive verbs) or objects (in transitive verbs), depending on their animacy, and the person inflection depends on the animacy of the subject and the object.

The other major verbal category is **transitivity**. Verbs have different inflections depending on whether they are transitive or intransitive, and in some cases also distinct stems (e.g. *mîcisow* 'he is eating', *môwêw* 'he eats him', *mîciw* 'he eats it'). Algonquian verbs are usually divided into four classes based on animacy and transitivity, and the following abbreviations are conventions in the Algonquianist literature.

(5)	intransitive	animate:	VAI	AI
	intransitive	inanimate:	VII	II
	transitive	animate:	VTA	TA
	transitive	inanimate:	VTI	TI

Some of these can be subdivided: Wolfart (1996: 403, Table 4) distinguishes nine classes in all.

Verbal paradigms appear in two sets, traditionally called the **conjunct** and the **independent order** (sometimes 'mode') in the Algonquianist tradition. Algonquianists often distinguish a third order, called **subjunctive**, but that one is regularly derived from the conjunct by an extra suffix in Cree; it is used for conditional sentences.

In the conjunct order, person inflection is expressed only by suffixation, whereas the independent order uses both suffixes and prefixes. The sets of affixes show no formal similarity across the two orders. The inflection of the independent order, however, appears virtually identical to possessive inflection in the nominal paradigm.

These semantic distinctions needed more explanation, because they are more or less typical for Algonquian. In addition, stems are complex as well, including verbal classification and noun incorporation. Furthermore, Cree verbs also display marking of among others tense, mood, aspect (all prefixed), voice, valency and changes in animacy (all suffixed), etc. In the next sections I will deal first with stem structure and then with the order of affixes.

5 Stem structure

The structure of stems in Algonquian languages is commonly described and analyzed in the structuralist terms proposed by Bloomfield in his grammatical studies of Algonquian (e.g. his 1946 sketch or his grammars of Eastern Ojibwe (1958) and Menomini (1962)). Algonquian verb stems consist of at least two elements, initials and finals, and they may also contain medials. In addition, there is also the possibility of having morphemes in between these three, called pre-finals and post-initials. Each of these formatives can be complex. These terms obviously make no reference at all to the meaning of these elements, as

they only refer to the position of these elements within the stems. They do share certain semantic patterns.

Perhaps the most detailed analysis of Algonquian stem structure, and also one that does take meaning into consideration, is Goddard (1990). He states that initials denote a **state or a configuration**, whereas finals refer to the **means** by which this state or configuration has come about, and also mark the inflectional valency of the verb, i.e. the type of verb with regards to (in)transitivity and (in)animacy. Medials are always **noun-like** (Goddard 1990: 463 n. 36). Medials may be classificatory (i.e. convey information on the nature of the subject or object such as 'stone-like'), or incorporated nouns, with generalized meanings.

The following examples may illustrate this.

(6) *nip-* *i-* *w*
die(I)- AI(F)- 3(P)
'he dies' (only initial, with inflection)

(7) *kîsk-* *isw-* *ê-* *w*
severed(I)- cut.TA(F)- DIR- 3S.3O(P)
'he cuts him off' (initial + final, with inflection)

(8) *kîsk-* *ikât-* *ê-* *w*
severed(I)- leg.INC(M) DIR - 3S.3O(P)
'He is cut off at the leg'

(9) *kask-* *âpisk-* *ah-* *am*
closed(I)- metal(M)- INST(F)- AI.3S.3O(P)
'he closes it with metal, he locks it with a key' (initial+class.medial+final)

(10) *kîsk-* *ikw-* *ê-* *sw-* *ê-* *w*
severed(I)- neck.INC.N(M)- INC- cut.TA(F)- DIR- 3S.3O(P)
'he cuts off his head' ('he head-cut him')
(initial + medial + final, with inflection)

The medial in (9) is one of half a dozen classificatory medials ('stone, metal-like'), and the medials in (8) and (10) are body part medials. Medials and incorporated nouns often do not show formal similarities with lexemes with the same meaning. Incorporated nouns, but not noun classificatory elements, are always followed by the incorporation marker *-ê*, as in (10).

Stems can be more complex than these examples, but this may suffice for now. One can call them 'bipartite stems' or 'multipartite' stems. The next section focuses on secondary derivation and inflection.

6 Survey: Cree affix order

It will be clear by now that Algonquian verbs can be quite complex, and not only the stems. Verbs display distinct derivational and inflectional morphemes for tense, aspect, mood (often subsumed, together with other elements in Algonquianist terms, under the label 'preverbs'), Aktionsart, valency, voice, gender, transitivity, diminutivity and person agreement, as well as (not mentioned before) adverbial elements.

6.1 Bloomfield

Several persons have attempted to describe, model or explain (parts of) the Algonquian or Cree verbal morphology. I will deal with these first, and then present a much improved morpheme template. Bloomfield posthumous Menominee grammar (1962: 214ff.) makes a few remarks on the order of preverbs, distinguishing two classes. Class 1 preverbs are limited in number, frequent in use and they occur only as preverbs. Their internal order is 'largely fixed', and they precede class 2 preverbs. Semantically they cover among others tense, mood and aspect (TMA). Class 2 preverbs are unlimited in number, and they follow class 1 preverbs. Semantically they cover direction, manner and the like. Individual items are not frequent. Their internal order seems relatively free, notably that of the 'modal preverbs'. In other words, Aktionsart and direction are closer to the stem than TMA.

6.2 Edwards

Mary Edwards (1954, chapters 17, 18, 52; here from a 1986 reprint of the second edition of 1961, p. 51) came up with a template for the order of preverbs in Cree, which she called verbal affixes, upon which Table 1 below is based. The model itself and the forms are Edwards', and the labels in CAPITALS are added by me.

Edwards' template lists only a small number of possible elements, among them the most frequent ones and only pre-stem elements. It focuses on what she calls 'proclitics'. They cover Bloomfield's preverbs. Probably Edwards' categories 1-4 would fall under Bloomfield's Class 1 preverbs, and categories 5-7 under Class 2 preverbs.

There are clear patterns observable in the ordering. Both of the outer layers show person markers. If we look at the meaning of the elements in the columns marked 1st to 6th, it is easy to note that they all denote tense, mood, aspect, and Aktionsart, roughly in this order. Columns 1-3 denote tense, with some mood; columns 4, 5 and 6 denote mood and aspect, with some tense. The morphemes in column 7 are the most lexical, and would be expressed as directional and manner adverbs in a language like English.

Table 1. Morpheme template based on Edwards (1954)

(Person) Prefix	1st position	2nd position	3rd position	4th position	5th position	6th position	7th position	VERB ROOT	(IO) Person suffix
1 *ni* 2 *ki* 3 -- 1PL *ni* 2-1 *ki* 2PL *ki* 3PL --	*ohci* PAST (with NEG)	*ka* FUT	*kî* PAST	*nohtê* WISH	*pê* COME	*nitawi* GO AND	*wayawî* TO THE OUTSIDE		*n* non3 *w* 3 *nân* 1PL *nânaw* 1PL *nâwâw* PL
		kita FUT	*wî* FUT/	*kakwê* TRY		*pôni* QUIT	*tako* WITH, ALONG		
				ati START		*mâci* START	*miyo* WELL		
						sâpo TOTALLY, THROUGH			
						nihtâ ABLE			

There are two main problems, however, with the descriptive adequacy of this template. Wolfart (1973: 77) already criticized Edwards, as her model is not consistent with the data. He observed: "Contrary to the claim of Edwards (1954: 17) no order of occurrence has been established among (...) preverbs, although *kî* past *kakî* 'able to' and *wî* 'intend to' tend to precede, and *isi* 'thus' to follow the others". One can raise two kinds of objections against Edwards. First, the template/model is far from complete. There are hundreds, if not more, of these preverbal elements in Cree (Valentine 2001 even states that there are thousands in closely related Ojibwe). Edwards' overview, however, only lists around one and a half dozen. Second, even for the elements given in the table, it is not factually correct. Alternative orders are sometimes encountered.

6.3 Wolfart

Wolfart (1996, based on his 1973 work) presents another template for verbal morpheme order. This template differs radically from the one given by Edwards, in that it is limited to the inflectional morphemes, or rather the inflectional suffixes (tense, number and person). It is given in Table 2. Wolfart's terms differ in some respects from those used by me: column 1 and 3 correspond to my possessive agreement (§4), his column 2 with my direct/inverse. Furthermore, his columns 4, 6 and 7 deal with somewhat archaic paradigms that I have not mentioned yet. Wolfart (1973) already considered them rare in his fieldwork in the 1960s. In contemporary Plains Cree the so-called h-preterit and p-preterits (slots 4, 6 and 7 in Table 2) have almost completely disappeared.

6.4 Pinnow

Heinz-Jürgen Pinnow (1986) also devised a template for verbal suffixation (Table 3), which looks rather different from Wolfart's. His labels for some of the elements are rather unorthodox, as is his listing of five consecutive person markers. Another special feature of his template is that he tries to make it valid for a range of Algonquian languages, and therefore perhaps Proto-Algonquian. For almost all forms, Pinnow adduces comparative evidence and presents reconstructed forms for Proto-Algonquian. This is both its strength and its main problem. For a number of Cree forms, Pinnow goes through a rather complex set of changes that justify developments like those from **ak-yaan* to *-ak* ('I-him') and from *ak-yin* to *-at* ('you-him'). Pinnow does not deal with the prefixes, which in his view are secondary developments; the original system consisted only of suffixes.

Table 2. Template for inflectional suffixes (after Wolfart 1996: 410; see also Dahlstrom 1991; Wolfart 1973; Bloomfield 1958, 1962)

	1	2	3	4	5	6	7	8	9	10
VERB ROOT	Thematic OBV	Theme signs VTA, VTI	Thematic OBV	Mode: preterite	Person: non3 person	Mode: p-preterite, dubitative	Mode: p-preterite, dubitative	Person: 3rd person	3rd person plural and obviative	Mode: subjunctive and itera-tive
	/em/ (-im)	(*â, ê*, etc.)	*/eyi/ (-yi-)*	*-h* and *-hp*	*-n*, *-isk*, etc.			*-w, -n, -t*	*-ak, -ik*	*-i*

Table 3. Template for Cree verbal suffixes according to Pinnow (1986)
Reconstructed forms given by Pinnow in italics; I have replaced them with the actual Cree morphemes.

	1 = A	2 = B	3 = C	4 = C	5 = D	6 = D	7= E
VERB ROOT	S/O, ect. DIR markers	Person marker: O or pseudo-O	Person marker: S or O (depends on A)	Person marker: S or O (depends on A)	Person marker: S or O (depends on A)	Person marker: S or O (depends on A)	Animate number: PL
	zero: hierarchical *-ek-* iko S marker 'by' *-eθ-* [it] O marker 'to'	*-w-* (REL) *-im-*	[see fn. 3 for forms]	[see fn. 3 for forms] *-yi-*	[see fn. 3 for forms]	[see fn. 3 for forms]	*-ik-*

One of his other unorthodox conclusions is that the person hierarchy in the suffixes is 0-3"-3'-3-2-1, and not the one usually proposed for Algonquian: 2-1-3-3'. He can have meant neither the order relative to the stem nor the hierarchy relative to the inverse/direct marking, even if one assumed that he reversed it.[3]

Here and there Pinnow mentions problems with his template. There are a few forms that do not fit, and there are a few forms that he chose not to deal with, and some of these also lay outside the domain of person inflection. He mentions the *-h-* preterit forms, which according to him would fit between his positions C and D, but he does not do so for some other forms. He does not deal with passive inflection either.

Pinnow's template leaves us with a rather abstract model of a presumed original system. If we compare Pinnow's 'idealized' system with Wolfart's Cree template, there are a few striking differences. First, consider the position of the obviative suffixes. Wolfart's 'thematic obviative' *-im-* (**-em-*) suffix precedes the 'thematic obviative' *-yi-* (in Pinnow's Moose Cree *-li-*) suffix, whereas the order is the reverse in Pinnow. Wolfart's template is in accordance with observed facts. Second, Wolfart has a separate position for third person suffixes, which Pinnow lumps with non-third person suffixes. Wolfart is justified in doing so, because the p-preterits and dubitatives follow the first/second person suffixes, whereas they precede the third person suffixes. Pinnow, like Wolfart, leaves out most derivational suffixes that can intervene between stems and inflection, as well as the diminutive, and the hearsay-evidential, and also Wolfart's preterit suffix.

The parallels and differences between Wolfart's (Table 2) and Pinnow's numbered columns (Table 3) are: Wolfart's 10 = Pinnow's 8; Wolfart's 9 = Pinnow's 7; Wolfart's 8 = Pinnow's 3, 6; Wolfart's 6 and 7 are not discussed by Pinnow; Wolfart's 5 = Pinnow's 3, 4, 5, 6.

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[3] Pinnow states that the relational *-w-* under B is always combined with certain markers under C: *-aa/-ee* (IO) or *-ak/-at/-ee-* (CO).

In columns 3/C and 6/D a range of forms can be used. For convenience these are given here. The zeros in Table 3 usually stand for a specified element that changed to zero. I have changed Pinnow's Moose Cree form *-li-* (column C) to its Plains Cree near-equivalent *-yi-*. IO means independent order, CO means 'conjunct order verb':
1SG: *-yaan, -aan, -yan* (CO), *-n* (IO), *-Ø* (IO, CO); **2SG:** *-yan, -yin, -an* (CO), *-n* (IO), *-i-, -e-, -n, -Ø* (IO, CO); **1PL**: *-yaahk, -aahk, -iht/ihc-* (CO), *-naan* (IO); **21:** *-(y)ahk(w), -ahko* (CO), *-naanaw, -naw* (IO); **2PL**: *(i)yeekw, -yeek(w), -eek(w), aak(w), ak(w)* (CO), *inaawaaw, (e)naawaaw, -waaw* (IO); **3SG, AN**: *-aaw, -w, -aa, ee, -Ø* (IO), *-(a)k, -at/-ac, it/-ic* (DO), *-am*; **3SG, INAN:** *-w, -o, -ee* (IO), *-k* (DO), *-am*; **INDEF person**: *-awi-, -aa-* (IO, CO), *-iht/ihc* (CO); **OBV**: *-(i)yi-w, -(i)yi-k, (i)yi-t, -im-aa(w), -im-ee*; etc.

Table 4. Template covering all derivation and inflection (slightly revised from Bakker & Papen 1997)

1 (max. 1)	2 (max. 1)	3 (several)	4 (one)	5 (one)	6 (several)	7 (one)	8 (max.1)	9 (one)
CON ORDER marker *e:* *ka:* *ci:* *kita* OR:	**TENSE/ MOOD** *ohci-* NEG PST *ki:* POS PST *ka/kita* FUT *wi:* VOL *kaki:* IRR/POT	**PRE-VERBS** (open ended: several slots)	VERB ROOT (open ended; several slots)	**DIRECTION/ THEME** *a:* non3S.3O *e:* (3S.3O) *i* (2S.1O) *iti* (1S.2O) *iko* (3S, non3O)	**VOICE/ VALENCY** *h* CAU, *iso* REFL, *ito* REC, *o* MID, *iw* APPL, *ike* DETR, *ikawi* PASS, s*t* BEN, *hkâso* 'pretend'	**INDEP PERSON AGR** *na:n* 1PL *naw* 12 *na:w* 2PL	**PL ABS** *ik/ak* (INDEP) *waw* (CON)	**CONDITIONAL** *i/u*
PERSON in INDEP ORDER *ni-* 1 *ki-* 2					**ANIMACY** *am* INAN.O *maka* DEAN *iwe* AN INDEF O (antipassive?)	**CON PERS. AGR** *ya:n* 1 *yan* 2 *ya:hk* 1PL *yahk* 21 *ye:k* 2PL *t/hat/k/hk* 3		
					ite: INAN PASS *ika:* AN PASS			
					OBV AGR *yi* OBV.S *im* OBV (pos-sessed) O			
					AGR INDEP ORDER *n* non3, *w/n* 3			

6.5 Bakker & Papen

In Bakker & Papen (1997: 314) and Bakker (1997) an attempt was made to provide a more semantically based template for verbal affixation and which included both prefixes and suffixes, and inflection and derivation. A slightly revised version is given in Table 4. It will be the basis of a more elaborate template given below.

6.6 The revised template

None of the templates shown here displays the whole theoretical range of morphemes. Bloomfield, Edwards, Wolfart and Pinnow all limit themselves to a subset of possible morphemes, and the last table from Bakker & Papen, even though attempting completeness, omits some. Table 4 is the most comprehensive one, but even this one is not complete. First, the extinct or rare preterit paradigms are omitted (column 6 and 7 in Table 2). These three sets would, following Wolfart, split column 11 into four or five columns. Second, the diminutive and frequentative are not inserted. The diminutive should appear somewhere between columns 12 and 19, but not enough examples were encountered with both diminutive and voice/valency suffixes that could help determine its exact position. The same is true for the frequentative.

We are now ready to come with a more complete template for Cree. The final table (Table 5) also omits the three preterits, the diminutives and the rare frequentative suffix *-sk*. Still, it is by far the most complete template. In this table both traditional Algonquianist structuralist terms are given and more cross-linguistic semantic terms.

The first row shows semantic labels for the slots. The second row numbers the morphemes: 1 through 7 are prefixes, 8 through 10 are parts of the stem, and 11-21 are suffixes. One column contains four numbers (14-17), because one verb may contain several of them in a row, but in practice never more than four. The third row will be discussed below. The bottom row gives the traditional structuralist labels used by Algonquianists. This template is a theoretical construct in that no verb will in practice contain more than ten morphemes.

This descriptive template will be the basis for my analysis of the order of verbal affixes in some models of affix ordering in the next section, putting it in a typological perspective.

Table 5. Revised template for Cree verbal morphemes

Part 1. Positions 1-7

CON [or Person]	Person [or conjunct]	Tense	Mood	Aspect 1	Aspect 2	Aspect 3	Aktionsart
1a	1b	2	3	4	5	6	7
TRADITIO-NAL TERMS		class 1 preverb	class 1 + 2 preverb	class 2 preverb	light RED / DUR	heavy RED / ITER	class 2 preverb ???

Part 2. Positions 8-21

STEM Situation	**STEM INC.N**	**STEM Means, manner**	Possessed O	Direction/ theme	Val-ency	Voice	Pos-sessed S	Person	PL ABS	Conditional
8	9	10	11	12	13	14 or 17	18	19	20	21
Initial	Medial	Final	OBV	Theme	??	??	OBV	Person	PL	Subjunctive

7 Cree and some cross-linguistic approaches to affix order

A number of models for affix order have been proposed with presumably universal properties, some of which will be discussed here, and weighted against the Cree data. The models presented below show the relative position of the affixes to the root. Please note that the models for affix orders are always presented beginning with a verbal root on the left side, followed by suffixes, and with prefixes given in reversed linear order, i.e. as if all morphemes would be suffixes, hence to the right of the stem. If the affixes in reality precede the verb, the order is of course, in absolute terms, the reverse from the model: it is the relevance of the elements to the stem and to other elements in the sentence that plays a role, with the stem as the point of departure.

Please note that the models are not always directly comparable because Cree is both prefixing and suffixing, and some affixes precede the verb (person, tense, mood, aspect, discourse cohesion markers) and others follow (valency, voice, person, number).

7.1 Derivation and inflection

A rather general observation on affix order, which is so common that it cannot be attributed to a particular author, is the observation that derivational affixes occur closer to the stem than inflectional affixes. Inflectional affixes can be expected to occur at the extremes of words, since inflection as a rule is more relevant for syntax and other elements in the sentence, whereas derivation is more relevant to the semantics of the verb, and hence occurs closer to the stem. There are a few exceptions to this rule, but generally it is true, also for Cree.

7.2 Muysken's syntactic approach

Muysken (1986) discussed a number of languages, and he based himself especially on Quechua data, an exclusively suffixing language. He proposed the following ordering principle:

(11) ROOT - lexical mode - syntactic mode - inflectional mode

The **lexical** mode is roughly equivalent to what others have called derivational: the meaning of these morphemes is often idiosyncratic, they are limited in number, and according to Muysken their relative order is fixed. Muysken includes here verbalizing suffixes and frequentative suffixes.

The next layer is the **syntactic** mode: These elements display a variable order. Their meaning is independent, and there may be an unlimited number. Examples of such affixes are reciprocal, desiderative, diminutive, causative and others.

Finally at the outer edge we find the **inflectional** mode: of these, the order is fixed, the morphemes have no lexical meaning and they are limited in number. Examples of these are passive, benefactive, durative, 1/2 object, tense, subject, plural, etc.

If we assume that the concrete categories mentioned here would belong to the same 'mod' in Cree as they would in this model (but this is not at all certain), we can take this model's order as predictions for Cree affix order. The iterative in position 6 in Table 5, almost immediately adjacent to the stem in 8-10, would fall under 'lexical'. The frequentative or iterative reduplicative prefix (lexical mode) is indeed closest to the stem (heavy reduplication), as predicted, although the frequentative suffix *-sk-* (not discussed here because of insufficient data) seems to appear much closer to the periphery. The suffixes of the syntactic mode should all be closer to the stem than the inflectional mode.

There are several problems there: the inflectional suffixes for passive voice, plural, object and subject appear close to the periphery rather than to the stem. The syntactic suffixes would be found in the Cree template under 13 and 3, whereas the inflectional suffixes would fall under 14-17, 19, 20, and 5 and 20. The Cree durative (inflectional in Muysken's terms) is closer to the stem than the desiderative (syntactic) (5 resp. 3). In other words, Muysken's model fits the Cree data reasonably well, but it does not account for a significant number of the affixes.

7.3 Bybee's semantic approach

Bybee (1985) took a more semantic approach to affix order. Her predictions were that "categories that are more relevant for the verb will occur closer to the stem than those that are less relevant" (24). On the basis of a 50-language sample, and with her definition of relevance, she arrived at a cross-linguistic tendency of morpheme order, which looks like this (only the prefixes are shown here; suffixes are shown later), but in the reversed order so that parallelism is clearer. The numbers refer to the template in Table 5.

(12)	VERB STEM	-	aspect	-	tense	-	mood	-	person
	8-10		4-6		2		3		1

This model appears to be fairly close to the Cree data, as can be seen from the template numbers below the categories. The main exception is that mood in Cree is closer to the stem than tense. In fact, Bybee mentions closely related Ojibwe as an exception to this general order.

In a more detailed way, she also took other categories into consideration: valency, voice, aspect, tense, mood, number agreement, person agreement, and

gender agreement. Her predicted order would be (numbers refer again to Table 5, letters are added for later reference):

(13) VERB STEM-valency-voice-aspect-tense-mood-number-person-gender
8-10

	A	B	C	D	E	F	G	H
suffixes:	13	14-17				20	19	(8-10)
prefixes:			6	2	3			(8-10)

There are three deviations from this model when we relate it to Cree. As already mentioned, mood is closer to the stem than tense in Cree. Further, person markers appear closer to the stem than number: "**concord** with one or more of the arguments of the verb" (G-F, not F-G). Finally, gender is in a sense marked in the person category, since person markers differ according to gender. On the other hand, animacy/inanimacy gender also plays a role in the verb stem in Cree (slots 8-10). Apart from these three points, the model fits remarkably well.

7.4 Affix order in Minimalist Morphology

Minimalist morphology is a model developed by Dieter Wunderlich and Ray Fabri which attempts to account for the wide variety of inflectional systems found in the languages of the world. It makes use of a small set of general principles that are specific to morphology. This section is based on the summary in Fabri (1996), who applies it to Plains Cree. There are three components, each with their own specific principles: (i) the base (or lexicon), (ii) a combinatorial mechanism, (iii) a paradigm mechanism. Their claim is that the "order of affixation must conform to the hierarchy of functional categories" (Fabri 1996: 28). This hierarchy of functional categories is given as follows, with numbers again referring to Table 5:

(14) order	I	II	III	IV	V	VI	VI	VIII
VERB:	< voice	< aspect	< tense	< mood	< gender	< number	< person	< status
Suffixes		14-17				19?	20	19
Prefixes			6	2	3			

Here, 'mood' refers to categories such as conjunctive, and 'status' refers to categories like imperative and evidential (Fabri 1996: 27). It is not stated on which linguistic facts or theoretical principles this hierarchy is based. This model shows remarkable similarities to Bybee's model, with the exception of the absence of the category 'valency' and the presence of 'status'.

Not surprisingly, we can notice the same three exceptions: Cree person is

closer to the stem than number. Gender is part of the stem and the person suffixes. Mood is closer to the stem than tense.

7.5 Dik's Functional grammar

Perhaps the most sophisticated predictions come from the theoreticians of the Functional Grammar school initiated by Simon Dik. They presume a layered structure of the clause (Hengeveld 1987, 1988; Dik 1989), with four levels/orders. These are, from most basic to the most general, the term and the predicate, then the predication, then the proposition and finally the clause. The term (roughly, a noun) denotes an entity, the predicate (verb) a property or a relation, the predication a state of affairs, a proposition a possible fact and a clause a speech act. Schematically:

Table 6. The layered clause

order	**level**	**designation**
1	term:	entity
	predicate:	property or relation
2	predication:	state of affairs (SoA)
3	proposition:	possible fact
4	clause:	speech act

Every level has its operator type. These operators have scope over the semantic domains, and can be expressed by different grammatical operators. Level 1 predicate operators specify **additional properties** of the set of SoA's expressed by the predicate. Level 2 predication operators **locate** the state of affairs in a real or imaginary world. Level 3 proposition operators represent the **attitude** of the speaker towards the truth of the proposition. Finally, Level 4 clause operators modify the basic **illocution**. The following table summarizes this information:

Table 7. Operators for each layer

	semantic domain:	**grammatical category:**
1	Π1 predicate operator:	specify additional properties of the set of SoA's
2	Π2 predication operator:	locates the state of affairs in as real or imaginary world
3	Π3 proposition operator:	attitude of speaker towards the truth of the proposition.
4	Π4 clause operator:	modification of basic illocution

Table 6. Revised template for Cree verbal morphemes

Part 1. Positions 1-7

[or Person]	Person [or conjunct]	Tense	Mood	Aspect 1	Aspect 2	Aspect 3	Aktionsart
1a	1b	2	3	4	5	6	7
TRADITIO-NAL TERMS		class 1 preverb	class 1 + 2 preverb	class 2 preverb	light RED/ DUR	heavy RED/ ITER	class 2 preverb ???
Muysken	INFL	INFL	SYNT		SYNT	LEX	
Bybee	G	D	E	C	C	C	
Fabri	VII	III	IV	II	II	II	
FG/ Hengeveld	Π4	Π2	Π2	Π1	Π1?	Π2	

Table 6. Revised template for Cree verbal morphemes

Part 2. Positions 8-21

	STEM Situ-ation	**STEM INC.N**	**STEM Means man-ner**	Pos-sessed O	Direc-tion/ theme	Val-ency	Voice	Pos-sessed S	Person	PL 'ABS'	Conditional
	8	9	10	11	12	13	14 or 17	18	19	20	21
TRADITIONAL TERMS	Initial	Medial	Final	OBV	Theme	??	??	OBV	Person	Plural	Subjunctive
Muysken						SYNT	INFL		INFL	INFL	
Bybee						A	B		G	F	
Fabri			V				I	VII	VI		
FG/ Hengeveld											Π4

A summary is given in Table 6, where the three major approaches to affix order are given in grey shades, and where letters (Bybee), abbreviations (Muysken), Roman numbers (Fabri) and symbols (Hengeveld) refer to the positions or general labels in these approaches.

8.1 Counterexamples

The main counterexample is the fact that mood appears closer to the stem than tense, which is a problem for all models. This seems to be an area where Algonquian is exceptional. The same deviant order is found (tense-mood-aspect-verb) in creole languages, but a history of creolization is very unlikely here. The position of the quantificational (iterative) aspect marker is more difficult to explain. Cree, like many other languages, seems better to follow Bybee's model here.

8.2 Reconstruction of typological change?

It is striking that there is a clear semantic distribution between pre-stem and post-stem categories: TMA and Aktionsart occur before the stem, whereas valency, voice and number occur after the stem. Person is indicated both preverbally and postverbally. However, there are five rare or archaic forms, all of which appear to occur on the 'wrong' side of the stem (numbers 4, 6, and 7 in Table 2): three post-stem tense-mood categories one post-stem evidential (dubitative or suppositive, not indicated) and one frequentative suffix *-sk* (not indicated). This suggests a typological shift from postverbal to preverbal marking in the history of the language, perhaps due to language contact.

Person marking may be taken to corroborate this. In the conjunct order, person is indicated exclusively by suffixes, whereas both prefixes and suffixes (none cognate with the conjunct order suffixes) are used in the independent order. Intuitively, the independent order seems to be more recent, partly because the affixes are clearly cognate with the personal pronouns and because they are virtually identical to the possessive affixes in nouns.

This suggests a typological shift in the history of Cree, or rather Algonquian, from a language where tense, aspect, mood and person (and evidentiality) were originally indicated by suffixation, to a language where these categories were indicated by prefixation.

This change is only a suggestion, and needs more research, by comparing Cree with other Algonquian languages, and by trying to find possible reasons for this shift, where language contact could be a possible explanation (cf. Heine & Kuteva 2005).

8.3 Ordering of preverbs

There is no space to try and explain some of the apparent contradictions in the ordering of preverbs in Cree. Briefly, one of the problems is that at two of these so-called preverbs have two (or more) positions. This may be because they have very distinct functions: *pê-* and *ôhci-* are not only concrete directional markers 'to' and 'from', but also temporal/aspectual or discourse-regulating elements, meaning roughly 'past event relevant for here-and-now' and 'for that reason'. The same forms with both meanings can co-occur at different positions in the verb complex.

8.4 Evidential

I have not discussed the expression of evidentiality here, since the affixes are so rare in contemporary Cree (see Wolfart 1973: 41-44). From older sources the position of the so-called dubitative (rather: suppositive) suffix relative to the derivational affixes is unclear. It is worth remarking, though, that Plains Cree today uses a particle (*êtikwê* or *êtikwê*) where Cree had suffixes *-kwê-* and *-tokê-*.

9 Conclusion

This paper did not provide an explanation for all observed facts, and probably raises more questions than it answers. It provides a more detailed template of the verb than any study before, and some contradictions were noted between the Cree facts and the model.

Beyond the questions discussed earlier with regards to the position of some elements, there are several questions generated by these findings: why is tense-mood-aspect marking prefixal, whereas all operations with regards to perspective and number and gender of arguments are suffixal? How inflectional are the direct/inverse markers (Table 5, position 12)? If they are inflectional, why do they occur closer to the stem than the derivational affixes 13-17? Why are the possessed subject and object placed separately, and why before and after voice/valency respectively? These questions need further research.

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Typological aspects of Lillooet transitive verb inflection[1]

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1 Introduction

The object of this article is to provide an analysis of the basic features of the Lillooet (Salish) transitive verb, and to compare the manner in which Lillooet marks personal pronominal subjects and objects to the manner in which various other American Indian languages mark these categories. Thus, the first part of this article (§§2-6) will be devoted to a presentation of the Lillooet facts, and will include a discussion of Lillooet word-classes and the various types of Lillooet transitive verbs. Particular attention will be paid to the fact that Lillooet marks pronominal subjects and objects through a combination of case-marking and slot-assignment. The second part of this article (§§7-10) will compare the Lillooet strategy for subject and object marking with two other strategies that are employed by American Indian languages, viz., direct/inverse systems, and feature nesting.

In what follows, the terms 'subject' and 'object' are used in a rather loose, non-technical sense, in that 'subject' refers to the participant who

[1] Thanks are due to Eloise Jelinek and Jay Powell, for their insightful comments on the issues raised in this article, and to Thom Hess, for his editorial comments, which led to a number of stylistic improvements. I am also grateful to the students in my Linguistics 411 class (Seminar in Morphology), with whom I read an earlier draft of this article in the fall 2002 semester. (A particular word of thanks is in order for Alison Pinnow and Jolene Sikorski, who identified a jarring typo in one of the Lillooet forms.) I also wish to express my gratitude the my colleagues Jean Okimâsis, Solomon Ratt and Arok Wolvengrey, with whom I have had many discussions about Cree which have greatly enhanced my understanding of this language (and of Algonquian in general). The responsibility for this article, however, remains my own.

As the article will make clear, I concentrate on the essentials of the formal expression of subject-object relations. This means that many details of the inflection of transitive verbs in Native American languages (such as moods or aspects) have been omitted from the discussion. However, detailed descriptions of Lillooet, and of Cree, Pawnee and Nakoda (three languages quoted in my article) can be found in the primary sources for these languages, as referred to in the pertinent sections of my article.

physically performs the action, and 'object' to the participant who undergoes that action.[2] What we will not study is whether these 'subjects' or 'objects' are marked through a nominative/accusative, an ergative/absolutive, or an agent/patient (or active/stative) system. (For an insightful and richly detailed study of transitive actors as classified by these three systems I refer to Mithun 1999: 204-221.)[3] Thus, in a phrase like 'I beat him' we are interested in whether Native American languages mark 'I' and 'him' through case-marking or slot-assignment (or a combination of both, as is done in English), or through a direct/inverse system (in which 'I' would not be formally different from 'me', and 'he' not from 'him', and in which a separate marker would indicate whether the action would go from the first person to the third, or from the third to the first), or through feature nesting (in which one marker would express both the subject and the object).

2 Lillooet: Basic information

Lillooet is an Interior Salish language spoken in western British Columbia. There are two major (but mutually intelligible) dialects, a northern one, spoken in and around Fountain, and a southern one, spoken in and around Mount Currie. Differences between the dialects are mainly lexical, e.g., *smúɬac* for 'woman' in the northern dialect vs. *syáqcaʔ* in the southern dialect. Years of assimilation and acculturation (mainly through the notorious and now abandoned residential school system) have sharply reduced the

[2] From a philosophical point of view it may be problematic who is the performer and who the undergoer in the case of many 'experiencer' verbs. Thus, in 'I fear him' we may as well say that the third person is the performer in that it is that person who presents himself in my fear, and that I am the undergoer. Native American languages, always far less finicky and much more businesslike than the linguistic theories that are designed to describe them, resolve these issues on the spot: in Lillooet 'to fear someone' is an active verb, *páqʷuʔ-min*, with a suffix *-min* that we also have in, for example, *ptákʷɬ-min* 'to tell a legend about someone' or *ƛ'iq-min'* 'to arrive here for someone'. (For a discussion of this suffix I refer to §4 of the main text.)

[3] As Mithun makes clear, many languages show mixing of various patterns, say nominative/accusative with ergative/absolutive. We see some of this mixing in Lillooet, where, for example, the first person singular (indicative) has the same marker for the intransitive and transitive subject (*-ɬkan*), which is then different from the (transitive) object marker (*-c*). Besides this nominative/accusative pattern we have an essentially ergative pattern in the third person singular (indicative), where the subject marker intransitive is identical to the object marker (both are zero), while the transitive subject marker (*-as*) is different. For more on this topic see Jelinek and Demers (1983: 169-171) and the references there.

number of fluent speakers. Kinkade (1991:152) still lists 300-400 speakers, but this certainly includes those who are fluent and those who are less proficient. Fortunately, the last three decades have seen dedicated efforts to reverse this downward trend, through language teaching programs in reserve-based schools, and through the development of curriculum materials in and about the language. The ongoing and intense involvement of native speakers in these programs is a very welcome and hope-giving aspect of these efforts.

Like all Salish languages, Lillooet is phonologically and morphologically complex. The phonology opposes plain vs. glottalized (ejective) plosives (*p t c ç k* k^w *q* q^w vs. *p'* *t̓'* *c'* *k'* k'^w *q'* q'^w), and plain vs. glottalized (laryngealized) resonants (*m n l l̓ z y γ ʕ* $ʕ^w$ vs. *m' n' l' l̓' z' y' γ' ʕ' ʕ'*^{w}). It also has a series of fricatives (all voiceless, viz. *ɬ s ṣ x* x^w *x̌* $x̌^w$), and it has eight vowels (*a ạ i i̯ u u̯ ə ə̯*). In addition, there are four phonemes (*h ʔ w w'*) that are classed as laryngeal resonants in van Eijk (1997) (for reasons given there), although phonetically *h ʔ* are laryngeal obstruents and *w w'* are labio-velar glides. A striking feature of the system is the opposition of certain velarized vs. non-velarized phonemes. Velarization (basically retraction of the tongue-root with simultaneous tensing of the tongue muscles) is indicated with a subscript dot, as in *a* [ɛ] vs. *ạ* [a]. In words of more than one vowel, one of these vowels attracts a dynamic stress, marked as an acute (as in *máqaʔ* 'snow' vs. *maqáʔ* 'poison onion', the latter form only used in the northern dialect). The stress may move from its original location to a later vowel, depending on the attachment of a sufficiently large number of suffixes. Also, morphemes may show phonemic adjustments in the form of deletion or insertion of segments. (For examples of stress-shift, and the deletion of a segment, see *nuk*^{w}*ʔ-an-cíh-as* in §3.)

Morphologically, the language employs prefixation, suffixation, infixation and reduplication, often in combination with each other, as in *n-s-nək*^{w}*-núk*^{w}*aʔ* 'my (*n-*) friends', with augmentative reduplication of the word *s-núk*^{w}*aʔ* 'friend', which in itself combines the root *núk*^{w}*aʔ-* 'to help' with the nominalizer *s-*.

A grammar of the language is available through van Eijk (1997). (The discussions in §§3, 4-5 and 6 below are essentially a synopsis of §§8, 18 and 22 respectively of van Eijk 1997.)[4] Excellent introductions to the Salish language family are Thompson (1979) and Czaykowska-Higgins & Kinkade (1998).

[4] Van Eijk (1997) supplants the earlier studies of the Lillooet transitive verb in van Eijk (1985) and (1990).

3 Lillooet word classes

In order to fully understand the position of the Lillooet transitive verbal complex within Lillooet morphology, it is profitable to gain some understanding of Lillooet word classes and their mutual relationships. Lillooet words fall into the following classes:

1) Clitics
2) Full words
   - 2.1) Invariable words
   - 2.2) Variable words
     - 2.2.1) Nouns
     - 2.2.2) Verbs
       - 2.2.2.1) Intransitive verbs
       - 2.2.2.2) Transitive verbs

Clitics form a stress-unit with a preceding or following full word (depending on whether they are enclitics or proclitics). An example of an enclitic is the question-marker *‿ha*, which follows the first full word in a sentence, as in *nukʷʔ-an-cíh-as‿ha* 'does he help you?' vs. *wáʔ‿ha nukʷʔ-an-cíh-as* 'is he helping you?' (with *núkʷaʔ-* 'to help', *-an* transitivizer, *-cih* 'you [object]', *-as* 'he', *waʔ* 'to be busy with, engaged in').[5] The shift in stress from *ú* to *í* in the above example, and the dropping of *a* before *ʔ* when this is followed by a vowel, are regular morphophonemic adjustments.

Unlike clitics, full words do not require the presence of a fully stressed word in a sentence as a condition for their own presence. Invariable full words are essentially particles, which do not allow any of the morphological operations mentioned in §2. Variable words (which do allow these operations) fall into nouns and verbs. As is mentioned in van Eijk (1997: 43) and van Eijk & Hess (1986), the main difference between nouns and verbs is that nouns may take possessive markers, while verbs may not. Thus we may combine *tmixʷ* 'land' with *n-* 'my' into *n-tmixʷ* 'my land', but *ʔíɬən* 'to eat' does not allow combination with *n-*. However, by combining *ʔíɬən* with the nominalizer *s-* into the noun *s-ʔíɬən* 'food', we obtain a form that can be combined with possessive markers, as in *n-s-ʔíɬən* 'my food'.

[5] Lillooet makes no tense distinctions. Phrases translated in the present tense could also be translated in the past tense (depending on context), and vice versa. There are no gender distinctions either in the pronominal (or nominal) system. Thus, 'he/him' can be translated as 'she/her' or 'it' as well, depending on context.

The class of intransitive verbs includes stems that translate as verbs ('to sing', 'to work', etc.), but also numerals and adjectives. (Thus, in Lillooet, 'one' is 'to be one', 'sick' is 'to be sick', etc.) Nouns and intransitive verbs (whether the latter translate as verbs, numerals or adjectives) all inflect in the same way, viz., as intransitive verbs, when it comes to forming predications. In other words, in this respect there is no difference between nouns and (intransitive) verbs. The following sets (based on *cut* 'to say', and *ʔúxʷal-mixʷ* 'Indian, person, human being') demonstrate this. For comments on the endings (including the use of ∅, hyphens and dots) see §6.[6]

cút-k.an	'I say'	*ʔuxʷalmíxʷ-k.an*	'I am an Indian'
cút-k.axʷ	'you say'	*ʔuxʷalmíxʷ-k.axʷ*	'you are an Indian'
cút-∅	'he says'	*ʔúxʷalmixʷ-∅*	'he is an Indian'
cút-kaɬ	'we say'	*ʔuxʷalmíxʷ-kaɬ*	'we are Indians'
cút-k.alʼap	'you.PL say'	*ʔuxʷalmíxʷ-k.alʼap*	'you.PL are Indians'
cút-wit	'they say'	*ʔuxʷalmíxʷ-wit*	'they are Indians'

The crucial difference between intransitive and transitive verbs is that only the latter may combine with pronominal object suffixes. Also, all transitive verbs are overtly marked with one or more transitivizing suffixes. Intransitive verbs may be marked with an intransitivizing suffix, or they may be unmarked. Intransitive verbs include *ʔacʼx̌* 'to be seen' (unmarked) and its marked derivation *ʔácʼx̌-əm* 'to see, have vision'. Neither of these may take pronominal object suffixes, but the transitive derivation *ʔácʼx̌-ən* 'to see someone or something' does allow this possibility. Thus, in order to express 'he sees me' one employs *ʔacʼx̌-ən-cíh-as*, while formations like **ʔacʼx̌-cíh-as* or **ʔacʼx̌-əm-cíh-as* are disallowed.

The various types of Lillooet transitive verbs, and their functions, are discussed in §4.

4 Lillooet transitive verbs

Lillooet transitivizers (i.e., transitivizing suffixes) fall into four basic types, which are classed as follows:

[6] The following abbreviations are used in this article: FUT = future; IND = indicative; O = object, PL = plural, PERF INDEP = perfect independent order (in Pawnee), PST = past; S = subject, and SG = singular.

1) Plain transitivizers
   1.1) directive: *-s, -N, -nun/-nun', -ən-s*
   1.2) indirective: *-xit*
2) Relational transitivizers
   2.1) directive: *-min/-min'*
   2.2) indirective: *-min-xit/-min'-xit*

The symbol *N* stands for a group of transitivizers that consist of *n* or *n'* with a preceding vowel (see, for example, *-ən* and *-an* in *ʔác'x̌-ən* and *núk^{w}ʔ-an*, discussed in §3). The distribution between *-nun* and *-nun'* (and between *-min* and *-min'*) is morphophonemically predictable and does not need to concern us here. The terms 'plain', 'relational', 'directive' and 'indirective' are rather ad hoc. Relational transitivizers indicate that the object is affected less drastically than when a plain transitivizer is involved, and indirective transitivizers basically create three-place verbs, involving an indirect object besides a direct object.[7] To give an example involving the various types: from (intransitive) *ƛ'iq* 'to arrive (here)' we derive *ƛ'iq-s* 'to bring her/him/it here' (plain-directive), *ƛ'iq-xit* 'to bring her/him/it to her/him/it here' (plain-indirective), *ƛ'iq-min'* 'to arrive here for her/him/it' (relational-directive), and *ƛ'iq-min'-xit* 'to arrive here for her/his/its possess-ions' (relational-indirective). Note that when someone arrives for a person (*ƛ'iq-min'*), that person is affected less drastically than when he or she is brought (*ƛ'iq-s*). In the same way, from *ptákʷɬ* 'to tell a legend' we derive *ptákʷɬ-ən* 'to tell a legend to someone' and *ptákʷɬ-min* 'to tell a legend about someone'. With regard to this set, a person may not be aware of the fact that a legend is told **about** him or her, but a person is certainly affected when a legend is told **to** him or her, in that that person is now equipped with new knowledge.

The functions of the plain-directive transitivizers are discussed in §5.

5 Plain-directive transitivizers

The plain-directive transitivizers show a complex pattern of formal and functional overlaps. Collectively, these transitivizers serve four different functions: (1) causativization, (2) expressing that the subject addresses (speaks to, shouts at, etc.) someone, (3) expressing that the subject nourishes a certain thought about someone, and (4) a direct transitivization (i.e., the non-

[7] Among Salishanists it has been a matter of debate whether the recipient is the direct or the indirect object of the plain-indirective transitivizer. See van Eijk (1997: 263) and Matthewson (1999: 229) for discussions of this topic.

causative application of an action to an object). These functions match up as follows with the various transitivizers:

Causativization:	*-N*	*-s*
Addressing:	*-N*	*-s*
Nourishing a thought:	*-nun/-nun'*	*-s*
Direct transitivization:	*-N*	*-ən-s*

Examples of the various functions and their markers are: **causativization**: *ʔac'x̌* 'to be seen' > *ʔac'x̌-ən* 'to see someone' (i.e., 'to cause someone to be seen'), *ƛ'iq* 'to arrive (here)' > *ƛ'iq-s* 'to bring someone here;' **addressing**: *wəʔáw* 'to shout, holler' > *wəʔáw -ən* 'to shout, holler at someone', *x^{w}ítən* 'to whistle' > *x^{w}ítən-s* 'to whistle at someone;' **nourishing a thought**: *wənáx^{w}* 'true' > *wənáx^{w}-nun'* 'to believe someone', *ƛ'əx* 'sweet, tasty' > *ƛ'əx-s* 'to like it (food);' **direct transitivization**: *ptak* 'to pass by' > *pták-ən* 'to pass by someone', *ʔúq^{w}aʔ* 'to drink' > *ʔúq^{w}ʔ-an-s* 'to drink it up' (from underlying **ʔúq^{w}aʔ-ən-s*).

Only for causativization is there a clear basis for the selection of either *-N* or *-s* as the transitivizer. We have *-N* where the action is within the control of the performer (i.e., the subject), while we have *-s* when the action is not within the control of the performer. Thus we have *-N* in *ʔác'x̌-ən* 'to see someone', *k'áx-an'* 'to dry it' (from *k'áx* 'to be dry'), *cíq-in'* 'to stab someone' (from the root *ciq-* 'to get stabbed'), or *púɬ-un'* 'to boil it' (from the root *puɬ-* 'to get boiled'): in all these cases the result is rather easily achieved and within the control of the performer. On the other hand, we have *-s* in *ƛ'iq-s* 'to bring here', where the object may resist being brought, and in *qam't-s* 'to hit it', from *qam't* 'to get hit', where a certain skill is required to achieve the goal of the action.[8] We may have shifts from *-N* to *-s* or vice versa, when the control status of a verb changes. Thus, besides *ʔác'x̌-ən* 'to see it' we have *ka-ʔác'x̌-s‿a* 'to catch sight of something' (an action that lies outside the control of the performer, with the 'resultative' prefix *ka-* and the

[8] In order to be marked for (plus) control, a verb does not have to imply an action that is instigated or intended by the performer. The main criterion here seems to be 'ease of effort', as discussed in van Eijk (1997: 112). Thus, verbs like 'to forget it' (*ɬáp-ən*) and 'to miss (a target)' (*xík'-ən*) take a control transitivizer, because the goal of the action is easily achieved (although generally not intended). This analysis is subjected to a critical review in Kuipers (1991), to which van Eijk (1991) offers a rejoinder. For the occasional discrepancy between instigation and control see also Mithun (1999: 215-216). Salish languages other than Lillooet may demarcate control along slightly different lines.

accompanying clitic ◡*a*), and *s-ʔac'x̌-s* 'to watch over someone or something' (an action that requires more effort than just seeing something, with the stative prefix *s*-, not to be confused with the nominalizer *s*-).

For the non-causative categories it is not clear why some verbs select a transitivizer from the left column, and others a transitivizer from the right column.

6 The transitive paradigm

In this section we give two transitive paradigms, based on *cun* 'to tell, order someone', and on *ƛ'iq-s* 'to bring someone (here)'. The form *cun* is somewhat unusual in that its parallelling intransitive form is *cut* 'to say, speak', with a suffix *-t* that generally has an aspect-like function but normally does not pattern as an intransitivizer (see van Eijk 1997: 72-73 for details). The root *cu-* is bound and does not occur without either *-n* or *-t*.

The following paradigms are in the indicative mood. In addition to this mood, Lillooet also employs a subjunctive, which is mostly used in dependent clauses, generally serves conditional or optative notions and is formally identical to the indicative in part of its paradigm. There is also a third category, the factual paradigm, which is mainly used in negative constructions and 'why' constructions. It is always marked with the nominalizer *s*-, but in all but one of its forms (the 'I-you' relation) it is formally identical to the subjunctive paradigm or to both the subjunctive and indicative paradigms. For details on the functions and forms of the subjunctive and factual paradigms I refer to van Eijk (1997), §22.

Of the indicative paradigm, we give both the active and passive forms. As is shown below, the passive forms are needed, because they are used to express the transitive forms with a first person plural subject. The order of the constituents in an active form is as follows: transitive stem (always marked with a transitivizer) followed by the object suffix and then the subject suffix. Thus, the internal order of the inflected transitive verb is VOS.[9] For an example see *nukʷʔ-an-cíh-as* 'he helps you' in §3.

The forms given below deviate in two respects from those given in van Eijk (1997). In the first place I mark the zero-suffix (which signals the third

[9] In sentences involving full word arguments (of the type 'the man shoots the bear'), the order may be VSO or VOS (or, better, PSO or POS, with 'P' representing 'predicate'). Van Eijk (1997: 67) gives the ratio 4:1 for PSO:POS in texts. However, as Matthewson (1999: 228) points out, POS is more typical of the northern dialect, while PSO is more common in the southern dialect. For more on this matter see also van Eijk (1995) and (2002).

singular object and, where the subject is a third person, also the third plural object) with *-Ø*, rather than just leaving it unmarked. In the second place, some object or subject suffixes are in fact complex, consisting of combinations of suffixes. (For example, the suffix *-ɬkan* for first singular subject indicative consists of an indicative marker *-ɬk* and the first singular subject marker *-an*.) In cases like these I mark the internal boundaries within the object or subject suffixes with a period, while the hyphen indicates the boundaries between the stem, the object suffix, and the subject suffix. (Thus, *-ɬkan* will be spelled *-ɬk.an*.) Details of the functions of the composing parts of the various object and subject suffix-complexes are discussed following the paradigms.

As the examples indicate, the two paradigms use different suffixes for first singular object and for second singular object, for third plural subject where the object is a third person, and for the third singular passive. The forms we find with *ƛ'iq-s* are typical for any verb with the transitivizer *-s* (regardless of whether that has a causativizing or any different function) or *-ən-s*. All the other transitivizers select the object/subject forms that we find with *cun*.

cún-ci-ɬk.an	'I tell you'	*ƛ'iq-s-tum'í-ɬk.an*	'I bring you'[10]
cún-Ø-ɬk.an	'I tell him'	*ƛ'iq-s-Ø-k.an*	'I bring him'
cun-tumúɬ-k.an	'I tell you.PL'	*ƛ'iq-s-tum'úɬ-k.an*	'I bring you.PL'
cun-tan.í-ɬk.an	'I tell them'	*ƛ'iq-s-tan'.í-ɬk.an*	'I bring them'[11]
cún-c-k.ax^{w}	'you tell me'	*ƛ'íq-s-tum'x-k.ax*^{w}	'you bring me'
cún-Ø-ɬk.ax^{w}	'you tell him'	*ƛ'íq-s-Ø-k.ax*^{w}	'you bring him'
cun-tumúɬ-k.ax^{w}	'you tell us'	*ƛ'iq-s-tum'úɬ-k.ax*^{w}	'you bring us'
cún-wit-k.ax^{w}	'you tell them'	*ƛ'íq-s-wit-k.ax*^{w}	'you bring them'
cún-c-k.al'ap	'you.PL tell me'	*ƛ'iq-s-tum'x-k.ál'ap*	'you.PL bring me'
cún-Ø-ɬk.al'ap	'you.PL tell him'	*ƛ'íq-s-Ø-k.al'ap*	'you.PL bring him'
cun-tumúɬ-k.al'ap	'you.PL tell us'	*ƛ'iq-s-tum'úɬ-k.al'ap*	'you.PL bring us'
cun-wit-k.ál'ap	'you.PL tell them'	*ƛ'iq-s-wit-k.ál'ap*	'you.PL bring them'

[10] As alternate forms for 'I-you' one also uses *cún-cin-ɬk.an* and *ƛ'iq-s-tum'ín-ɬk.an*.
[11] Alternate forms are *cún-wit-k.an* and *ƛ'iq-s-wit-k.an*, with the suffix *-wit* borrowed from the 'you.PL-them' forms.

cún-c-as	'he tells me'	*ƛ'íq-s-tum'x-as*	'he brings me'
cún-cih-as	'he tells you'	*ƛ'iq-s-tum'íh-as*	'he brings you'
cún-Ø-as	'he tells him/ them'	*ƛ'íq-s-Ø-as*	'he brings him/ them'
cun-tumúɬ-as	'he tells us'	*ƛ'iq-s-tum'úɬ-as*	'he brings us'
cun-tam.ál'ap-as	'he tells you.PL'	*ƛ'iq-s-tam.ál'ap-as*	'he brings you.PL'
cun-c.al-ít.as	'they tell me'	*ƛ'iq-s-tum'x.ál-it.as*	'they bring me'
cun-cih-ás.wit	'they tell you'	*ƛ'iq-s-tum'íh-as.wit*	'they bring you'
cún-Ø-it.as	'they tell him/ them'	*ƛ'íq-s-Ø-twit.as*	'they bring him/ them'
cun-tumúl-it.as	'they tell us'	*ƛ'iq-s-tum'úl-it.as*	'they bring us'
cun-tam.al'ap-ás.wit	'they tell you.PL'	*ƛ'iq-s-tam.al'ap-ás.wit*	'they bring you.PL'

The passive forms are:

cún-c.al-əm	'I am told'	*ƛ'iq-s-tum'x.ál-əm*	'I am brought'
cún-ci-m	'you are told/ we tell you'	*ƛ'íq-s-tum'í-m*	'you are brought/ we bring you'
cún-Ø-əm	'he is told/ we tell him'	*ƛ'íq-s-Ø-tum'*	'he is brought/ we bring him'
cun-tumúl-əm	'we are told'	*ƛ'iq-s-tum'úl-əm*	'we are brought'
cun-tam-ɬk.ál'ap	'you.PL are told/ we tell you.PL'	*ƛ'iq-s-tam-ɬk.ál'ap*	'you.PL are brought/ we bring you.PL'
cún-tan-əm.wit	'they are told/ we tell them'	*ƛ'íq-s-tan-əm.wit*	'they are brought/ we bring them'

As the forms show, some pronominal subjects and objects allow various markers, depending on context. Thus, the third person plural subject is marked as *-twit.as* after a third person object if the transitivizer is *-s* or *-ən-s*. However, it is marked as *-it.as* after a third person object if the transitivizer is not *-s* or *-ən-s*, or after a first person object (with any transitivizer), and it is marked as *-as.wit* after a second person object (with any transitivizer). The marker for the third person plural object has three variants (*-tan.i*, *-wit*, and *-Ø*), depending on the following subject suffix. The suffixes *-c/-tumx* 'me' and *-tumuɬ* 'us' have the forms *-c.al/-tumx.al* and *-tumul* before *-it.as*. Most remarkably, the suffix *-tumuɬ*, which generally expresses 'us', expres-

ses 'you.PL (object)' when combined with *-k.an* 'I'.[12] The indicative marker *-k* has this shape after obstruents, but *-ɬk* after vowels and resonants.[13] The marker *-ci* for second singular object has the form *-cih* before a vowel.

In the suffixes *-tumx/-tumx-al*, *-tumi*, *-tum* (and also *-tumuɬ/-tumul*, and *-tan.i*, when these follow *-s* or *-ən-s*), *m* or *n* is glottalized after monosyllabic stems, but *m* and *n* remain unglottalized after bisyllabic stems, as in *x*^{w}*itən-s-túmx-as* 'he whistles (*x*^{w}*ítən*) at *(-s*) me'.

As is mentioned above, and shown in the paradigms, some suffixes are complex. Thus, the third person plural suffix is based on the singular form *-as*, combined with a plural marker that is *-it* or *-twit* (preceding *-as*) or *-wit* (following *-as*). Evidence for dividing *-tani* 'them' (when the subject is 'I') into two suffixes comes from the passive paradigm, where we have the related form *-tan* in the combination *-tan-əm.wit*. (The *i* in *-tan.i* also occurs in the imperative paradigm.) The suffix *-tam.al'ap* has an object marker *-tam* (for which see also the next paragraph), combined with *al'ap* that also occurs in the subject marker *-ɬk.al'ap*.

Of the passive forms, the first four in each set have an object suffix followed by a passive marker *-əm* or *-m* that takes the place of the subject suffix.[14] (Note that the object markers for first singular and plural are the same as in the forms where we have a third plural subject.) The form for 'you.PL' has an element *-tam* that is also part of the object suffix *-tam.al'ap*. In the passive form it seems to intransitivize the preceding transitive stem. More complex is the passive form for 'they'. The element *-tan* also occurs in the forms for 'I-them', where it is part of the object complex *-tan.i*. The

[12] Shifting or merging between first and second person markers occurs in other languages as well. In Zacapoaxtla Aztec (as quoted in Jensen 1990: 62, based on Nida 1949), the prefix *ti-* signals the second singular when not combined with the plural suffix *-h*, but the first plural when it is combined with this marker. (For a discussion of this phenomenon see also Jacobsen 1980: 211-212, with examples drawn from Classical Aztec, or Nahuatl.) In Sarcee, there are two forms to mark the first and second person plural object, but these forms (*nihi-* and *naa-*) are in free variation and are used for both persons, so that the first and second person plural objects are not formally distinguished (Cook 1984: 197). Lummi (Coast Salish) has a single marker *-oɪŋəs* for both the first and second person singular object (Jelinek and Demers 1983: 168).

[13] Occasionally, we have *-ɬk* after obstruents (but never *-k* after vowels or resonants), as in *ƛ'íq-ɬk.an* (an alternate form of *ƛ'íq-k.an*) 'I am here!' (or 'hello!').

[14] There has been some debate as to whether the passive in Salish is a true passive or an 'indefinite actor' paradigm. For discussions of this topic see Newman (1985), Thompson & Thompson (1992: 58), and van Eijk (1997: 264).

form *-tan* is here interpreted as an object suffix for the third plural, although historically it probably had a different function.

For the historical background of Lillooet (and general Salish) object formation I refer to Newman (1979). Kinkade (p.c., 2002), however, has brought to my attention that many of Newman's observations have to be revised in the light of subsequent research. Certainly, Newman's Lillooet examples have to be reassessed. The form for 'it blew on me' (Newman 1979: 299) is *púx^{w}-un'-c-as*, not *púx^{w}-un'-c*, which would mean 'blow on me!' (Newman does give *púx^{w}-un'-c-as* [or rather, *púx^{w}-un't-s-as*] as the underlying form of *púx^{w}-un'-c-as*, but this would require a deletion rule for *-as* that in fact does not exist in Lillooet.) The form for 'he brought me' may historically be *ƛ'íq-stu-m'x-as*, as given by Newman on p. 300, but synchronically it has to be divided *ƛ'íq-s-tum'x-as*, as given above. (Newman's examples are retranscribed from his system into the one used in this article, also with addition of resonant-glottalizations and stress marks where Newman omits them.) The initial *t* we have in a number of object suffixes (*-tumuɬ*, etc.) was historically a separate suffix and part of the transitivizing complex (as shown in Newman's form *pux^{w}-un't-s-as* above). Synchronically, however, it is best assigned to the object suffix.

As the paradigms show, the subject markers for first singular and for second singular and plural are the same in the intransitive paradigm (as given in §3) and the transitive paradigm. As for the other persons, the differences can be read from the paradigms. The intransitive first plural marker *-kaɬ* is identical to the first plural possessive marker, and synchronically there is no reason for splitting off *k* as a separate unit (the intransitive first plural subjunctive being *-at*). The markers for the intransitive third persons also occur in the transitive, but in different functions.

7 Typological considerations

As the examples and discussion in §6 demonstrate, Lillooet uses a rather common strategy for marking pronominal objects and subjects, viz., case-marking in combination with slot-assignment. We find this same strategy in English, where we have slot-assignment of the type SVO (rather than the internal VOS order we find in Lillooet), combined with case-marking, as in 'I saw him' vs. 'he saw me'. Of course, English uses full words to mark pronominal roles, where Lillooet (and many other Native American languages) use affixes. However, this difference is irrelevant for the purposes of this article, and we can safely use the term 'case' for the difference between Lillooet *-c* and *-k.an*, which parallel English 'me' and 'I' exactly. (For the

use of 'case' to describe the difference between 'me' and 'I' etc. see Huddleston 1990: 50.)

The combination of slot-assignment and case-marking is found in many other languages as well, including Native American languages. As an example we may take Choctaw, a member of the Muskogean family which is spread through the southeastern United States. The following information is taken from Jensen (1990: 167), which in turn is taken from Merrifield *et al.* (1967: 9). The constituents of the Choctaw system can be arranged as follows, with negative numbers indicating prefixes, positive numbers indicating suffixes, and higher numbers indicating greater distance from the stem, as shown below.

-2		-1		Stem		+1		+2	
iš-	2SG.S	*sa-*	1SG.O	*pĩsa-*	'to see'	*-li*	1SG.S	*-tok*	PST
		či-	2SG.O	*so*	'to hit'			*-čĩ*	FUT
				paya	'to call'				
				čakmãne	'to like'				

Thus we have forms like *iš-sa-pĩsa-čĩ* 'you will see me', *iš-sa-so* 'you hit me (present)', *či-paya-li-čĩ* 'I will call you', and *či-čakmãne-li-tok* 'I liked you'. What is a bit peculiar (but not problematic) about this system is that the subject function is signalled by a prefix in the case of 'you', but by a suffix in the case of 'I'.[15]

Another example of slot-assignment and case-marking is provided by Pawnee, a Caddoan language originally spoken in Nebraska, but now in Oklahoma, and described in Parks (1976). Extracting the singular subjects and objects from Parks's discussion, who bases his examples on *pirus* 'to whip' in the indicative mood, we have the following order of constituents.

-3		-2		-1		Stem		+1	
ta-/ti-	IND	*t-*	1SG.S	*ku-*	1SG.O	*pirus*	'to whip'	*-Ø*	PERF INDEP
		s-	2SG.S	*a-*	2SG.O				
		Ø-	3SG.S	*Ø-*	3SG.O				
				ir-	3SG.O				

[15] Jensen sets up an underlying system where *-li* is a prefix, which then requires a transformation rule assigning it its proper suffix position. I see no use for this. It is quite common for languages to mark certain persons with prefixes, and others with suffixes. (In Lillooet, the first singular possessive is marked with a prefix *n-*, while all other possessors are marked with suffixes.)

The indicative is signalled by the prefix *ta-*, which is *ti-* before the third person subject. The form *ir-* for 'him' is used in the case of 'switch-reference', i.e., when "there is a change of third person subjects – when a second, or new, third person is introduced into the conversation or narration, or when attention is being focused on a third person object" (Parks 1976: 165). For the use and distribution of the aspectual suffix *-Ø* see Parks (1976: 190ff). The paradigm yielded by combining the above morphemes is given below. Following Parks (1976: 181-182), and in recognition of the forbidding morphophonemics of Pawnee, we list these examples both in their underlying forms (in the left column, between slashes), and in their surface forms.[16]

/ta-t-a-pirus-Ø/	*tatapiru*	'I whipped you'
/ta-t-Ø-pirus-Ø/	*tatpiru*	'I whipped him'
/ta-s-ku-pirus-Ø/	*taskupiru*	'you whipped me'
/ta-s-Ø-pirus-Ø/	*taspiru*	'you whipped him'
/ti-Ø-ku-pirus-Ø/	*tikupiru*	'he whipped me'
/ti-Ø-a-pirus-Ø/	*tapiru*	'he whipped you'
/ti-Ø-Ø-pirus-Ø/	*tipiru*	'he whipped him'
/ti-Ø-ir-pirus-Ø/	*tihpiru*	'he whipped him'

In addition to the combination of slot-assignment and case-marking, the strategy that is employed by the languages discussed above, we also have the theoretical possibilities of slot-assignment without case-marking, or case-marking without slot-assignment.

We have the former strategy in part of the English paradigm, i.e., in phrases like 'you saw it' vs. 'it saw you', where it is slot-assignment alone that marks the roles of the third (neuter) person and the second person. We have the same pattern in Pawnee /ti-Ø-Ø-pirus-Ø/ 'he whipped him', although the fact that both the subject and the object are marked zero renders this example rather moot. Pure slot-assignment without case-marking seems to be rare among Native American languages, although it is the strategy employed in large parts of the paradigm of (Lower) Chinook, which is (or was) spoken along the lower Columbia River, and is described in Boas (1911), from which the following examples are taken. In this language we have (within an ergative system) the order SO, expressed by prefixes, as in *a-n-L-ō´-cg-am* 'I (*n-*) took (*-cg-*) it (*L-*)' (p. 581, *a-* 'transitional', *ō´*-directional, *-am* completive). However, for most of the persons (including all first and

[16] In the Pawnee examples, I replace Parks's '+' symbols with hyphens, in order to maintain consistency with the examples from other languages in this article.

second persons in singular, dual and plural), the prefixes are identical for subject and object, and it is the relative order that disambiguates between the functions, as in *a-m-xā´-n-El-gu´L-itck* 'you (*m-*) expressed yourself to me (*n-*)' (p. 587, see there for full analysis). Note that the first person singular prefix *n-* does not distinguish between subject and object functions, but that the SO order does.[17]

To my (admittedly not exhaustive) knowledge, there are no Native North American languages that use case-marking alone, without slot-assignment for subject or object. In such a language the order of the constituents would have to be entirely free, as in (rather bad) Latin *ego te video = te ego video = ego video te*, etc. for 'I see you' and *tu me vides = me tu vides = tu vides me*, etc. for 'you see me', or we would have slot-assignment for persons, but not for subject and object, as if in English one would use 'I saw him' for (indeed) 'I saw him', but *'me saw he' for 'he saw me', with 1V3 (First Person – Verb – Third Person) instead of SVO. There is a beginning of such a system in Choctaw, as quoted above, where the first suffix slot is reserved for the first person singular (but only in the subject role). Where we do have slot-assignment for persons, but not for subjects or objects, it seems restricted to the so-called direct/inverse system, which is discussed in §8 below.

In addition to slot-assignment and case-marking (and the combination of these strategies), and the direct/inverse system, there is feature nesting. This last strategy is discussed in §9.

8 Direct/inverse systems

Broadly speaking, in a direct/inverse system one has assigned slots for grammatical persons, but no case marking for subject or object on the markers themselves for these persons. Instead, one has a separate set of markers which will indicate whether the action is performed by one person on the other, or vice versa. This system is attested for, among others, the Algonquian and Kutenai (Ktunaxa) families.[18] As an example from Algonquian we

[17] The deletion of case distinctions has reached its completion in Chinook Jargon, a trade language based on Chinook – see Mithun (1999: 587-589), Silverstein (1972), and Zenk (1984) for details on the history and structure of this language. Thus we have phrases like *nika* (I) *nanitch* (see) *mika* (you), or *nesika* (we) *kwass* (fear) *mesika* (you.PL). These examples are due to Jay Powell (p.c., 2002), who also alerted me to the articles by Zenk and Silverstein mentioned above.

[18] Kutenai is an isolate, spoken in British Columbia, Idaho and Montana. Mithun (1999) describes the direct/inverse system in (Algonquian) Ojibway on pp. 222-226, and that of Kutenai, and Tewa and Towa (of the Kiowa-Tanoan family), on pp. 226-228.

may quote Cree, and particularly the (southern) Plains dialect, as spoken in Saskatchewan, of which we have a number of excellent descriptions, including Ahenakew (1987), Okimâsis & Ratt (1999), and Wolfart (1996).[19] In this language a phrase like 'I see him' is rendered as *ni-wâpam-â-w*, while 'he sees me' is rendered as (underlying) *ni-wâpam-ik*[*w-w*] (a morpho-phonemic rule deletes the final *w* segments in this latter form, so that it is actually pronounced *ni-wâpam-ik*).[20] In both forms, the root *wâpam-* means 'to see', the prefix *ni-* indicates the first person (singular), while *-w* indicates the third person (singular). Since these affixes are not inflected for case, or use slot-assignment to mark subject or object roles, a third strategy is needed to indicate subjects or objects. This task falls to the suffixes *-â* and *-ikw*, of which the former (the direct) indicates that the action goes from the first to the third person, while the second (the inverse) indicates that the action goes from the third to the first person. Crucial to this system is the notion of hierarchy, which, at least in Algonquian, puts the various persons on a scale as follows: 2 > 1 > 3 > 3'. Thus, the second person outranks the first, and these outrank the third proximate (3), which in turn outranks the third obviative (3').[21] Where a higher-ranked person acts on a lower-ranked person, we will have a direct marker, and where this relation is reversed we have an inverse marker, as in the examples given above.

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[19] These works on Cree are written from different points of view, with different objectives. Wolfart is a thorough description of the language in structuralist terms, Okimâsis & Ratt is a richly detailed teaching manual, and Ahenakew is a synopsis of the basic inflectional categories and paradigms of Cree, set out in a very lucid and accessible manner. For another excellent study on Cree, the reader is also referred to Peter Bakker (this volume).

[20] The forms *ni-wâpam-â-w* and *ni-wâpam-ik*[*w-w*] are a recasting in synchronic terms of what are on a deep underlying level (based on diachronic considerations) *ne-wâpam-â-wa* and *ne-wâpam-ekw-a*, see Wolfart (1996: 412-413).

Traditional Cree orthography (as used in Ahenakew 1987, and in Okimâsis & Ratt 1999) uses hyphens more sparingly than is done in my article or in Wolfart (1996). In the traditional (roman) orthography, hyphens are employed mainly to mark off 'preverbs' and 'prenouns', essentially bound verbs and nouns that precede the main stem.

[21] The proximate third person is the third person that is in focus (essentially the third person that is mentioned first in the discourse), while the obviative marks the third person that is out of focus. One of the functions of this distinction is to disambiguate structures like 'John saw Bill while he was working', where Cree would distinguish between a proximate and an obviative 'he' and thus make clear whether 'he' would refer to 'John' or to 'Bill'. The obviative is traditionally indicated with a prime.

The situation sketched so far is, however, only the tip of the iceberg as far as Algonquian direct/inverse marking is concerned. The grammar of Cree (and its Algonquian relatives) is notoriously complex, and the transitive animate verbal system (which is where the direct/inverse system comes into play) poses probably the greatest challenge to those who undertake a study of these languages. For example, in the relation 'he sees him' (3-3') the direct marker is *ê*, not *â*, and there is only one third person marked, so that the resulting form is *wâpam-ê-w*. The accompanying inverse (3'-3) still uses *-ikw*, but again with only one third person marked, so that the resulting form here is *wâpam-ik* (from underlying *wâpam-ik*[*w-w*]). In addition, there are two major moods in Cree (usually labelled the 'independent' and the 'conjunct'), and these show their own idiosyncrasies when it comes to marking the direct and inverse. Finally, in one part of the paradigm we seem to have feature nesting, the topic of our next section.

9 Feature nesting

Feature nesting is essentially a system where two morphemes, each with its own set of features, are combined into one single morpheme. With regard to subject/object inflection, this means that one single and indivisible morpheme refers to two different persons, one in the subject role, the other in the object role. The notion of feature nesting was originally developed by Anderson (1977) and it is applied by Jensen (1990: 51-52) to Sayula Popoluca, a Mixean language spoken in Mexico. Below, we repeat a selection from Jensen's data (which are taken from Merrifield *et al.* 1967: 12), adding hyphens for easy recognition of the constituent morphemes. (The suffix *-p* indicates the present [progressive] tense, and the root *čeʔm-* means 'to seek'.)

tʌ-čeʔm-p	'I am seeking you'
tʌn-čeʔm-p	'I am seeking him/it'
ʔin-čeʔm-p	'you are seeking him/it'
ʔi-čeʔm-p	'he is seeking him/it'
ʔiš-čeʔm-p	'he is seeking you'
ʔiš-čeʔm-p	'you are seeking me'
tʌš-čeʔm-p	'he is seeking me'

Note that the forms for 'he is seeking you' and 'you are seeking me' are identical. As the examples show, Sayula Popoluca employs prefixes which combine two different persons, one as subject and the other as object, and in such a way that these prefixes can not be subdivided into separate markers

for each person. There are recurring sequences and segments, such as *tʌ* or *ʔi* (which function as self-contained prefixes or as parts of prefixes), but we cannot assign a consistent meaning to these. It may be possible that this system goes back to an older system in which the prefixes could be divided into separate constituents, but that later developments have blended the original constituents and their meanings. As things stand now, the Sayula Popoluca prefixes can be described as double portmanteau morphemes, e.g., *tʌn-*, which combines 'I' [+I, -II, -plural, +subject] with 'him' [-I, -II, -plural, -subject].

Cree employs what certainly looks like feature nesting in part of its verbal paradigm. As is mentioned in §7, there are two major moods in Cree, the 'independent' and the 'conjunct', and in the conjunct the relations 'I-him' and 'you-him' (direct) and 'he-me' and 'he-you' (inverse) are marked by morphemes that give no separate recognition to the subject or the object in each relation. The conjunct (which is often signalled by a 'preverb' *ê-*, and which is notoriously difficult to translate) employs suffixes exclusively, in contrast to the independent, which employs both prefixes and suffixes. Using the stem *wâpam-* 'to see' again as the basis of our examples, we obtain the following forms: *ê-wâpam-ak* 'as I see him', *ê-wâpam-at* 'as you see him', *ê-wâpam-it* 'as he sees me', *ê-wâpam-isk* 'as he sees you'. As the examples show, we have *a* in the direct forms, and *i* in the inverse forms, but even if we would separate these segments from the rest of the suffixes in which they occur (something that is not supported by the rest of the Cree paradigm, since *a* and *i* do not occur in these functions outside these forms), we would still be left with segments that would combine two persons in one form. (Thus, even if we would split off *a* from *-ak*, we would have an element *k* that signals neither the first nor the third person outside this form within the Cree paradigm, and that thus can best be interpreted as representing both persons, in different roles, at the same time.)[22]

Feature nesting is also found outside Cree and Sayula Popoluca. For example, in the active transitive paradigm of Nakoda (Assiniboine), a Siouan language spoken in southern Saskatchewan and adjacent areas, pronominal subjects and objects are generally marked as prefixes, with the order depending on the persons involved. (The order is generally OS, but there are complications where the prefix *ų-* for 'we/us' is involved, see Schudel 1997: 52-

[22] There is a suffix *-k* that occurs in part of the Cree macro-paradigm to mark a third person subject in the conjunct paradigm, but the overall verbal structure of Cree does not suggest that it is related to the *k* in *-ak*. It is important to note that Wolfart (1996) does not break up *-ak*, etc.

58.) Thus, with *kʔɥ́* ‘to give (it to someone)’ we have *ma-ya-kʔɥ́* ‘you (*ya-*) give it to me (*ma-*)’, *Ø-ya-kʔɥ́* ‘you give it to him/her (*Ø-*)’ and *Ø-wa-kʔɥ́* ‘I (*wa-*) give it to him/her’. However, to express the relation ‘I-you’, Nakoda uses feature nesting, in the form of the prefix *či-*, as in *či-čʔɥ́* ‘I give it to you’.[23] (The palatalization of *kʔ* to *čʔ* in this last form is regular, see Schudel 1997: 55, fn. 7).

10 Conclusions

In this article, we have shown that Native American languages select from three major strategies when it comes to marking personal pronominal subjects and objects: (1) a combination of slot-assignment (for subjects and objects) plus case-marking, (2) inverse/direct systems, (3) feature nesting. Pure slot-assignment (without case-marking) does occur, but seems quite rare. In a number of languages we also have mixed systems, such as Cree, which has traces of feature nesting within a direct/inverse system, or Nakoda, which has an instance of feature nesting within a ‘slot and case’ system.

At a somewhat deeper level of analysis, we may argue that all strategies, except for pure slot-assignment (without case-marking), are some form of case-marking. Languages like Lillooet, Choctaw or Pawnee should require no further argumentation in this respect. For Cree, we may argue that we have extraneous case-marking in the form of the direct and inverse markers. We could then say that the structure of Cree is more agglutinative, while that of, say, Lillooet would be more fusional. (To draw a comparison, we could say that Cree *ni-wâpam-â-w*, with the role-marker separate from the person markers, would be opposed to Lillooet *ʔac’x̌-ən-cíh-as* ‘he sees you’, with role and person merged into *-as* or *-cih*, in the same way that Turkish *adam-lar-da* ‘in the men’, with locative *-da* separate from plural *-lar*, would be opposed to Latin [*in*] *viris* ‘in the men’, with locative and plural merged into one suffix, *-is*.)[24] With regard to feature nesting, there is at least a formal marking of relations, without reliance on slot-assignment, and in this respect feature nesting can be classed with ‘traditional’ case-marking, as in Lillooet (which has slot-assignment as an additional device), and with direct/inverse systems.

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[23] Schudel uses the hook ‘˛’ to mark nasal vowels in Nakoda.

[24] In Lower Chinook there is a prefix *g-* or *k-* which indicates that the preceding pronominal prefix is the subject, as in *a-t-k-L-ō´-cg-am* ‘they (*t-*) took it’ (Boas 1911: 581, cf. ‘I took it’ as given in §7). This prefix is limited only to the third singular neutral and the third dual and plural, and what we have here is agglutinative case-marking, which may be a remnant of a direct/inverse system.

In a number of studies, attempts have also been made to interpret 'slot and case' systems in the light of person hierarchies and direct/inverse systems. For example, Jelinek & Demers (1983) set up a hierarchy [1 and 2 > 3 > N] for Lummi (a Coast Salish language spoken in northwestern Washington), on the basis of a number of subject-object (agent-patient) restrictions in this language. For example, while we can express the 'I-him' and 'you-him' relations through straightforward transitive (active) forms (as in *ɤ̓čí-t-Ø-sn* 'I [-sn] know him [-Ø]' and *ɤ̓čí-t-Ø-sx*^{w} 'you [-sx^{w}] know him'), the 'he-me' and 'he-you' relations can only be expressed through passive forms, as in *ɤ̓čí-t-ɪŋ-sn* 'I am known (by him)' and *ɤ̓čí-t-ɪŋ-sx*^{w} 'you are known (by him)'. This is consistent with the fact that hierarchy rules "require that the element of highest rank in the agent hierarchy in a sentence be the subject of that sentence" (p. 169).[25] The authors also discuss whether the Lummi passive is in fact a passive or rather an inverse construction, but they reject this latter alternative on p. 183. For details of hierarchies and the passive/inverse problem in Lummi (and in rather closely related Squamish, Halkomelem and Lushootseed) I refer the interested reader to Jelinek & Demers's discussion.

With regard to Squamish, Jacobs (1994) claims that the passive in that language is functionally an inverse. The articles by Jelinek & Demers, and by Jacobs, are also briefly mentioned in Mithun (1999: 228), as part of a larger discussion on hierarchies and the passive/inverse problem.[26]

Whichever theoretical approach one chooses, the fact remains that Native American languages show a wondrous variety in marking the universal distinction between the pronominal subjects and objects of an action. It is the

[25] The exclusion of 'he-me/you' through an active (non-passive) form also meshes with the fact that we have the same object suffix (*-oɪŋəs*) for both first and second singular object (see fn. 12). Thus, a form like **ɤ̓čí-t-oɪŋəs-s* (with *-s* 3SG.S) would be ambiguous between 'he knows me' and 'he knows you'. Jelinek & Demers also note (on p. 172) that the fact that first and second singular have the same object form is consistent with their equivalence on the hierarchy scale.

My transcriptions of the Lummi forms deviate from Jelinek & Demers only in that I add *-Ø* for the third (singular) object, which they leave unmarked. Also, I translate the third object as 'him' where they have 'it'. (Like Lillooet, Lummi makes no pronominal gender distinctions.)

[26] A classic case of hierarchies is that involving *yi-* and *bi-*verbs in (Athabaskan) Navaho, as discussed in, for example, Hale (1976: 45). However, hierarchies and the passive/inverse problem, and the related issue of ergativity, tie in with the problem of how to define 'subject' and 'object', and all of this is part of a hornet's nest that we decided to stay away from in this article (as per the end of §1).

author's hope that this article has brought up a few aspects of this variety that the reader may have hitherto been unfamiliar with.

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Athabascan verb stem structure: Tahltan

Hank Nater

1 Introduction

In Tahltan,[1] an Athabascan SOV language spoken in northwest British Columbia (Canada), the predicate is complex, as a rule consisting of prefixes and a variable verb stem. Below, I will show that morphonological alternation in Tahltan verb stems is a conditioned (regular) process: regularity is revealed when one considers Tahltan verb stem allomorphy from a diachronic viewpoint, where **older** forms take the place of **underlying** forms used in other theoretical (synchronic) approaches. When contemplating Tahltan verbal processes regardless of their historical development, one is challenged by erratic vowel alternations and the virtual impossibility to make a classification of allomorphic types due to merging of certain stem-final consonants with (petrified) suffixes. In addition, Tahltan appears conservative in comparison with other Athabascan insofar as it has retained some stem-final affricates. These facts, along with the archaic nature of the Tahltan phoneme inventory in general (Nater 1989: 5.3, tables 4-12), have convinced me that a thorough description of the Tahltan verb should not lack diachronic considerations.

2 The Tahltan predicate

In Tahltan, as in all other languages belonging to the Athabascan linguistic stock, a finite verb consists of at least one prefix, a verb stem, and the occasional suffix.[1]

(a) *ʔesʔáˑɬ* 'I' /ʔes-/ 'chew' /-ʔaˑɬ/[2]
(b) *ʔeθténn* 'it is' /ʔeθ-/ 'frozen, solid' /-tenn/
(c) *déˑsdiˑɬ* 'I' /-es-/ 'will' /d-<Øˑ-ɬ/ 'drink' /-diˑ/[3]

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[1] The phonemes of Tahltan are listed in the Appendix. For special symbols, see fn. 4.
[2] In finite verbs not containing a stress-attracting prefix (cf. fn. 3 and 16), the stem receives the stress.
[3] /-<.../ indicates that the syllable directly preceding the left morpheme boundary is stressed. If such a syllable is absent, the stress is assigned to the prefix itself (as is the case here). The pronominal suffix /-<θid=/ 'we', however, never receives stress

The intricacy of the Tahltan verb manifests itself in two processes: **phonemic fusion** (characterizing prefix strings and the prefix-stem boundary):[4]

(d) *kódiˑɲkʼaˑlaˑ*
/ko-d-˂əˑn=h-kʼaˑ-ɬ=aˑ/
fire-completion-you+futureA-augment-ignite-futureB-question[5]
'Will you light the fire?'

(e) *náˑɲtʼeˑθ*
/na=˂eˑn=h-tʼeˑθ/
again-you+urgency-augment-cook
'Cook it again!'

(f) *ʔedéθiˑngeˑlaˑ*
/ʔede-θ-˂əˑn-d=xeˑ-ɬ=aˑ/[6]
self-state-you+futureA-augment-kill-futureB-question
'Will you kill yourself?'

and **verb stem variation**. Of the latter, there are two types: **stem suppletion** (differentiating agent number), and **morphonological alternation** (associ-

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in the absence of a preceding syllable, as illustrated in e.g. *θikéˑ* /(ˆ)θid=keˑ/ 'we both are sitting'.

[4] The following abbreviations are used in this article: CONT = continuative, CUS = customary, DISTR = distributive, DUR = durative, FIN = final, FUT = future, IMPERF = imperfective, MOM = momentaneous, MT = modern Tahltan, NEU = neuter, OPT = optative, OT = older Tahltan (internal reconstructions), PA = Proto-Athabascan, PPA = Pre-Proto-Athabascan, PERF = perfective, PROG = progressive, REP = repetitive, SEM = semelfactive, SUB = subjunctive, ? = unidentified prefix, # = word boundary, + = prefix merging, and ∅ = zero morpheme. The juncture symbol /=/ indicates the following, mutually exclusive, phenomena: (1) voicing of preceding voiceless consonant; (2) consonant cluster reduction; (3) merging of a vowel sequence; (4) phonetic assimilation. Morphological and morphonological transcriptions are rendered between virgules.

[5] Note the voicing effect of /=aˑ/ 'question marker'. Lengthening of *ə* (coupled with futureA/B, see fn. 10) results in [iˑ]. Prefixes such as /-d-/ and /-h-/, which are always stem-contiguous, are traditionally labelled 'classifiers' by Athabascanists (see Krauss 1969), while they are referred to here as 'augments'. Although often appearing semantically opaque, /-h-/ has a transitive-causative function in many finite verbs, and /-d-/ often expresses reflexivity. Contractions of /-d-/ with a following consonant (e.g. /...-d=x.../ = ...g..., /...-d=y.../ = ...d^{5}...) are ascribed to the 'D-effect' (cf. Hardwick 1984: 57).

[6] For /...-d=x.../ = ...g... see fn. 5.

ated with tense and aspect). Both types are redundant in that number (except dual) and tense/aspect distinctions are also made by means of prefixes. Stem suppletion is illustrated below.

(g)	*sesdáh*	*θiké˙*	*déθit^{θ}ʾi˙*
	/θ=es-dah/[7]	/θid=ke˙/	/de-$^{<}$θid=t^{θ}ʾi˙/
	state-I-one.sits	we-two.sit	non.focal-we-several.sit
	‘I sit’	‘we (two) sit’	‘we (three or more) sit’
(h)	*desá˙*	*déθitʾa˙s*	*déθide˙ɬ*
	/de-s=da˙/[8]	/de-$^{<}$θid=ʔa˙s/	/de-$^{<}$θid=de˙ɬ/
	non.focal-I-one.goes	non.focal-we-two.go	non.focal-we-several.go
	‘I go’	‘we (two) go’	‘we (three or more) go’

Stem alternation is much more productive than stem suppletion, insofar as it affects virtually the entire inventory of verb stems in Tahltan. Some examples are given below.

(i) 1. *ʔeθt^{θ}ét^{θ}*
/ʔes=t^{θ}ét^{θ}/
I-eat
‘I eat’

2. *ʔé˙θt^{θ}e˙d̶i̶*
/ʔe=$^{<}$i˙-s=t^{θ}e˙t=i/[9]
(it-)perfective-I-eat-final
‘I have eaten’

[7] For assimilation rules such as /θ=es-.../ = ses..., see Nater (1989: 3.1).

[8] Deletion of stem-initial *d* directly after /-s-/ ‘I’ has also been observed in some other finite verbs: *hódese˙* /hó-de-s=de˙/ (areal-non.focal-I-talk) ‘I’m talking’, *desíɴ̶* /de-s=di˙ɴ̶/ (non.focal-I-say) ‘I said’, *dé˙sa˙ɬ* /d-$^{<}$e˙s=da˙-ɬ/ (completion-I+ futureA-go-futureB) ‘I’ll go’. In other finite verb forms containing the same stems, this *d* is present: *hódede˙* /hó-de-∅-de˙/ ‘He’s talking’, *kénusdi˙* /ké-n-u-s=h-di˙/ (direction-you-subjunctive-I-augment-say/tell) ‘Let me show (tell) you the way’, *dí˙nda˙la˙* /d-$^{<}$ə˙n-da˙-ɬ=a˙/ ‘Will you go?’.

[9] The suffix /=i/ (see fn. 17), which causes voicing of stem-final voiceless stops and fricatives, can be elided (symbolized as *i̶*). Such optional elimination allows phonetically voiced stops to occur word-finally.

3. *dé·θt^{θ}eɬ*
   /d-<e·s=t^{θ}et=ɬ/[10]
   completion-I+futureA-eat-futureB
   'I will eat'

(j) 1. *ʔast'éh*
   /ʔa-s=h-t'eh/
   ?-I-augment-be
   'I am'
2. *ʔáɣt'eʔɨ*
   /ʔa=<i·=s=h-t'eʔ=i/[11]
   ?-perfective-I-augment-be-final
   'I have been'
3. *ʔáde·st'e·ɬ*
   /ʔa-d-<e·s=h-t'e·-ɬ/
   ?-completion-I+futureA-augment-be-futureB
   'I will be'

(k) 1. *ʔetˢéɣ*
   /ʔe-tˢeɣ/
   he-cry
   'he cries'
2. *yí·tˢeɣ·i*
   /yə=<i·-Ø-tˢe·ɣ=i/
   yə-.conjugation-perfective-he-cry-final
   'he has cried'
3. *náda·tˢeɬ*
   /na-d-<Ø·-tˢeɣ=ɬ/[12]
   again-completion-he+futureA-cry-futureB
   'he will cry again'

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[10] /=ɬ/ causes elimination of a preceding consonant (4.2: 7a), except after interdental, alveolar, and prepalatal fricatives, where it is deleted (4.2: 7b). The suffix is glossed as 'futureB': it triggers lengthening of the vowel contained in the subject prefix, where lengthening is labelled 'futureA'.

[11] /-s-/ is deleted between /-<i·-/ and /-h-/: this suggests that /-<i·-/ has (had) consonantal properties.

[12] /-Ø·-/ is realized as ...a·... between consonants.

3 The verb stem types

Leer's (1979) distinctions between **variable** vs. **invariable** and **obstruent-closed** vs. **non-obstruent-closed** roots (Leer 1979: 3, 4)[13] are also applicable in a description of Tahltan verb stem allomorphy:

	CVK	CVR
VARIABLE	+	+
INVARIABLE	+	–

C = consonant V = vowel
K = non-R consonant VR = VR or long-tense vowel
R = ~~ɬ~~,n,n',~~y~~,y,ʔ,h

As concerns the absence of a number of proto-Athabascan (PA) reconstructions in the following sections, the reader should consider that information on PA verb stems is as yet rather scant. Where such data are not available, I proffer experimental reconstructions based on forms recorded for Tahltan, central Carrier (Story, Carrier Dictionary Committee), Babine (Story), and Sarcee (Cook); I cite Ahtna (Kari) forms where data for the above languages could not be found. Eyak and Tlingit data are from Krauss and/or Leer. For the sake of uniformity, examples cited from these sources are rendered in the same orthography as the one used for Tahltan in this report.

4 Enumeration

Invariable and variable verb stems are listed below.

4.1 Invariable stems

I have recorded four invariable verb stems in Tahltan. One of these is derived from a noun, while the remaining three share a sound-descriptive connotation (noise). The latter feature, which also characterizes certain verb stems in other northwestern Athabascan (Leer 1979: 5.1.2), may underlie the immutability of these stems. The one denominal invariable verb stem found in Tahltan is /-bet/ 'hungry', cf. *bet* 'belly, stomach' and *béde* 'food' (from PA *wəʔt'* 'belly (meat, food)', Leer 1979: 1.1): *desbét* 'I am hungry', *dí'sbet* 'I have been hungry'. The verb stem /-koθ/ 'coughing' (which, like 'hungry', is associated with physical discomfort) is equally invariable: *deskóθ* 'I

[13] In this paper I avoid the concept 'root' in view of its descriptive irrelevance in relation to the Tahltan verb.

am coughing', *díˑskoθ* 'I have coughed'. The two remaining invariable stems are /-h-tetˢ/ 'barking' and /-dos/ 'boiling' (/-h-dos/ 'to cause to boil'):[14]

(l) 1. *yastétˢ*
/yə=ʔa-s=h-tetˢ/
yə-.conjugation-?-I-augment-barking
'I bark'
2. *yáˑɣtetˢ*
/yə=ʔa=<iˑ=s=h-tetˢ/[15]
yə-.conjugation-?-perfective-I-augment-barking
'I have barked'
3. *yádeˑstetˢ*
/yə=ʔa-d-<eˑs=h-tetˢ/
yə-.conjugation-?-completion-I+futureA-augment-barking
'I will bark'

(m) 1. *dadénedos*
/da-de-<ne-dos/
rising-non.focal-surface-boiling
'it is boiling'
2. *dadénesdos*
/da-de-<ne-s-h=dos/
rising-non.focal-surface-I-augment-boiling
'I am boiling it'
3. *dadéneˑhdos*
/ da-de-<ne=<iˑ=s-h=dos/
rising-non.focal-surface-perfective-I-augment-boiling[16]
'I have boiled it'

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[14] The Sarcee cognate of Tahltan /-tetˢ/ is /-tìtˢ/, while /-dos/ (if ← */-nos/ ← **/-ŋʷəʃ/) may be related to Sarcee /-máz, -matˢ/ (if ← */-ŋʷaʃ, -ŋʷatˢ/).

[15] See fn. 11.

[16] Where two stress-attracting non-pronominal prefixes occur in sequence, location of stress is determined by the leftmost such prefix. For the deletion of /-s-/ 'I', see fn. 11. Completion of the **eˑí → eˑ* shift (where **i* merges with a preceding front vowel, cf. sample (i2)) precedes the **ih → (i)ɣ* shift (Nater 1989: 5.1). Thus, **(eíˑh) → *(eˑí)(h) → (eˑh)*, but ***(aíˑh) → *(aˑ)(ih) → (aɣ)* (for the latter, cf. samples (j2) and (l2)).

4. *dadéneʻsdos*
   /da-de-˂ne-˂eʻs-h=dos/
   rising-non.focal-surface-I+futureA-augment-boiling
   'I will boil it'

4.2 Variable stems

Variable verb stems are legion. Because of their historical and morphonological properties, I list CVR and CVK stems in separate subsections. Henceforth, we will be concerned only with verb stems as such and I refrain from analyzing the prefix complexes contained in the cited finite verbs (some of such prefix strings would require detailed comments: cf. fn. 5, 8, 11, 16). In 4.2.1 we examine CVR stems, in 4.2.1.1 the transitional class of mixed type stems is considered, and in 4.2.2 CVK stems are treated.

Tahltan variable verb stems have evolved as follows:[17]

Pre-Proto-Athabascan (PPA)	Proto-Athabascan (PA)	Tahltan
suffixes verb root morph-set B', B', L. L', reduced	 verb stem morph-set suprasegm. features	 verb stem allomorphs

Leer (1979: 4): B(') = "(glottalized) basic"
L(') = "(glottalized) lengthened"

PPA B(') and L(') indicate that the verb root vowel could be either short or long, while a root-final sonorant was either plain or glottalized. The PA suprasegmental features were nasalization and constriction of the verb root vowel. Addition of an obstruent suffix to a PPA obstruent-closed verb root was associated with reduction of the vowel contained in the root (Leer 1979: 3.4). The PPA verbal suffixes were: /-ʕ/ (= *[…j̃#] or *[…ŋʲ#]) perfective, /-ɬ/ progressive, negative perfective, /-χ/ reversative, /-k/ repetitive-customary, /-x/ semelfactive non-perfective, /-t/ semelfactive perfective (Leer 1979: 3.4.1-5). PA constricted vowels (Leer 1979: 1.2.4) are rendered as a vowel and *ʔ* sequence, and palatality of PA front velars is not indicated. Phonological changes during the transition from PPA to PA are described in Leer (1979: 3.5.1-6 and 4.6.1-6). Those shifts that occurred through stages intermediate between PA and Tahltan are:

[17] Future /-ɬ/ is the only remaining separable suffix in modern Tahltan.

(1) aI. *V·h# → V·# aII. *V·h# → Vh#
bI. *V·ʔ# → V·# bII. *V·ʔ# → Vʔ#
cI. *V(·)hC → V(·)C cII. *V(·)ʔC → V(·)C
(2) a. *k'/q'# → ʔ#
b. *ʔk'# → t$^{\int}$# and *ʔq'# → k#
(3) assimilation of interdental, alveolar and prepalatal consonants (Nater 1989: 3.1)
(4) a. *eˑɣi# ~ eˑyi# → eˑi# (cf. Nater 1989: 3.3.2)
b. *əx# → ih# (Nater 1989: 5.1)
(5) a. *VŶ → V~~n~~/n
b. *eˑn# → iˑ~~n~~# and *eˑn'# → iˑn'#
cI. *V^{n}·(ʔ) → V^{n}(ʔ) → Vn(')
cII. *V^{n}·ʔ → V·ʔ → V·
cIII. *V·n' → V·ʔ (cf. Nater 1989: 4.3.3)
d. stem-initial *n → d
(6) a. *ə → e
b. *u → o
(7) a. *Vtɬ# → Vɬ#
b. deletion of *ɬ after fricative

In the following sections, these changes are indicated via the above number/letter codes. Note (1aI-II) and (1bI-II), where a dialectal split in earlier Tahltan may be indicated (cf. Nater 1989: 3.3.2, 4.3.3). It is possible that (1aII) and (1bII) are older than (1aI) and (1bI) (which may have evolved under the influence of (1cI) and (1cII)).

4.2.1 CVR stems

CVR verb stems end in a long-tense vowel, one of the continuants ~~*n*~~*, n, n', y, y* (the latter have replaced PA sonorants, see Krauss & Leer 1981), or a glottal phoneme (*ʔ, h*; glottals are non-obstruent insofar as they are non-labial and non-lingual, and differ from all other phonemes in some other respects as well). Members of this class are unlike CVK stems, because (1) *ʔ* and *h* play an important role in a number of them; (2) the futureB suffix /-ɬ/ does not always affect the stem's shape; (3) PPA suffixes are more readily traceable in CVR stems than in CVK stems (this is typical of all Athabascan languages). For PA, the above criteria 2 and 3 (and to some extent also 1) are identical (Tahltan ʔ# continues PA ʔ# / k'# / q'#; Tahltan h# continues PA x# and χ#). For more details I refer to Leer (1979: 4-4.5). Below, each set is numbered (the numbering continues in 4.2.1.1 and 4.2.2), and is illustrated in several finite forms (marked (a), (b), etc.). Then the allomorphs as such

are listed, and origins are traced. (P)PA data are from Krauss and/or Leer, except where preceded by the question mark (my own reconstructions).[18]

(1) **BE THUS**
a. *ʔastʼéh* 'I am'; b. *ʔáɣytʼeʔɨ* 'I have been'; c. *ʔádeːstʼeːɬ* 'I will be'
a. MT /-tʼeh/ (1aII), OT /-tʼeːh/ (1cII), PA /-tʼeːʔx/, PPA /-tʼeːwʼk/ (L', REP-CUS)
b. MT /-tʼeʔ=i/, OT /-tʼeʔ-iⁿ/, PA /-tʼeʔ-yən/, PPA /-tʼeːwʼɣ̃/ (L', PERF)[19]
c. MT/OT /-tʼeːɬ/ (1cII), PA /-tʼeːʔɬ/, PPA /-tʼeːwʼɬ/ (L', PROG-MOM-FUT)
(Eyak /-tʼe/ (NEU-IMPERF), /-tʼu/)

(2) **BLOW, BE WIND(Y)**
a. *natˢʼíh* 'it is windy'; b. *ʔihtˢʼíː* 'wind'; c. *ɬádaːtˢʼəɬ* 'a strong wind will be blowing'
a. MT/-tˢʼih/(1aII), OT /-tˢʼiːh/, PA /-tʃʼʷiːx/, PPA /-kʼʷəyk/ (B, REP-CUS)
b. MT/OT /-tˢʼiː/, PA /-tʃʼʷiː/, PPA /-kʼʷəy/ (B)
c. MT/OT /-tˢʼəɬ/, PA /-tʃʼʷəɬ/, PPA /-kʼʷə(y)ɬ/ (B, PROG-MOM-FUT)
(Eyak *kʼuːy* 'wind')

(3) **GO BY BOAT**
a. *nédaxedehkiːɲ* 'he has taken us across (the lake)'; b. *tádeːskeːɬ* 'I will go up the river by boat'
a. MT /-kiːɲ/ (5b), OT /-keːn/ (5a), PA /-qeːɣ̃/[20], PPA /-qeːɣ̃/ (B, PERF)
b. MT/OT /-keːɬ/ (1cII?), PA /-qeː(ʔ)ɬ/, PPA /-qeːɬ/ (/-qeʔɬ/) (B(B'/L'), PROG-MOM-FUT)
(Eyak /-qe/)

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[18] Henceforth, B = CONT-IMPERF-OPT(-F); B-Y = MOM-CONT-PERF(-NEU); B-ɣ̃ = MOM-CONT-PERF(-NEU), B-k = MOM-REP-CUS; B' = DISTR-IMPERF(-OPT-FUT); B'-k = DISTR-REP-CUS; L = MOM-IMPERF-OPT or DUR-IMPERF-OPT; L' = NEU-OPT or MOM-CONT-OPT; L'-ɣ̃ = NEU-PERF; L'-k = NEU-REP-CUS; /-ɬ/ = PROG-MOM-FUT; *B'-ɣ̃, *L-ɣ̃and *L-k are unattested (and L virtually so) in Leer's non-obstruent-closed roots.

[19] As far as (b) is concerned, note that the optional MT suffix /=i/ 'final' continues OT /-iⁿ/, from PA /-(y)ən/ 'singular human relativizing enclitic', rather than PPA /-ɣ̃/, which did not appear in L'-ɣ̃ verb stems (see Leer 1979: 4.5).

[20] Krauss and Leer (1981) replace Leer's (1979) PA ỹ# with ŋ#. Note further that my ɣ̃ also represents PA ỹ/ŋ, and $ɣ̃_2$ stands for Krauss and Leer's $ŋ_2$.

(4) **BREATHE, LIVE**
a. *deʃdʲíh* 'I am breathing'; b. *kaná·ʃdʲi?* 'I have come back to life'; c. *náde·ʃdʲəɬ* 'I will live again'[21]
a. MT /-yih/ (1aII), OT /-yi·h/ (1cII), PA /-ɣi·ʔx/, PPA /-xi·k'/ (B)
b. MT /-yiʔ/ (1bII), OT /-yi·ʔ/ (2a), PA /-ɣi·k'/, PPA /-xi·k'Ɣ/ (B, PERF)
c. MT /-yəɬ/,[22] OT /-yəhɬ/ (1cII), PA /-ɣəʔxɬ/, PPA /-xək'ɬ/ (PROG-MOM-FUT)

(5) **BUILD**
a. *ʔestˢí·* 'I am building'; b. *sihtˢíʸ* 'I have built'; c. *dé·stˢi·ɬ* 'I will build'
a. MT /-tˢi·/ (1aI), OT /-tˢi·h/ (1cII?), PA /-tʃi·(ʔ)x/, PPA /...·k/ (/...ʔk/) (B (B'/L'), REP-CUS)
b. MT /-tˢi·ʸ/ (5a), PA ?/-tʃi·Ɣ/, PPA ?/...·Ɣ/ (B, PERF)
c. MT/OT /-tˢi·ɬ/ (1cII?), PA /-tʃi·(ʔ)ɬ/, PPA /...·ɬ/ (/...ʔɬ/) (B(B'/L'), PROG-MOM-FUT)

(6) **BURN**
a. *déduk'a·* 'it may burn'; b. *kóde·hk'aʸ* 'I have lit the fire'; c. *kóde·sk'a·ɬ* 'I will light the fire'; d. *déθk'an'* 'it is burning'
a. MT /-k'a·/ (1aI), OT /-k'a·h/ (5cII?), PA /-q'aⁿ·(ʔ)x/, PPA /-q'an(')k/ (/-q'a·n'k/) (B(') (L'), (REP-CUS)
b. MT/OT /-k'a·ʸ/, PA /-q'a·n/, PPA /-q'a·nƔ/ (B, PERF)
c. MT/OT /-k'a·ɬ/ (5cII?), PA /-q'aⁿ·(ʔ)ɬ/, PPA /-q'an(')ɬ/ (/-q'a·n'ɬ/) (B(') (L'), PROG-MOM-FUT)
d. MT/OT /-k'an'/, PA/PPA /-q'an'/ (B')
(Eyak -q'a)

(7) **CARRY, PACK**
a. *táʔadənge·* 'pack it uphill!'; b. *táʔesgiʸ* 'I have packed it uphill'; c. *táʔade·sge·ɬ* 'I will pack it uphill'[23]
a. MT/OT /-xe·/, PA /-ʁe·/, PPA /-χe·/ (B)
b. MT /-xiʸ/ (5b), OT /-xe·n/ (5a), PA /-ʁe·Ɣ/, PPA /-χe·Ɣ/ (B, PERF)
c. MT/OT /-xe·ɬ/ (1cII?), PA /-ʁe·(ʔ)ɬ/, PPA /-χe·ɬ/ (/-χeʔɬ/) (B(B'/L'), PROG-MOM-FUT)

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[21] For ...dʲ... = /...d=y.../, see fn. 5.

[22] OT *x* and *h* have been elided before /-ɬ/.

[23] For ...g... from /...d=x.../ see fn. 5.

(Eyak /-χeˈ/ ‘carry on one’s back’)

(8) **CRY, WEEP**
a. *ʔetˢéɣ* ‘he is crying’; b. *yíˈtˢeˈɨ* ‘he has cried’; c. *nádaˈtˢeɬ* ‘he will cry again’
a. MT /-tˢeɣ/ (6a), OT /-tˢəx/, PA /-tʃʷəʁ/, PPA /-kʷ...χ/ (B)
b. MT /-tˢeˈɣ=i/ (4a), OT /-tˢeˈγ-iⁿ/ (1cII), PA /-tʃʷeˈʔʁ-(y)ən/, PPA /-kʷ...ʔχʕ/ (PERF)
c. MT /-tˢeɬ/ (6a),[24] OT /-tˢəxɬ/, PA /-tʃʷəʁɬ/, PPA /-kʷ...χɬ/ (PROG-MOM-FUT)
(Eyak /-kiⁿˈχ/)

(9) **DIE**
a. *tóˈntθaˈsaˈ* ‘you are bound to die (/-saˈ/ ‘inevitably’)’; b. *taθetθáˈnɨ* ‘he is dead’; c. *tadéˈθtθaˈɬ* ‘I will die’
a. MT/OT /-tθaˈ/, PA /-tˢaˈ/, PPA ?/-tˢaˈ/ (B)
b. MT /-tθaˈn=i/, OT /-tθaˈn-iⁿ/ (5a), PA /-tˢaˈʕ(y)ən/, PPA ?/-tˢaˈʕ/ (B, PERF)
c. MT/OT /-tθaˈɬ/ (1cII?), PA /-tˢaˈ(ʔ)ɬ/, PPA /-tˢaˈɬ/ (/-tˢaʔɬ/) (B(B’/L’), PROG-MOM-FUT)

(10) **DIP**
a. *meyíˈʔiskaˈ* ‘I am dipping it’; b. *meyíˈʔiˈkaˈnɨ* ‘I have dipped it’; c. *meyíˈʔideˈskaˈɬ* ‘I will dip it’
a. MT /-kaˈ/ (1aI), OT /-kaˈh/ (1cII?), PA /-qaˈ(ʔ)x/, PPA ?/-qaˈk/ (?/-qaʔk/) (B (B’/L’) (REP-CUS)
b. MT /-kaˈn=i/, OT /-kaˈn-iⁿ/ (5a), PA /-qaˈʕ-(y)ən/, PPA ?/-qaˈʕ/ (B, PERF)
c. MT/OT /-kaˈɬ/ (1cII?), PA /-qaˈ(ʔ)ɬ/, PPA ?/-qaˈɬ/ (?/-qaʔɬ/) (B(B’/L’), PROG-MOM-FUT)
(PA /-qaˈ/; cf. Eyak /-qa/ ‘handle object in container’)

(11) **DRINK**
a. *náʔusdaˈn* ‘I should drink again’; b. *díˈndiˈ* ‘drink up!’; c. *déˈsdiˈɬ* ‘I will drink’
a. MT /-daˈn/ (5d), OT /-naˈn/ (5a), PA /-naˈʕ₂/, PPA /-naˈʕ/ (B)

[24] See fn. 22.

b. MT /-diˑ/ (5d, 1aI), OT /-niˑh/ (5cII), PA /-niⁿˑʔx/, PPA /-naˑɣ̌ʼx/ (L', SEM-NON.PERF)
c. MT /-diˑɬ/ (5d), OT /-niˑɬ/ (5cII), PA /-niⁿˑʔɬ/, PPA /-naˑɣ̌ʼɬ/ (L', PROG-MOM-FUT)
(Eyak /-la/, Tlingit /-na/; for PA iⁿˑʔ = PPA aˑɣ̌ʼ see Leer: 2.3.3)

(12) **FIRE, SHINE**
a. *melakodíˑhtʼan* 'I have lit the fire'; b. *kʼənatˢʼehtʼáˑhi* 'flashlight' ('what' /-i/ 'one' /-tˢʼe-/ 'causes' /-h-/ 'to shine' /-tʼaˑh/ 'around' /kʼəna-/)
a. MT /-tʼan/ (5cI), OT /-tʼaˑn, -tʼaⁿˑ/ (5a), PA /-tʼaˑɣ̌/, PPA ?/-tʼaˑɣ̌/ (B, PERF)
b. MT/OT /-tʼaˑh/ (1cII?), PA /-tʼaˑ(ʔ)x/, PPA ?/-tʼaˑk (?/-tʼaʔk/) (B (B'/L'), REP-CUS)
(PA /-tʼaˑ(-ɣ̌)/ 'to handle fire')

(13) **BE FROZEN**
a. *ʔeθtén* 'it is frozen'; b. *yetíˑɬ* 'it freezes'
a. MT /-ten/ (6a), OT/PA /-tən/, PPA ?/-tənɣ̌/ (B, PERF)
b. MT/OT /-tiˑɬ/ (5cII?), PA /-tiⁿˑ(ʔ)ɬ/, PPA ?/-tən(')ɬ/ (?/-tiˑnʼɬ/) (B(') (L'), PROG-MOM-FUT)

(14) **GROW, MATURE**
a. *sɐʃdˢáˑn* /θ=es=d=yaˑn/ 'I am old'; b. *tˢʼéneɣeˑɬ* 'seed, seedling, sprout, domestic plant' ('what'/=i/ 'one' /tˢʼe-/ 'causes' /-h=/ 'to grow' /=yeˑ=/ 'on the surface' /-ne-/); c. *náˑyeˑɬ* 'it's growing'
a. MT/OT /-yaˑn/n/ (5a), PA /-ɣaˑɣ̌/, PPA /-xaˑɣ̌ɣ̌/ (B, PERF)
b. MT /-yeˑ/ (1aI), OT /-yeˑh/ (1cII), PA /-ɣeˑʔx/, PPA /-xaɣ̌ʼk/ (B', DISTR-REP-CUS)
c. MT/OT /-yeˑɬ/ (1cII?), PA /-ɣeˑ(ʔ)ɬ/, PPA /-xaɣ̌(')ɬ/ (B('), PROG-MOM-FUT)
(Eyak *xaˑnih* 'very old salmon', Tlingit /-ʃan/ 'become old'; for PA *eˑʔ* = PPA *aɣ̌ʼ* see Leer 1979: 2.3.3 and 4.6.6)

(15) **HAVE**
a. *ʔəstʼíˑn* 'I have'; b. *yəstʼíˑn'* 'I have had'; c. *déˑstʼiˑɬ* 'I will have'
a. MT /-tʼiˑn/ (5b), OT/PA /-tʼeˑn/, PPA ?/-tʼeˑn/ (L, DUR-IMPERF)
b. MT /-tʼiˑnʼ/ (5b), OT/PA /-tʼeˑnʼ/, PPA ?/-tʼeˑnʼɣ̌/ (L', PERF)
c. MT/OT /-tʼiˑɬ/ (5cII?), PA /-tʼiⁿˑ(ʔ)ɬ/, PPA ?/-tʼən(')ɬ/ (?/-tʼeˑnʼɬ/) (B(') (L'), (PROG-MOM-FUT)

(16) **KILL** (SG object)
a. *θəɬxéˑ* 'kill him!'; b. *θéˑhxiˑɬ* 'I have killed him'; c. *ʔedéseˑsgeˑɬ* /-d=xeˑ-ɬ/ 'I will kill myself'
a. MT/OT /-xeˑ/, PA /-ʁeˑ/, PPA ?/-χeˑ/ (B)
b. MT /-xiˑɬ/ (5b), OT /-xeˑn/ (5a), PA /-ʁeˑʕ̆/, PPA ?/-χeˑʕ̆/ (B, PERF)
c. MT/OT /-xeˑɬ/ (1cII?), PA /-ʁeˑ(ʔ)ɬ/, PPA ?/-χeˑɬ/ (?/-χeʔɬ/) (B (B'/L'), PROG-MOM-FUT)

(17) **LIE** (SG subject)**, SLEEP, DREAM**
a. nasléˑ 'I am dreaming'; b. *yíˑsteʔ* 'I have slept'; c. *θetíˑɬ* 'he is lying down'; d. *níˑnteˑlaˑ* /-ɬ=aˑ/ 'are you going to sleep?'
a. MT/OT/PA /-teˑ/, PPA ?/-teˑ/ (B)
b. MT/OT/PA /-teʔ/, PPA ?/-teʔ(ʕ̆)/ (L', PERF-NEU)
c. MT /-tiˑɬ/ (5b), OT /-teˑn/ (5a), PA /-teˑʕ̆/, PPA ?/-teˑʕ̆/ (B, PERF)
d. MT/OT /-teˑɬ/ (1cII?), PA /-teˑ(ʔ)ɬ/, PPA ?/-teˑɬ/ (?/-teʔɬ/) (B (B'/L'), PERF-MOM-FUT)
(Eyak /-te/ 'SG animal lies prone')

(18) **MELT**
a. *nóˑsxiˑ* 'let me melt it'; *náˑyxiˑɬ* 'I have melted it'; c. *nádeˑsxiˑɬ* 'I will melt it'
a. MT /-xiˑ/ (1aI), OT /-xiˑh/ (5cII?), PA /-ʁiⁿˑ(ʔ)x/, PPA ?/-χən(')k/ (?/-χeˑn'k/) (B(') (L'), REP-CUS)
b. MT /-xiˑɬ/ (5b), OT /-xeˑn/, PA /-ʁeˑn/, PPA ?/-χeˑnʕ̆/ (B, PERF)
c. MT/OT /-xiˑɬ/ (5cII?), PA /-ʁiⁿˑ(ʔ)ɬ/, PPA ?/-χən(')ɬ/ (?/-χeˑn'ɬ/) (B(') (L'), PROG-MOM-FUT)
(Eyak /-χaⁿ/)

(19) **SEE**
a. *yeʔíˑ* 'he sees him'; b. *sénənʔiˑɬ* 'look at me!'; c. *náˑhʔiˑɬ* 'you will see'
a. MT /-ʔiˑ/ (1aI), OT /-ʔiˑh/ (5cII?), PA /-ʔiⁿˑ(ʔ)x/, PPA /-ʔən(')k/ (?/-ʔeˑn'k/) (B(') (L'), REP-CUS)
b. MT /-ʔiˑɬ/ (5b), OT/PA /-ʔeˑn/, PPA /-ʔeˑn/ (L, DUR-IMPERF)
c. MT/OT /-ʔiˑɬ/ (5cII?), PA /-ʔiⁿˑ(ʔ)ɬ/, PPA /-ʔən(')ɬ/ (?/-ʔeˑn'ɬ/) (B(') (L'), PROG-MOM-FUT)
(Eyak /-ʔeh#, -ʔaⁿ-/)

(20) **SWIM**
a. *desbéˑ* 'I am swimming'; b. *nésesbiˑɬ* 'I have swum across'; c. *kʼənadéˑsbeˑɬ* 'I am going to swim around'
a. MT/OT /-beˑ/, PA /-weˑ/, PPA ?/-weˑ/ (B)
b. MT /-biˑɬ/ (5b), OT /-beˑn/ (5a), PA /-weˑɣ̃/, PPA ?/-weˑɣ̃/ (B, PERF)
c. MT/OT /-beˑɬ/ (1cII?), PA /-weˑ(ʔ)ɬ/, PPA ?/-weˑɬ/ (?/-weʔɬ/) (B (Bʼ/Lʼ), PROG-MOM-FUT)
(Eyak /-we/ 'SG swim', Tlingit /-hu/ 'SG swim, wade')

4.2.1.1 Mixed type stems

Mixed morph sets contain both CVR and CVK members. They constitute a small intermediate category.

(21) **BE COOKED**
a. *náˑɬtʼeˑθ* 'cook it again'; b. *ʔédeˑstʼeθ* 'I will cook it'; c. *ʔéθiˑhtʼeh* 'I have cooked it'
a. MT/OT /-tʼeˑθ/ (1cII), PA /-tʼeˑʔs/, PPA /-tʼaɣ̃tˢʼ/ (IMPERF-OP-FUT)
b. MT /-tʼeθ/ (6a), OT /-tʼəθ/ (1cII, 7b), PA /-tʼəʔsɬ/, PPA ?/-tʼətˢʼɬ/ (PROG-MOM-FUT)
c. MT /-tʼeh/ (1aII), OT /-tʼeˑh/ (with unexplained *h*), PA /-tʼeˑ-/, PPA /-tʼaɣ̃/ (PERF)
(PPA and Eyak *tʼeˑ*G 'raw' (Eyak /-G/ NEG suffix), Tlingit /-tʼa/ 'be hot, ripe', /-tʼeˋs'/ 'become hot', *tʼaˋɣ̃* 'heat, hot springs')[25]

(22) **HOOK**
a. *ɬúe sezéhɬ* /-L=seh=i/ 'he hooked a fish'; b. *ɬúe ʔídeˑszeɬ* /-L=se-ɬ/ 'I will hook a fish'; c. *ɬúe tasíˑzek* /-L=sek/ 'I have hooked (several) fish'
a. MT /-seh=i/ (1aII), OT /-seˑh-iⁿ/ (1cII), PA /-ʒʷeˑʔχ-(y)ən/, PPA /-ʃʷeˑq'/ (L, MOM-IMPERF-OPT)
b. MT /-seɬ/ (6a), OT /-səhɬ/ (1cII), PA /-ʒʷəʔχɬ/, PPA /-ʃʷəqʼɬ/ (PROG-MOM-FUT)[26]
c. MT /-sek/ (6a), OT /-sək/ (2b), PA /-ʒʷəʔqʼ/, PPA /-ʃʷəqʼɣ̃/ (PERF)
(PA /ʃʷəʔχ-ɬ/ 'hook', Eyak /-tˢeʔqʼ/ 'to hook an object')[27]

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[25] Krauss & Leer posit (P)PA /-tˢʼ/ IMPERF suffix: PA /-tʼeˑ-tˢʼ, -tʼeˑʔs/ 'to roast'.
[26] See fn. 22.
[27] Note the verbal augment /-L=/. This abstract morpheme (from older */-l-/) has the following effects: like /-h-/, it occasions deletion of /-s-/ 'I' following /=ˁiˑ=/ 'perfective' (cf. fn. 11); a contiguous stem-initial voiceless continuant becomes voiced. See Hardwick (1984: 56).

(23) **REACH FOR, AIM AT**
a. *mésəɬndiˑtʃ* 'aim at it!'; b. *mekáh tédusdiˑ* 'I may reach down into the water for it'; c. *mekáh tédeˑsdəɬ* 'I will reach down into the water for it'
a. MT /-diˑtʃ/ (5d), OT /-niˑtʃ/ (1cII), PA /-niˑʔk/, PPA /-niʔkɣ̃/ (PERF)
b. MT /-diˑ/ (1aI, 5d), OT /-niˑh/, PA /-niˑx/, PPA /-niˑk/ (L, MOM-IMPERF-OPT)
c. MT /-dəɬ/ (5d), OT /-nəhɬ/, PA /-nəxɬ/, PPA /-nəkɬ/ (PROG-MOM-FUT)
(PPA /-niʔk/, Eyak /-leʔgʷ/ 'move one's hand', Tlingit /-ni`gʷ/ 'feel')

(24) **SWALLOW**
a. *díˑɬndeˑ* 'swallow it!'; b. *déˑhdek* 'I have swallowed it'
a. MT /-deˑ/ (1aI, 5d), OT /-neˑh/ (1cII), PA /-neˑʔχ/, PPA /-neˑq'/ (L, MOM-IMPERF-OPT)
b. MT /-dek/ (5d, 6a), OT /-nək/ (2b), PA /-nəʔq'/, PPA /-nəq'ɣ̃/ (PERF)
(Eyak /-ʔniˑq'/ 'swallow')

(25) **WIPE DRY**
a. *mekˑéˑʔusdeˑ* 'let me wipe it dry'; b. *mekˑéˑʔiˑhdeˑk* 'I have wiped it dry'; c. *mekˑéˑʔdeˑsdeɬ* 'I will wipe it dry'
a. MT /-deˑ/ (1aI), OT /-deˑh/, PA ?/-deˑχ/, PPA ?/-deˑq/ (L, MOM-IMPERF-OPT)
b. MT/OT /-deˑk/ (1cII), PA ?/-deˑʔq/, PPA ?/-deʔqɣ̃/ (PERF)
c. MT /-deɬ/ (6a), OT /-dəhɬ/, PA ?/-dəχɬ/, PPA ?/-dəqɬ/ (PROG-MOM-FUT)
(Central Carrier *yənáʔəɬdéh* 'he wipes')

4.2.2 CVK stems

In this section, a number of CVK morph sets is listed.

(26) **ASK**
a. *núdeskət* 'I ask you'; b. *núdiˑhkət* 'I have asked you'; c. *núdeˑskəɬ* 'I will ask you'
a. MT/OT /-kət/, PA ?/-qət/, PPA ?/-qət/ (B)
b. MT/OT /-kət/, PA ?/-qət/, PPA ?/-qətɣ̃/ (PERF)
c. MT/OT /-kəɬ/ (7a), PA ?/-qəɬ/, PPA ?/-qətɬ/ (PROG-MOM-FUT)
(Babine *udəd^{ʒ}ɬqəd* 'I ask', Ahtna /Ø-u-d-ɬ-qeˑd/, Eyak /Ø-ʔ-d-ɬ-qeʔd-χ/

(27) **INFLATE**
a. *ʔəmyúʻɬ* /=h=yuʻɬ/ 'blow it up!'; b. *ʔíɬyotɬ* /-h=yotɬ/ 'I have blown it up'; c. *ʔídaʻyoɬ* 'it will swell up'
a. MT/OT /-yuʻɬ/ (1cII), PA /-γuʻʔɬ/, PPA ?/-xuʻtɬ'/ (L,MOM-IMPERF-OPT)
b. MT /-yotɬ/ (6b), OT /-yutɬ/ (1cII), PA /-γuʔtɬ'/, PPA ?/-xutɬ'Ɣ/ (PERF)
c. MT /-yoɬ/ (6b), OT /-yuɬ/ (1cII), PA /-γuʔɬ/, PPA ?/-xutɬ'ɬ/ (PROG-MOM-FUT)
(Eyak /-xuʔtɬ'/ 'blow')

(28) **MAKE BROTH**
a. *sitʃéʻʒi* 'we are making broth'; b. *yehtʃáʻtʃ* 'he has made broth'
a. MT /-tʃeʻʃ=i/ (3), OT /-tʃeʻs=iⁿ/, PA /-keʻʃ-(y)ən/, PPA ??? (IMPERF)
b. MT /-tʃaʻtʃ/ (3), OT /-tʃaʻtˢ/ (1cII), PA /-kaʻʔtʃ/, PPA /-kayaʔtʃ/ (PERF)
(Eyak *kaʻtʃ* 'soup'; PPA /-kayaʔtʃ/ is proffered by Leer 1979: 5.1.3)

(29) **CHASE**
a. *kʼənáneʃyotʃ* 'I am chasing game'; b. *téhuʻdeneʻyuʻt* 'I have chased them away'; c. *téhuʻdeneʻʃyoɬ* 'I will chase them away'
a. MT /-yotʃ/ (6b), OT /-yutʃ/ (4c), PA ?/-yuk/, PPA ?/-...tk/ (REP-CUS)
b. MT/OT /-yuʻt/, PA ?/-yuʻt/, PPA ?/-...ʻtƳ/ (PERF)
c. MT /-yoɬ/ (6b), OT /-yuɬ/ (4c, 7a), PA ?/-yuɬ/, PPA ?/-...tɬ/ (PROG-MOM-FUT)
(Central Carrier *nínəyut*, *yəniyóɬ* 'he's chasing him')

(30) **CHEW**
a. *ʔesʔáʻɬ* 'I am chewing'; b. *nadéneʻsʔaɬ* 'I will chew it well'; c. *nadéniʻhʔaʻtɬ* 'I have chewed it well'; d. *ʔənʔátɬ* 'chew it!'
a. MT/OT /-ʔaʻɬ/ (1cII), PA /-ʔaʻʔɬ/, PPA /-ʔaʻtɬ'/ (L, DUR-IMPERF-OPT)
b. MT/OT /-ʔaɬ/ (1cII), PA /-ʔaʔɬ(ɬ)/, PPA /-ʔatɬ'ɬ/ (PROG-MOM-FUT)
c. MT/OT /-ʔaʻtɬ/ (1cII), PA /-ʔaʻʔtɬ'/, PPA /-ʔaʔtɬ'Ɣ/ (PERF)
d. MT/OT /-ʔatɬ/ (1cII?), PA ?/-ʔaʔɬt/, PPA ?/-ʔatɬ't/ (SEM-PERF)[28]

(31) **CLOSE ONE'S EYES**
a. *nəntsʼíʻɬ* 'close your eyes!'; b. *néʻstsʼetɬ* 'I have closed my eyes'; c. *néʻstsʼeɬ* 'I will close my eyes'
a. MT/OT /-tsʼiʻɬ/ (1cII), PA ?/-...iʻʔɬ/, PPA ?/-...iʻtɬ'/ (L, MOM-IMPERF-OPT)

[28] The metathetical shift from PPA **ɬt* to MT/OT *tɬ* is not well-attested. Compare, however, items 32 and 34.

b. MT /-tˢ'etɬ/ (6a), OT /-tˢ'ətɬ/ (1cII), PA ?/-...əʔtɬ'/, PPA ?/-...ətɬ'Ɣ/ (PERF)
c. MT /-tˢ'eɬ/ (6a), OT /-tˢ'əɬ/ (1cII), PA ?/-...əʔɬ(ɬ)/, PPA ?/-...ətɬ'ɬ/ (PROG-MOM-FUT)
(Central Carrier *ʔənətˢ'ózɬ, unəltˢ'íɬ* 'he is blinking')

(32) **HANDLE CLOTH**
a. *ʔedᶾíɬtʃuˑʒɬ* 'I have put the cloth away'; b. *ʔedᶾózdeˑʃtʃəʃ* 'I will put the cloth away'; c. *méʔesiˑɬtʃətʃ* 'I have lashed it up'
a. MT /-tʃuˑʃ=i/ (3), OT /-tʃuˑθ=iⁿ/ (1cII), PA ?/-kuˑʔs-(y)ən/, PPA ?/-kuʔsƳ/ (PERF)
b. MT /-tʃəʃ/ (3), OT /-tʃəθ/ (7b), PA ?/-kəsɬ/, PPA ?/-kusɬ/ (PROG-MOM-FUT)
c. MT /-tʃətʃ/ (3), OT /-tʃətθ/, PA ?/-kəst/, PPA ?/-kust/ (SEM-PERF)
(Sarcee /-tˢùz/ 'a fabric to lie', Babine /-kos/ 'handle a fabric', Central Carrier *dəɣaiyíɬtʃuz* 'he hangs up a coat')[29]

(33) **BE COLD**
a. *dehkˈáˑtθ* 'it is cold (weather)'; b. *táθekˈatθ* 'the weather is cold'; c. *ɬáˑhkˈaθ* 'it has become cold'
a. MT/OT /-kˈaˑtθ/, PA ?/-qˈaˑtˢ'/, PPA ?/-qˈaˑtˢ'Ɣ/ (PERF)
b. MT/OT /-kˈatθ/ (1cII?), PA ?/-qˈaʔtˢ'/, PPA ?/-qˈatˢ'/ (B, CONT-IMPERF-OPT(-FUT))
c. MT/OT /-kˈaθ/ (1cII, 7b), PA ?/-qˈaʔsɬ/, PPA ?/-qˈatˢ'ɬ/ (PROG-MOM-FUT)
(Babine /-qˈədᶻ/, Ahtna /d-0-qˈatˢ', qˈaˑdᶻ/, cf. PA and Eyak *qˈeʔ* 'cool')

(34) **CUT**
a. *ʔestˈáˑθ* 'I am cutting'; b. *nadéniˑtˈaˑtθ* = c. *nadéniˑtˈatθ* 'I have cut it up'; d. *nadéneˑstˈaθ* 'I will cut it up'
a. MT/OT /-tˈaˑθ/ (1cII), PA /-tˈaˑʔs/, PPA ?/-tˈaˑtˢ'/ (B, CONT-IMPERF-OPT(-FUT))
b. MT/OT /-tˈaˑtθ/, PA /-tˈaˑtˢ'/, PPA ?/-tˈaˑtˢ'Ɣ/ (PERF)
c. MT/OT /-tˈatθ/ (1cII?), PA ?/-tˈaʔst/, PPA ?/-tˈatˢ't/ (SEM-PERF)
d. MT/OT /-tˈaθ/ (1cII, 7b), PA /-tˈaʔsɬ/, PPA ?/-tˈatˢ'ɬ/ (PROG-MOM-FUT)[30]

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[29] (P)PA *ʔ* in (a) is suggested by the Sarcee low-toned cognate. For MT *tʃ*, OT *tθ* from PA *st*, cf. items 30 and 34.

(35) **EAT**
a. *ʔeθtθétθ* 'I am eating'; b. *ʔéˑθtθeˑdɨ* 'I have eaten'; c. *déˑθtθeɬ* 'I will eat'
a. MT /-tθetθ/ (3, 6a), OT /-tθətʃ/, PA ?/-tsək/, PPA ?/-tsətk/ (REP-CUS)
b. MT /-tθeˑt=i/, OT /-tθeˑt=in/, PA ?/-tseˑt-(y)ən/, PPA ?/-tseˑtɣ/ (PERF)
c. MT /-tθeɬ/ (6a), OT /-tθəɬ/, PA ?/-tsəɬ/, PPA ?/-tsətɬ/ (PROG-MOM-FUT)
(Ahtna /Ø-n-Ø-tseˑd/ 'eat soft floury object')

(36) **TWO GO**
a. *tíduˑtʼaˑzɨ* 'let's both go out!'; b. *tinéθiˑtʼaˑts* 'we both have gone out'; c. *tandíˑtʼas* 'we both will go up again'[31]
a. MT /-ʔaˑs=i/, OT /-ʔaˑs=in/ (1cII), PA /-ʔaˑʔʃ-(y)ən/, PPA /-ʔaˑtʃʼ/ (L, MOM-IMPERF-OPT)
b. MT/OT /-ʔaˑts/, PA /-ʔaˑtʃʼ/, PPA /-ʔaˑtʃʼɣ/ (PERF)
c. MT/OT /-ʔas/ (1cII, 7b), PA /-ʔaʔʃɬ/, PPA /-ʔatʃʼɬ/ (PROG-MOM-FUT)

(37) **GRAB, CATCH**
a. *ʔihtʃúˑt* 'I have caught it'; b. *ʔídeˑʃtʃəɬ* 'I will catch it'
a. MT/OT /-tʃuˑt/ (1cII), PA /-kuˑʔt/, PPA /-kuʔtɣ/ (PERF)
b. MT/OT /-tʃəɬ/, PA /-kəɬ/, PPA /-kutɬ/ (PROG-MOM-FUT)
(Eyak /-kuˑnʔd/ 'grab')

(38) **FALL DOWN**
a. *ðaθ náˑtɬʼetʃ* '(a mass of) snow has fallen (from the roof)'; b. *nádetɬʼiˑt* 'it is raining'; c. *nadíˑtɬʼiˑt* 'it has rained'; d. *nádatɬʼeɬ* 'it will rain'
a. MT /-tɬʼetʃ/ (6a), OT /-tɬʼətʃ/ (1cII?), PA ?/-tɬʼəʔtx/, PPA ?/-tɬʼətʼx/ (SEM-NON.PERF)
b. MT/OT /-tɬʼiˑt/ (1cII), PA /-tɬʼiˑʔt/, PPA /-tɬʼiˑtʼ/ (B, CONT-IMPERF-OPT(-FUT))
c. MT/OT /-tɬʼiˑt/, PA /-tɬʼiˑtʼ/, PPA /-tɬʼiˑtʼɣ/ (PERF)
d. MT /-tɬʼeɬ/ (6a), OT /-tɬʼəɬ/ (1cII), PA /-tɬʼəʔɬ/, PPA /-tɬʼətʼɬ/ (PROG-MOM-FUT)
(PA /-tɬʼiˑtʼ/ 'PL fall'

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[30] For MT/OT *tθ* from PA *st*, cf. items 30 and 32.
[31] (a) ...uˑtʼ... is fused /-u=id=Øˑ=ʔ.../ subjunctive-we-urgency…; (b) ...θiˑtʼ... is fused /-θid=iˑ=ʔ.../ we-perfective…; (c) ...iˑtʼ... is fused /-id=Øˑ=ʔ.../ we-futureA…

(39) **SPREAD**
a. *ʔukát* 'it is wide'; b. *níʔniˈhkaˈt* 'I have spread it'; c. *nídeˈskaɬ* 'I will spread it'
a. MT/OT /-kat/, PA ?/-qat/, PPA ?/-qat-/
b. MT/OT /-kaˈt/, PA ?/-qaˈt/, PPA ?/-qaˈtɣ̃/ (PERF)
c. MT/OT /-kaɬ/, PA ?/-qaɬ/, PPA ?/-qatɬ/ (PROG-MOM-FUT)

(40) **URINATE**
a. *ʔeslétˢ* 'I am urinating', b. *siˈlétˢ* 'I have urinated', c. *déˈsles* 'I will urinate'
a. MT /-letˢ/ (6a), OT /-lətˢ/, PA ?/-lətʃ/, PPA ?/-lətʃ/ (B, CONT-IMPERF-OPT(-FUT)
b. MT /-letˢ/ (6a), OT /-lətˢ/, PA ?/-lətʃ/, PPA ?/-lətʃɣ̃/ (PERF)
c. MT /-les/ (6a), OT /-ləs/ (7b), PA ?/-ləʃɬ/, PPA ?/-lətʃɬ/ (PROG-MOM-FUT)
(Babine /-lədᶻ/ 'urinate', Sarcee /-líz/ 'urinate')

5 Conclusion

As illustrated above, a diachronic approach to Tahltan verb stem allomorphy yields underlying forms from which the modern forms can be derived via the shifts listed in 4.2. Now, while we should be aware that the method advocated in this paper would have been impossible without Leer's (1979) groundbreaking publication, we have not yet seen **Proto-Athabaskan verb stem variation, part II*. Due to this lack of (accessibility to) PA/PPA and/or contemporary Athabascan data that could be used to 'regularize' verb stem allomorphy in Tahltan, not all Tahltan variable verb stems can yet be traced back to PA/PPA. Obviously, more comparative work needs to be done in reconstructing (P)PA verb stems, both by the author and by others.

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Appendix. The phonemes of Tahltan

CONSONANTS	bilabial	dental	interdental	alveolar	palato-alveolar	lateral	palatal	velar	postvelar	velar rounded	laryngal
lenis plosive	b	d	$d^{ð}$	d^{z}	$d^{ʒ}$	d^{l}		g	ɢ	g^{w}	
fortis plosive		t	$t^{θ}$	t^{s}	$t^{ʃ}$	$t^{ɬ}$		k	q	k^{w}	ʔ
glottalized plosive		t’	$t^{θ}$’	t^{s}’	$t^{ʃ}$’	$t^{ɬ}$’		k’	q’	k’^{w}	
voiced continuant	m	n	ð	z	ʒ	l	y	ɣ	ʁ	w	
voiceless continuant	~~m~~	~~n~~	θ	s	ʃ	ɬ	~~y~~	x	χ	x^{w}	h
glottalized continuant		n’									

VOWELS	front ------- central --------- back					
short-lax	i	ə	e	a	o	u
long-tense		iˑ		eˑ	aˑ	oˑ	uˑ

close -------- open --------- close

The transitive linker in Upper Chehalis (Salish)[1]

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1 Introduction

Upper Chehalis (q'^{w}ay'áyiłq') belongs to the Salish family and is the best-studied language of its Tsamosan branch. It was formerly spoken in central Washington State, USA. Most information about this language comes from the work of M. Dale Kinkade (see references). Like all Salish languages, Upper Chehalis is predominantly suffixing and has a rich system of transitive suffixes. The morphological structure of predicates is illustrated below.[2]

(1) *s-łač'-áx^{w}-n* 'get home', INTR CONT (no. 855)
CONT-return-house-3S.CONT
prefix-root-lexical.suffix-grammatical.suffix

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[1] I owe thanks to Prof. Aert Kuipers and Hank Nater for their comments on an earlier version of this paper. Any errors and misinterpretations remain my responsibility.

The transcription used in this paper follows the Americanist tradition and includes the following symbols: *c* = voiceless coronal affricate, *š,č* = voiceless palato-alveolar fricative and affricate, respectively, *ƛ'* = glottalised lateral affricate, *ɬ* = voiceless lateral fricative, *q* = postvelar plosive, *x, x̌* = velar and postvelar fricatives, respectively, *y* = palatal glide, superscript ^{w} = labialisation and apostrophe ' = glottalisation. 'C' stands for any consonant and 'V' for a (full) vowel. Apart from plain and glottalised sonorants, the complex consonantal inventory of Upper Chehalis contains voiceless obstruents: plain and glottalised and/or velarised stops, plain or glottalised affricates, fricatives, laryngeal stop *ʔ* and fricative *h*. The vocalic phonemic inventory consists of *i*, *u*, *a*, *ə*. Mid vowels *e*, *o* occur marginally, generally as allophones of high vowels. Vowel length is distinctive.

[2] Unless otherwise indicated, the Upper Chehalis examples data come from Kinkade (1991). Numbers refer to the dictionary page (e.g. 1991: 367), to the dictionary item number (e.g. 1991: no. 1962), to the number in the lexical suffix list (e.g. 1991: LS 182) or the number in the grammatical affix list (e.g. 1991: GA 36). Forms with superscript ^{FB} have been attributed in the dictionary to F. Boas. Unless otherwise stated, examples involve 3SG.S/3O forms. The abbreviations are as follows: DETR = detransitive, DRV = directive, FREQ = frequentative, INDIR = indirective, (IN)TR = (in)transitive, MDL = middle, (N)CONT = (non-)continuative, (N)CTRL = (non-)control, O = object, PASS = passive, PL = plural, REC = reciprocal, REFL = reflexive, SG = singular, S = subject and TOP.O = topical object. Roots and lexical suffixes are underlined.

Lexical affixes, i.e. root-like affixes found in Salish, Chemakuan, Wakashan, Tsimshian and Eskimoan languages as well as in Tarascan (isolate, Mexico), carry specific (conceptual or concrete) lexical meanings. Grammatical affixes express a variety of grammatical notions, such as non-control, voice, transitivity, subject, object, possessive or number.[3]

Upper Chehalis exhibits vowel-zero alternations in various positions in the word. Kinkade (1993 and 1998, among others) proposes a phonological account of these by means of a typologically rather odd rule of vowel deletion which applies only in closed syllables. In Rowicka (2001*a*) and in this paper, I suggest that vowel-zero alternations in Upper Chehalis in fact involve several distinct patterns that are due to various phonological and morphological factors. In what follows, I focus on the appearance of the vowel *i* (in bold print) exemplified in (2).

(2)	'watch'	(no. 485)	*č'áč-n*	TR NCONT
			*s-č'áč-**i**-t-n*	TR CONT
	'boil'	(no. 227)	*cə́q-staq-n*	TR NCONT
			*s-cə́q-staq-**i**-t-n*	TR CONT
	'work for'	(no. 2517)	*yús-š-n*	INDIR CONT
			*s-yús-š-**i**-t-n*	INDIR CONT

In previous work on Upper Chehalis, including the (1991) dictionary, the alternating vowel is spelled out as part of the preceding root or suffix. I will argue that it should instead be analysed as a separate TR linker suffix with cognates in other Salish languages. In this paper it is therefore always separated from the preceding morpheme by a morpheme boundary '-'.[4]

This paper deals with vowel-zero alternations in Upper Chehalis. However, similar alternations have been reported in Cowlitz, a closely related Tsamosan Salish language, and Kinkade's (2004: 223) analysis of the phenomenon in this language is analogous to his account of Upper Chehalis. Since the two languages resemble each other strongly in terms of the relevant aspects of the grammar, I predict that the present analysis is applicable

[3] For a good overview of the structure of Salish languages, see Czaykowska-Higgins & Kinkade (1998*b*). For a more recent collection of papers on Salish languages, see also Gerdts & Matthewson (2004).

[4] Under this analysis, most Upper Chehalis roots end in a consonant and have a CVC form, which is in accord with the fact that the canonical root shape in Salish languages is 'CVC'. Thanks to Prof. Kuipers for reminding me of this fact.

to Cowlitz as well.[5]

Below I will first present evidence for the predictability of the vowel's presence and quality, which a vowel deletion account cannot explain, and identify the morphological and phonological factors that determine its presence or absence. Subsequently, a plausible historical source of the linker vowel will be considered, namely, **-n*, the Proto-Salish CTRL marker.

2 Facts

2.1 Preliminaries: CONT VS. NCONT aspect

Aspect distinctions are crucial for all Salish languages, the major division being between CONT and NCONT (or perfective and imperfective). In comparison with other Salish languages, the morphological trademark of Upper Chehalis is the use of S **suffixes** in CONT as opposed to S **clitics** in NCONT, as exemplified below (Kinkade 1991: 367).[6]

(3) a. *ʔit ʔíl'n čn* 'I sang'
b. *s-ʔíl'an-anš* 'I am singing'

2.2 Roots and the linker vowel

Consider the pattern of appearance of the vowel *i* (in bold print) in the TR paradigm below (Kinkade 1991: 367).

(4)	a.	NON-CONTINUATIVE	
	ʔit č'áč-c	's/he watched me'	
	*ʔit č'áč-**i**-ci*	's/he watched you (SG)'	
	ʔit č'áč-n	's/he watched him/her/it'	
	*ʔit č'áč-**i**-tułɬ*	's/he watched us/you (PL)'	
	*ʔit č'áč-**i**-cš*	's/he watched him/herself'	REFL
	*ʔit č'áč-**i**-tm*	's/he was watched'	PASS
	ʔit č'áč-twali	's/he watched the other one'	TOP.O
	ʔit č'áč-tuš	'they watched each other'	REC

[5] On the other hand, Quinault, another Tsamosan Salish language, does not resemble Upper Chehalis and Cowlitz in the relevant ways: it does not exhibit vowel-zero alternations of the type discussed here, which may be related to the fact that it has a different pronominal system (cf. Rowicka, to appear).

[6] Following Kinkade (1991), CONT predicates are given here with the prefix *s-*. However, the function of the prefix is uncertain. Since it is often missing in texts, Kinkade (1994) suggests that it may involve a quotation marker, rather than an aspect marker.

b.	CONTINUATIVE	
*s-č'áč-**i**-cal-n*	's/he is watching me'	
*s-č'áč-**i**-ci-n*	's/he is watching you (SG)'	
*s-č'áč-**i**-t-n*	's/he is watching him/her/it'	
*s-č'áč-**i**-tul-n*	's/he is watching us/you (PL)'	
*s-č'áč-**i**-cš-tn*	's/he is watching him/herself'	REFL
*s-č'áč-**i**-stš*	's/he is being watched'	PASS
s-č'áč-twal-n	's/he is watching the other one'	TOP.O
s-č'áč-twal-n	'they are watching each other'	REC

An examination of this paradigm leads us to the following generalisations:

- the linker vowel is absent between the root and 1SG.NCONT.O *-c* or 3SG.NCONT.O *-n*
- the linker vowel is absent between the root and the TOP.O or REC suffix
- the linker vowel is present between the root and other O suffixes, REFL and PASS suffixes

More examples below, unfortunately involving only 3SG.S/3O forms, confirm this pattern.

(5)	TR NCONT	TR CONT	
'stretch a skin'	*q'^{w}ánaž-n*	*s-q'^{w}ánaž-**i**-t-n*	(no. 1650)
'help'	*tal'íč-n*	*s-tal'íč-**i**-t-n*	(no. 1878)
'bake in ashes'	*ʔácaq^{w}-n*	*s-ʔácaq^{w}-**i**-t-n*	(no. 7)
'kill'	*tíx^{w}n-n*^{FB}	*s-tíx^{w}n-**i**-t-n*	(no. 1963)

Recall from above that the absence of the linker vowel in 3SG.S/3O TR NCONT forms (the left-hand column) is **not** representative for the rest of the NCONT paradigm.

There are also several roots, exemplified below, that do not take the linker vowel at all. See the TR CONT forms below.

(6)	TR NCONT	TR CONT	
'tell'	*cún-n*	*s-cún-t-n*	(no. 270)
'give'	*čáɬ-n*	*s-čáɬ-t-n*^{FB}	(no. 426)
'scatter'	*ɬic'-n*	*s-ɬic'-t-n*	(no. 890)
'thank, greet'	*c'é·w-n'*	*s-c'é·wiʔ-t-n*	(no. 386)

2.3 Linker *i* vs. linker *a*

Riepl (2000) discovers significant regularities in the appearance and quality of the linker vowel. Although the linker vowel between roots and O suffixes

is usually *i*, there are also roots that are followed by *a* instead. Riepl observes that *a* appears only with CáC- roots, i.e. biconsonantal roots containing *a*. See the examples below.

(7)	INTR NCONT	TR CONT	
'release'	*ʔáč'-ɬ*	*s-ʔáč'-**a**-t-n*	(no. 15)
'rub'	*ʔáp'-ɬ*	*s-ʔáp'-**a**-t-n*	(no. 42)
'be sewed, sew'	*cán-ɬ*	*s-cán-**a**-t-n*[FB]	(no. 202)
'get sore'	*c'áq-ɬ*	*s-c'áq-**a**-t-n*	(no. 318)

CíC-, CúC- roots and longer roots are followed by *i*, as exemplified below.[7]

(8)	INTR NCONT	TR CONT	
a. CíC-			
'dig'	*cíqʷ-ɬ*	*s-cíqʷ-**i**-t-n*	(no. 250)
'stick under'	*ƛ'íxʷ-ɬ*	*s-ƛ'íxʷ-**i**-t-n*	(no. 1006)
'stir up'	*míqʔʷ-ɬ*	*s-míqʔʷ-**i**-t-n*	(no. 1108)
'lift'	*q'íl-ɬ*[FB]	*s-q'íl-**i**-t-n*	(no. 1543)
b. CúC-			
'put up'	*c'úqʔʷ-ɬ*[FB]	*s-c'úqʔʷ-**i**-t-n*	(no. 405)
'wrinkled'	*ɬúm-ɬ*	*s-ɬúm-**i**-t-n*	(no. 910)
'swell up'	*pús-ɬ*	*s-pús-**i**-t-n*	(no. 1311)
'be free, release'	*ʔac-tún-ɬ*	*s-tún-**i**-t-n*	(no. 1985)
c. CV̓CC-			
'accompany'	*ʔáy'šn*	*s-ʔáy'šn-**i**-t-n*	(no. 75)
'kill'	*tíxʷn*	*s-tíxʷn-**i**-t-n*	(no. 1963)
'stretch a skin'	*qʔʷánx̌*	*s-qʔʷánax̌-**i**-t-n*	(no. 1650)
'tree falls, fell'	*pánp*[FB]	*s-pánap-**i**-t-n*	(no. 1240)

The examples in (9) show that no vowel at all appears after CəC- and CəCC- roots.[8]

[7] As pointed out to me by Prof. Kuipers, a small number of roots exhibit variation in the quality of the linker vowel, e.g. *šə́ní-* 'husband' vs. *šaná-* 'marry' (no. 1829). This is arguably due to the (stress-related) variation in the preceding root vowel.

[8] *ə́ ~ a* alternations in such forms are discussed in Kinkade (1998) and Rowicka (2001*a*).

(9)	TR NCONT	TR CONT	
'clear up'	*c'am-ə́n*	*s-c'ə́m-t-n*	(no. 357)
'see'	*ʔax̌-ə́n*	*s-ʔə́x̌-t-n*	(no. 92)
'tear'	*cə́ɬqʷ-n*	*s-cə́ɬqʷ-t-n*	(no. 219)
'clean'	*ʔə́yq-n*	*s-ʔə́yq-t-n*	(no. 96)
'discuss'	*čə́n'x̌-n*	*s-čə́n'x̌-t-n*	(no. 460)

Riepl proposes to analyse the appearance of *a*, instead of *i*, as 'vowel echoing', following the account of a similar phenomenon in Coast Salish languages in Urbanczyk (1999) (see §3 below).

2.4 Lexical suffixes and the linker vowel

No complete TR paradigm with a lexical suffix is available from the (1991) dictionary. However, the 3O and 3S forms listed there indicate that TR predicates containing lexical suffixes conform to the pattern established above, namely:

- the linker vowel is absent between the lexical suffix and 3NCONT.O *-n*,
- the linker vowel is present between the lexical suffix and 3CONT.O *-t-*.

Riepl (2000) observes that, unlike roots, lexical suffixes cannot 'echo' their vowels, irrespective of their quality. The following examples show that the linker vowel following lexical suffixes is invariably *i*.

(10)	TR NCONT	TR CONT	
'boil'	*cə́q-staq-n*	*s-cə́q-staq-**i**-t-n*	(no. 227)
'fall crosswise'	*tíms-yaq-n*	*s-tíms-yaq-**i**-t-n*	(no. 1951)
'go after in a canoe'	*mát-wil-n*	*s-mát-wil-**i**-t-n*	(no. 1059)
'wrap up sth long'	*məlkʷ-ísaq-n*	*s-məlkʷ-ísaq-**i**-t-n*	(no. 1082)

As in the case of roots, some stems with lexical suffixes, exemplified below, are not followed by a linker vowel or are listed both with and without it.

(11)	TR NCONT	TR CONT	
'smother'	*c'áč-ɬmal-n*	*s-c'áč-ɬma(l)-t-n*	(no. 343)
'dope, poison'	*čín-ɬmal-n*	*s-čín-ɬma(l)-t-n*	(no. 467)
'wash the eyes'	*c'axʷ-ális-n*FB	*s-c'ax̌-ális-t-n*	(no. 370)
'wash one's face'	---	*s-c'axʷ-ús-**i**-t-n*/ *s-c'axʷ-ús-t-n*FB	(no. 370)

2.5 No linker vowel in intransitives

The occurrence of the linker vowel is restricted to TR predicates. Neither

roots nor lexical suffixes are followed by a linker vowel in INTR forms. Consider the paradigm below (cf. Kinkade 1991: 367). In none of the forms in (12) is the root followed by a linker vowel. (12b) also illustrates vowel-zero alternations of another type in between root-final consonants. Such alternations, independent of the presence or absence of the linker vowel, are discussed in Rowicka (2001*b*) and are also briefly considered later in this paper.

(12) a. NON-CONTINUATIVE

ʔit ʔíl'n čn	'I sang'
ʔit ʔíl'n č	'you (SG) sang'
ʔit ʔíl'n	'he/she sang'
ʔit ʔíl'n čɬ	'we sang'
ʔit ʔíl'n čalp	'you (PL) sang'
ʔit ʔíl'n yamš	'they sang'

b. CONTINUATIVE

*s-ʔíl'**a**n-anš*	'I am singing'
*s-ʔíl'**a**n-š*	'you (SG) are singing'
*s-ʔíl'**a**n-n*	'he/she is singing'
*s-ʔíl'**a**n-stawt*	'we are singing'
*s-ʔíl'**a**n-alp*	'you (PL) are singing'
*s-ʔíl'**a**n-iɬt*	'they are singing'

More evidence that roots in INTR predicates take no linker is presented below.

(13)	INTR NCONT	INTR CONT	
'steal'	*ʔikʷtq*	*s-ʔikʷtaq-n*	(no. 101)
'bake in ashes'	*ʔácqʷ*	*s-ʔácaqʷ-n*	(no. 7)
'snow'	*ʔášq*	*s-ʔášaq-n*	(no. 50)
'cross a river'	*tíwt*	*s-tíwat-n*	(no. 1960)

Similarly, no linker vowel follows lexical suffixes in INTR forms:

(14)	INTR NCONT	INTR CONT	
'be surprised'	*x̌ap-ínuwt*	*s-x̌ap-ínuwat-n*	(no. 2315)
'dry land'	*x̌əp-áy-tmšᶠᴮ*	*s-x̌əp-áy-tmaš-n*	(no. 2315)
'become dry'	*x̌áp-iyq*	*s-x̌áp-iyaq-n*	(no. 2315)
'become pregnant'	*nɛ́xʷ-ƛ'č*	*s-nɛ́xʷ-ƛ'ač-n*	(no. 1188)
'work on a canoe'	*yó·s-uɬᶠᴮ*	*s-yó·s-wiɬ-n*	(no. 2517)

‘sneeze’	*ʔáw-qs*	*s-ʔáw-qs-t-n*	(no. 54)
‘end’	*ná·m’-s*	*s-ná·m’-s-t-n*	(no. 1161)

To recapitulate, the evidence adduced in §2 shows that both the presence and the quality of the linker vowel is generally predictable in Upper Chehalis. The linker vowel is restricted to the TR paradigm. It follows the stem consisting of the root with or without a lexical suffix. It is present in most forms of the TR paradigm, except for 1SG.S/3O in NCONT and TOP.O or REC forms in both aspects. The quality of the linker vowel is generally *i*, except after CáC- roots, when the linker ‘echoes’ the root vowel and appears as *a*.

In the following section I develop an analysis of the linker vowel as a TR linker morpheme.

3 The analysis: *-i-* as a TR linker

Given the predictable appearance of the linker vowel, its restriction to TR predicates and its location between the stem and O suffixes, I argue that it is best analysed as a TR linker morpheme, and not part of the root or the suffix that precedes it.

Comparative Salish data add support to this approach. The *i* ~ ‘echo’ *a* ~ ∅ alternations parallel the behaviour of the vowel in the TR suffix *-Vt-* in Coast Salish languages (cf. Urbanczyk 1999).[9] Consider the examples from Mainland Comox below, where the default TR suffix vowel is *a*, rather than *i*. Unlike the Upper Chehalis linker vowel, the Comox TR suffix vowel ‘echoes’ any short non-schwa vowel after CV́C- roots, not only *a*, and longer schwa-only roots are treated differently than CəC- roots.

(15) Mainland Comox (cf. Kroeber 1989: 110)

a.	echo vowel:	*t’ot$^{\theta}$’-**ot***	‘shoot it’
		*ʔep’-**et***	‘wipe it’
		*č’ag-**at***	‘help him’
b.	no vowel:	*səp’-**t***	‘club it’
		*pəx̌-**t***	‘tear it’
		*t^{ɬ}əs-os-**t***	‘punch him in the face’
c.	*a*:	*č’əpx̌-**at***	‘make it dirty’
		*še:p’-**at***	‘sort it’ (from *šəyp’-*)

[9] Echo vowels are not only found in the TR suffix in Coast Salish. Urbanczyk (p.c.) also mentions that echo vowels occur with the MDL suffixes in Lushootseed and Squamish as well as with the PL infix in Comox.

Given the existing parallels, the vocalic alternations in Upper Chehalis could also involve a TR suffix *-Vt-*, analogous to the Mainland Comox suffix in (15) above. Observe that the Upper Chehalis linker vowel is generally followed by *t* or a coronal obstruent at the beginning of O suffixes (cf. (4) above). Such a *t* can be re-analysed as part of the TR suffix, rather than as part of the following O suffix, as has been done so far. The absence of *t* before coronals can be attributed to consonant fusion (cf. Kroeber 1998) or to coronal cluster simplification, attested independently in several Salish languages (cf. Blake 2000).[10] This implies a morphological re-analysis of the TR forms illustrated below.

(16) *s-č'áč-**i**-t-n* = *s-č'áč-**it**-**Ø**-n* 'he is watching him/them'
CONT-watch-**TR**-3O-3S

*s-č'áč-**i**-cal-n* = *s-č'áč-**it**-sal-n* 'he is watching me'
CONT-watch-**TR**-1SG.O-3S

Such a re-analysis of the Upper Chehalis data entails two claims: for one, *t* is postulated to function as (part of) a TR suffix, separate from any of the O suffixes, and two, the linker vowel and *t* are interpreted as a unit morphologically. As far as the first claim is concerned, this is the diachronic scenario assumed, for instance, in Kroeber (1998). In order to verify its synchronic validity, an in-depth examination of the behaviour of coronal clusters in Upper Chehalis would be necessary and, ideally, of native speakers' intuitions about the morphological composition of TR forms – which is no longer possible. I therefore refrain from making claims here about the synchronic morphological status of *t* as a TR suffix in Upper Chehalis.

As to the second claim formulated above, viz. that the linker vowel and *t* constitute one morpheme, an argument against it is readily available: TOP.O and REC forms (cf. (4) above) do contain suffix-initial *t*, but no preceding linker vowel. If TR *t* can occur with or without a linker vowel, the two do not apparently function as one morpheme. I therefore opt for an analysis of the

[10] Most Upper Chehalis O suffixes listed in Kinkade (1991) begin with *t* or *c*. Kroeber (1998: 426) interprets these suffix-initial consonants as a historical result of the coalescence of TR *t* and the original O suffix-initial *s*. Kinkade (2004: 237) assumes the same interpretation for *c* in the cognate O suffixes in Cowlitz. On the other hand, Nater (p.c.) proposes to reconstruct *c* initially in O suffixes, independently of preceding TR *t*, since *c*, rather than *s*, occurs initially in such suffixes in Salish languages, whether (originally) preceded by TR *t* or not. In this paper I refrain from taking a stand on this issue, while (non-crucially) transcribing the relevant O suffixes with initial *s*, as in (16).

linker vowel as a morpheme independent either of the preceding root or lexical suffix or of the following suffix *t*.

The function of the TR linker vowel no longer seems transparent. It clearly is restricted to TR predicates, but it is not obligatory for all TR forms. Few pairs of alternative forms with or without the linker are available (such as the last example in (11)), but no semantic or functional differences between them have been reported. If *t* itself is a TR suffix, it is problematic to identify the (sometimes) co-occurring linker as another TR suffix. I have therefore chosen to label it a 'TR linker' vowel, a linking morpheme occurring in TR forms, without any morphologically transparent function.

In the following section I suggest a plausible historical source of the Upper Chehalis TR linker vowel, namely the Proto-Salish CTRL suffix **-n*. The loss of the CTRL category in Upper Chehalis accounts for the obliteration of the function of the linker vowel.

4 The source of the TR linker

4.1 (N)CTRL in Proto-Salish

Since Thompson (1979), (N)CTRL has been recognized as an important grammatical category in Salish languages, closely interacting with, among others, transitivity. Thompson & Thompson (1992: 51) explain the difference between CTRL and NCTRL predicates as follows. In the former, "the agent functions with usual average capacities in keeping things under control", while the latter involve "not only unintentional, accidental acts, but also intentional, premeditated ones which are carried out to excess, or are accomplished only with difficulty, or by means of much time, special effort, and/or patience, and perhaps a little luck".

Researchers trace the distinction back to Proto-Salish, where TR suffixes carried information about the (N)CTRL status of the agent. It is usually assumed that TR **-nə́w* implied its NCTRL status, while the agent's CTRL status was expressed by the CTRL marker **-n* followed by TR **-t* (cf. Thompson 1976 and Czaykowska-Higgins & Kinkade 1998*b*, among others). On the other hand, Kuipers (p.c.) is of the opinion that it was **t* that functioned as the CTRL marker.[11] In this paper I, non-crucially, adopt the former analysis. Reflexes of both suffixes can fairly convincingly be identified in many present-day Salish languages, although their current function and meaning are not always transparent. CTRL **-n* can be shown to have given rise to

[11] As van Eijk (this volume) observes, Salish languages may differ in the precise function of the CTRL category, which maybe one of the reasons behind controversies among linguists.

vocalic alternations reminiscent of the Upper Chehalis alternations under consideration in this paper.

Below I will briefly review some relevant facts of present-day Thompson Salish (Interior Salish) and Upriver Halkomelem (Central Salish), before returning to the Upper Chehalis data.

4.2 Thompson Salish (Interior Salish)

Thompson has a CTRL marker referred to as 'directive' (DRV) and represented as //-n-//. It appears in front of the TR suffix *-t-* which itself is unmarked for CTRL. DRV surfaces as *n* or *e*, as illustrated below:

(17)	*kíc-**n**-e*	*səlk-**e**-t-éne*
	visit-**DRV**-1SG.S(+3O)	turn-**DRV**-TR-1SG.S(+3O)
	'I visit him/her'	'I turn it'

Although the CTRL distinction is being lost in the language and analogical developments tend to unify paradigms (cf. Thompson & Thompson 1992), the following generalisations can be made about the distribution of DRV.

- DRV appears as *n*:
  - after (accentually) strong roots ending in vowels throughout the paradigm (cf. (18a)),
  - after other strong roots in 1SG.S-3O and in 2SG.S-3O (cf. (18b);
- DRV appears as *e*:
  - after strong roots in the rest of the paradigm (including **REFL and REC**; cf. (18c)),
  - after weak CəCC- roots throughout the paradigm (cf. (18d)
  - regularly in **REFL and REC** forms after weak CəC- roots (cf. (18e));
- DRV is absent:
  - in the rest of the paradigm after weak CəC- roots (with frequent alternate pronunciations possible; cf. (18f)),
  - after 'root stems', mostly with an inherent CTRL semantics, e.g. *kən-* 'help', *nés-* 'take sb somewhere' (cf. (18g)); of **REFL and REC** forms, only ones with 'root stems' show optional variants with or without DRV (cf. (18h-i)).[12]

Examine the following examples (from Thompson & Thompson 1996).

[12] REFL and REC are formed on transitive stems, but take intransitive pronominal enclitics. This can be related to their deviant behaviour with respect to the DRV.

(18)	a. *ʔúʔe-**n**-e*	'I sing a lullaby to him/her'	p. 549
	b. *kíc-**n**-x^{w}*	'you-SG visit him/her	,, ,, ,,
	c. *kíc-**e**-t-m*	'we visit him/her'	,, ,, ,,
	d. *səlk-**e**-t-éne*	'I turn it'	,, ,, ,,
	e. *x̌əc-**e**-t-wáx^{w}*	'bet with one another'	p. 420
	f. *x̌əc(-**e**)-t-és*	'bets with someone'	,, ,, ,,
	g. *kən-t-éne*	'I help him/her'	p. 548
	h. *kən(-**e**)-t-wáx^{w}*	'help each other'	p. 90
	i. *kən(-**e**)-cút*	'help oneself'	,, ,, ,,

While there are several differences between the distribution of DRV in Thompson and the TR linker in Upper Chehalis, there are also some significant similarities, namely:

- the general absence of the TR linker and DRV after CəC- roots
- the tendency for REC (and REFL, in Thompson) to exhibit special behaviour…
- … although in the opposite direction: DRV is usually present in those forms in Thompson, while in Upper Chehalis the TR linker is absent.

The *n* ~ *e* alternation in Thompson reflects a more general process of nasal-to-vowel shifts, which takes place, roughly speaking, in consonantal clusters. They are attested diachronically in Interior Salish languages and still synchronically active in some of them (cf. Kinkade 1982, Carlson 1976*a*, Czaykowska-Higgins & Kinkade 1998*b* and other references therein).

4.3 Upriver Halkomelem (Central Salish)

The relevance of the (N)CTRL category and the special behaviour of REC (and REFL) forms is also evident in Upriver Halkomelem. According to Galloway (1993), all TR verbs in this language are marked for (N)CTRL. Information about the degree of the agent's CTRL over the action is expressed by TR suffixes, including CTRL TR *-(ə)T* ~ *-əT* ~ *-á(·)T* ~ *-é(·)T* 'do purposely to sb/sth', cognate to the Mainland Comox suffix *-Vt-* considered earlier in this paper.

Interestingly, no TR suffixes co-occur with either the REFL or REC suffixes. Galloway observes that there are two REFL suffixes that can be argued to differ with respect their (N)CTRL status. Examples containing one are consistent with NCTRL semantics, while most (but not all) predicates with the other suffix have CTRL semantics.

In other words, suffixes such as REFL or REC could either have inherent (N)CTRL properties that made additional marking by means of specialised

suffixes superfluous, or they contained such suffixes.[13] With the (N)CTRL distinction being lost nowadays, the logic behind the use of overt (N)CTRL marking in TR predicates is also becoming obscure.

4.4 (N)CTRL in Upper Chehalis

Tsamosan Salish languages, including Upper Chehalis, seem to have lost the Proto-Salish NCTRL.TR suffix *-*nəx*^{w} completely (cf. Kinkade 1993). The PASS suffix -*tači* has been identified as NCTRL in Upper Chehalis, but other than that, hardly any role of the (N)CTRL category can be recognised.

Thompson (1976) observes that what looks like aspect-related allomorphy of Upper Chehalis INTR suffixes resembles the contrast in terms of CTRL elsewhere in Salish. However, Kinkade (1993) points out a problem in trying to analyse the Upper Chehalis data along the same lines as Thompson Salish. The *n* ~ *e* alternations in Thompson, illustrated in (18) above, could be attributed to a more general nasal vocalisation process, well attested in Interior Salish languages. However, there is no independent evidence for such a process in Tsamosan languages. Hence nasal vocalisation affecting CTRL *-*n* can hardly be argued to be the source of the Upper Chehalis TR linker -*i*-.

In the following section I propose a historical scenario according to which the TR linker -*i*- could have developed from CTRL *-*n* by a process other than nasal vocalisation.

4.5 The source of -*i*-: Proposal

I suggest that the appearance of the vowel and the loss of the nasal consonant in the Upper Chehalis reflex of the Proto-Salish CTRL suffix *-*n* were due to separate processes. The former, I propose, involved vowel epenthesis to break up a consonantal cluster at a stem edge, while the latter was a case of coronal cluster simplification.

In Rowicka (2001*b*), I argue that many vowel-zero alternations in roots as well as lexical suffixes in Upper Chehalis are due to a process of vowel epenthesis at certain morphological junctures, both in TR and INTR predicates. Consider first the INTR forms in (19) below. The alternating vowels are in bold.

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[13] As Nater (p.c.) points out, the CTRL category is fairly well preserved in Bella Coola (Nuxalk), the northernmost Salish language. Nater (1984) mentions a -*t*/-*n* distinction in TR marking, with -*t* indicating more control than –*n; t* and *n* occur initially in many suffix pairs that differ in terms of CTRL, including REFL -*tmax*^{w} vs. -*nmax*^{w}.

(19)	NCONT	CONT	
'sing', 1SG	*ʔit ʔíl'n čn*	*s-ʔíl'**a**n-anš*	(1991: 367)
'sing', 2SG	*ʔit ʔíl'n č*	*s-ʔíl'**a**n-š*	(1991: 367)
'be surprised'	*x̌ap-ínuwt*	*s-x̌ap-ínuw**a**t-n*	(no. 2315)
'become dry'	*x̌ə́p-iyq*	*s-x̌ə́p-iy**a**q-n*	(no. 2315)

Word-finally, roots and lexical suffixes in the NCONT forms in (19) end in consonantal clusters. These clusters are broken up by a vowel (with few exceptions, *a*) when the same morphemes are followed by S suffixes in CONT. Similar epenthesis is attested in roots and lexical suffixes in TR predicates.

(20)	INTR NCONT	TR NCONT	TR CONT	
'bake in ashes'	*ʔácq^{w}*	*ʔác**a**q^{w}-n*	*s-ʔác**a**q^{w}-i-t-n*	(no. 7)
'stretch a skin'	*q^{ʷ}ánx̌*	*q^{ʷ}án**a**x̌-n*	*s-q^{ʷ}án**a**x̌-i-t-n*	(no.1650)
'boil'	---	*cə́q-st**a**q-n*	*s-cə́q-st**a**q-i-t-n*	(no. 227)
'fall crosswise'	---	*tíms-y**a**q-n*	*s-tíms-y**a**q-i-t-n*	(no.1951)[14]

In the above examples, vowel epenthesis affects lexical morpheme-final clusters when grammatical suffixes follow: 3O *-n* in NCONT forms or the TR linker *-i-* in CONT forms.

In Rowicka (2001*b*), such epenthesis is proposed to be triggered by a prosodic well-formedness condition. It imposes a certain syllabic shape on the base to which grammatical morphemes, such as S suffixes, are attached in Upper Chehalis. The base contains lexical morphemes, i.e. the root and lexical suffixes, if any.[15] It is preferably required to end in a well-formed 'CVC' syllable. Base-final clusters are therefore split up by an epenthetic vowel.[16] Epenthesis is activated only in the presence of the following grammatical morpheme. Word-finally, when no overt suffixes follow the lexical base, clusters remain intact.[17]

[14] For a vowelless form of the same lexical suffix, see (19).

[15] For the significance of the distinction between lexical vs. grammatical morphemes in Salish and a discussion of the phonological and morphological domain structure, see Czaykowska-Higgins (1998).

[16] The requirement holds on the structure of the base that **enters** suffixation, which can differ from the surface syllable structure, depending on whether the suffix attached begins with a vowel or a consonant.

[17] Evidence for similar prosodic well-formedness conditions, requiring the affixation base to have a certain syllabic shape or a specific stress pattern, has been found in a large number of the world's languages. They can be activated by classes of morphemes or by individual affixes. Within the framework of Optimality Theory, these

In this paper, I suggest that a similar epenthesis process affected CTRL *-*n*, resulting in -*Vn*-, when TR *-*t*- and O suffixes followed. It was triggered by an analogous requirement on the suffixation base, to which TR *-*t*- was attached, to end in a 'CVC' syllable. This is schematically represented below, where '[ ]' mark the edges of the relevant prosodic domain.[18] 2SG.O suffix -*ci* results from fusion of TR *-*t*- with the original 2SG.O suffix *-*si* (see, however, fn. 10 above).

(21) *č'áč-**i**-ci* 'he watched you (SG)'
[ROOT-CTRL]-TR-2SG.O
[……..-*n*]-*t*-*si*
↓ ↓ vowel epenthesis, consonant fusion
…*Vn*-*ci*

This line of analysis can account for the presence of a full vowel, referred to as the TR linker in this paper, between the lexical morpheme(s) and (TR+)O suffixes.

The disappearance of the nasal consonant of the CTRL suffix before O suffixes, I suggest, could be due to an independent process, namely, coronal cluster simplification. Such a process is synchronically attested in several Salish languages and usually affects coronal consonants in grammatical morphemes in morphologically derived environment, i.e. across morphological boundaries (cf. Blake 2000). Since TR *-*t* and the relevant O suffixes all contain coronal consonants, their suffixation after CTRL *-*(V)n*- would always produce the context for the application of coronal cluster simplification in Upper Chehalis. It is unfortunate that, with no native speakers left, it is hardly possible to study the behaviour of coronal clusters in Upper Chehalis and find evidence in favour of the proposed scenario for the historical development of the TR linker vowel.

An interesting issue concerns the quality of the TR linker vowel. Recall that the vowel epenthesised into lexical morphemes is generally *a* (cf. (19) above). On the other hand, the TR linker, which has also been argued to re-

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conditions have been formulated as ALIGNMENT constraints (cf. McCarthy & Prince 1993).

[18] A predicate with a CV́CC- root followed by CTRL *-*n* and TR *-*t*- plus O suffix, e.g. *s-ʔácaqʷ-**i**-t-n* 'bake in ashes' (cf. (20)), would have a nested domain structure, i.e. [s [[[ʔácqʷ] n] t-n]]. The requirement on domain-final 'CVC' would apply twice and result in double epenthesis: *a* between the root-final consonants *c* and q^w (triggered by the presence of *-*n*) and *i* before CTRL *-*n* (triggered by following TR *-*t*-).

sult from epenthesis, is *i*. This difference may reflect an asymmetry between lexical and grammatical morphemes in Upper Chehalis. Other languages of the world have also been reported to use more than one vowel quality for epenthetic vowels under specific conditions (cf. Rowicka & van de Weijer 1994 on Polish). In Upper Chehalis, epenthesis under stress results in an as yet different vowel quality, namely *ə* (cf. Kinkade 1998 and Rowicka 2001*a*). The above proposal predicts that other vowels epenthesised into grammatical morphemes in Upper Chehalis will also be *i*.

An alternative explanation for the *i* quality of the TR linker vowel is available under a theory of segmental structure that assumes the same set of elements to describe both consonantal and vocalic melody, such as Government Phonology or Dependency Phonology. Within such frameworks, the coronal place of articulation is represented by the same element 'I' that defines the vowel quality *i*. The deletion of the coronal nasal in CTRL **-(V)n-* delinks this element and makes it available for re-association to the epenthesised vowel. The latter approach predicts that a deleted consonant can determine or influence the quality of the neighbouring epenthetic vowel.

The choice between the two approaches requires additional study that goes beyond the scope of this paper. I therefore leave it for future research.

4.6 Forms without *-i-*

The primary context where the TR linker is systematically missing involves schwa-only roots. I suggest that vowel epenthesis is blocked in such contexts in order to avoid an infelicitous situation where (lexically determined) stress falls onto the root schwa in the presence of a full (epenthesised) vowel, which would make a better peak, in the same domain. This is related to the prosodic deficiency of schwa compared to full vowels, evidence for which can be observed throughout the Salish language family.[19]

The TR linker vowel is also regularly absent in REC and TOP.O forms in Upper Chehalis. REC (and REFL) forms have been observed to exhibit deviant behaviour in this respect in Thompson Salish and Upriver Halkomelem (cf. §4.2 and §4.3 above). For Upriver Halkomelem, Galloway suggests that REC and REFL suffixes carried (N)CTRL meaning, which made additional overt (N)CTRL markers superfluous. I propose an analogous explanation for REC and TOP.O forms in Upper Chehalis. They lack the TR linker vowel because

[19] The deficient stress behaviour of schwa as opposed to full vowels can be traced back to Proto-Salish. See the distinction between 'strong' roots with full vowels and 'weak' roots with schwa, pointed out in Thompson (1979: 721).

they historically lacked CTRL *-*n*. The REC and TOP.O suffixes followed TR *-*t*- alone because they themselves carried CTRL meaning.[20]

As far as the absence of the TR linker vowel in 1SG.NCONT.O and 3SG.NCONT.O is concerned, I opt for a phonological explanation. The fact that the linker vowel is present in CONT forms but absent in NCONT forms in the same persons undermines the plausibility of a morphological account. Consider first the 3SG.NCONT.O form *(ʔit) č'áč-n* 'he watched him/them'. It ends in the suffix *-n* that has synchronically been re-analysed as the 3O marker. The suffix in fact goes back to CTRL *-*n*. Such 3O forms contained neither an overt O marker nor TR *-*t*- at all. Since no suffixes followed CTRL *-*n*, the conditions were not met for vowel epenthesis before *n* and no linker vowel is attested synchronically. The CTRL marker itself, *-n*, has been reinterpreted as the 3O marker.

The absence of the TR linker vowel in 1SG.NCONT.O forms, such as *(ʔit) č'áč-c* 'he watched me', is more difficult to account for. In forms like this, I propose, CTRL *-*n* was present in the morphological structure of the word, but deleted altogether due to cluster simplification. The deletion of coronal *n* could occur before the coronal consonants *t* (the TR marker) and *s* (1SG.NCONT.O) (cf. §4.5 above). What remains unexplained is the lack of vowel epenthesis before such *n* even though it was followed by grammatical suffixes that should trigger it. I suggest that the fusion of TR *t* and 1SG.NCONT.O *s* to *c* (cf. §4.5 above) was the crucial factor that changed the context and blocked vowel epenthesis. Once the two consonants fuse, the CTRL marker *-*n* is followed by only one consonant. 1SG.NCONT.O forms are the only constructions where this is the case. The application of vowel epenthesis involved the formation of a phonological domain which included lexical morphemes and the CTRL marker *-*n*, but excluded whatever suffixes followed. In the case at hand, the material left outside the domain consisted of a single consonant *c* (<**t*+**s*). Other work on Upper Chehalis suggests that leaving such sub-syllabic material outside a phonological domain is avoided (cf. Rowicka 2001*b* and 2002). Therefore, I argue, *c* was treated as part of the same phonological domain instead, and there was no context for vowel epenthesis. The lack of epenthesis combined with *n*-deletion by coronal cluster simplification wiped out any trace of CTRL *-*n* in 1SG.NCONT.O forms.

To recapitulate, in this section I put forward an analysis accounting for the absence of the TR linker vowel in REC and TOP.O forms and 1SG.NCONT.O

[20] The historical source of REC and TOP.O suffixes is Proto-Salish **CTRL** REC *-*awalx*^{w} (cf. Czaykowska-Higgins & Kinkade 1998*b*: 31).

and 3SG.NCONT.O forms. I suggested that the former two types of forms historically contained no CTRL *-*n*, the source of the TR linker vowel. The REC and TOP.O markers themselves carried (N)CTRL meaning, which made the presence of a (N)CTRL marker superfluous. With respect to the other two types of forms lacking the TR linker vowel, I suggested that their morphological structure did contain CTRL *-*n*. However, an interaction of phonological processes prevented vowel epenthesis, which is why the forms synchronically exhibit no TR linker vowel.

5 Conclusion

In this paper I discussed the (dis)appearance patterns of a vowel, mostly *i*, in the TR paradigm. I presented evidence in favour of analysing this vowel as an independent morpheme, which I labelled the 'TR linker', rather than as part of the preceding morpheme. I have argued that the presence or absence of the TR linker is partially phonologically and partially morphologically determined.

The TR linker vowel has been suggested to go back historically to the CTRL marker *-*n*. I have suggested that the vowel was inserted when the CTRL-marked stem (consisting of lexical morphemes and the CTRL marker) was followed by grammatical suffixes. Such vowel epenthesis took place in order to create a well-formed 'CVC' syllable at the end of the stem. The epenthesis did not take place when no suffixes or only one mono-consonantal suffix followed. This accounts for the lack of the linker vowel in 1SG.NCONT.O and 3SG.NCONT.O forms. The absence of the TR linker after schwa-only roots has been attributed to the general avoidance of stress on schwa in the presence of a full vowel in the same domain. The general absence of the nasal consonant of CTRL *-*n* was suggested to result from a coronal cluster simplification process.

The analysis proposed in this paper presents an explanation for the vowel-zero alternations in Upper Chehalis alternative to two other potential, but problematic, accounts: the vowel deletion approach assumed in Kinkade (1998) and a solution in terms of CTRL *-*n*- vocalisation, analogous to the account of DRV suffix in Thompson (cf. Thompson & Thompson 1992).

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Valency-changing devices in Metzontla Popoloc[1]

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1 Introduction

The subject of this paper is the valency-changing effect of derivational processes in Metzontla Popoloc.[2] Popoloc is a member of the Popolocan family and is a typical representative of the Otomanguean stock. The Popolocan languages are spoken in the southern part of the State of Puebla, the northeastern part of the State of Oaxaca and in an adjacent fringe in the State of Veracruz. The Popolocan languages are Popoloc (± 11,000 speakers), Chocho (± 1,000 speakers), Ixcatec (no more than 8 speakers) and more distantly related Mazatec (± 100,000 speakers). Since all or nearly all inhabitants of the Popolocan villages speak Spanish, the influence of that language on the vernacular languages is considerable.

The data on which this paper is based were collected in Los Reyes Metzontla, a village with approximately 800 inhabitants located south of Tehuacán, Puebla in Mexico.[3] Only older people still speak or have knowledge of Popoloc. A closely related dialect is spoken in nearby San Juan Atzingo. These so-called eastern dialects of Popoloc (cf. Williams & Pike 1968: 368; Kalstrom & Pike 1968: 16) show lexical and structural interference from Nahuatl, which is spoken in surrounding villages; some examples of influence from Nahuatl are given in Veerman-Leichsenring (2000*a*).

The Popolocan languages are basically verb initial (VSO) with the typologically correlated use of prepositions, noun-adjective (but quantifier-noun) and noun-possessor orders, noun followed by relative clause, the auxiliary preceding the verb and the use of a clause initial question marker

[1] The data presented in this paper were collected during several fieldwork periods between 1970 and 1997 which were largely supported by the Netherlands Organization for Scientific Research (NWO) and the Netherlands Foundation for the Advancement of Tropical Research (WOTRO).

[2] To make a clear distinction with the name of the language family, Popolocan, I use the name Popoloc to refer to the language, like Mixtec vs. Mixtecan, Chinantec vs. Chinantecan, etc. See also Longacre (1962), Kirk (1966: 2) and Gudschinsky (1959: 1ff.).

[3] The exact number of inhabitants is difficult to determine due to frequent and extensive migrations to regions where work is offered.

(Greenberg 1966). When for pragmatic reasons a subject or object argument is placed before the verb, the canonical VSO order is recovered by placing a pronoun that is coreferential with the preverbal noun phrase after the verb word. The following clauses exemplify unmarked VSO (1a) and marked SVO order (1b).[4]

(1) a. *če²-ʔe³=ni²* *tha³-xua¹na¹* *ni³u³*
give-3>3=INCL CL-Juana tortilla
'Mrs. Juana gives us tortillas.'[5]

b. *tha³-xua¹na¹* *na³* *če²-ʔe³= ni²=tha³* *ni³u³*
CL-Juana FOC give-3>3=INCL=CO tortilla
'It is Mrs. Juana who gives us tortillas.'

Probably under the influence of the Spanish SVO order, an unmarked verb medial word order instead of VSO occurs in the four languages. The extent of this development differs in each of the languages, and is probably related to different degrees of bilingualism and varying periods of contact with Spanish.

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[4] The phonemes of Metzontla Popoloc are: voiceless stops c, *t, ç, č, k, ʔ;* voiced stops *b, d, g;* aspirated stops *ch, th, ç̊h, čh, kh;* prenasalized consonants *mb, nd, nǯ, ng, nr, nh;* fricatives *s, š [š, ş], x [x, h];* liquids *l, r*; approximants *w, y;* voiced nasals *m, n*, and voiceless nasals *M, N;* vowels *i, e, a, u* with their nasalized counterparts and phonemic vowel length. The three contrasting tones are represented with superscript numbers, ¹ for high, ² for mid and ³ for low tone. A vowel cluster marked with one toneme represents a diphthong or a long vowel. Syllables are open but may be closed by glottal stop *ʔ*. Stress triggers lengthening in consonants that are not preceded by a long vowel. See Veerman-Leichsenring (1984 and 1991) for details.

[5] The following abbreviations are used in this paper: 1 = 1st person, 2 = 2nd person, 3 = 3rd person, 1>3 = 1st person subject with 3rd person object, 2>1 = 2nd person subject with 1st person object, etc., A = agent, APR = approximative, ART = article, CL = classifier, CO = co-referential pronoun, COM = comitative, EXCL = 1st person plural exclusive, FUT = future tense, FOC = focus or topic marker, IMPERF = imperfective/ habitual, INCL = 1st person plural inclusive, INST = instrumental, intr. = intransitive, irr. = irregular verb, NEU = neutral tense, NEG = negation marker, O = inflected object, PST = past tense, P = patient, PERF = perfective, PL = plural, PRES = present tense, Q = question marker, REC = reciprocal, R, REFL = reflexive, REV = reverential, S = inflected subject, Sp. = Spanish and tr. = transitive. Where appropriate and possible, enclitics are preceded by a double dash (=), prefixes by a single dash (-), disregarding tonal and assimilative phenomena. A dash after the stem indicates that an inflectional ending is obligatory.

According to the basic VSO order, extensive verb coding is one of the essential properties of Popoloc. Most grammatical relations are expressed in the verb word assigning the verb the more important role in clause and sentence. Figure 1 represents the order and the maximal number of morphemes in post-root position:

Figure 1
ROOT | derivational suffixes | person | negation | plural and co-reference

The derivational suffixes, such as comitative and instrumental (see 4.2 and 4.3 below) must precede the inflectional suffixes. Plural enclitics and co-referential pronouns mark the end of the verb phrase.

The order of morphemes in initial position is more complicated and is generalized in a somewhat simplified way in Figure 2.

Figure 2
tense | aspect | derivational prefixes | passive or neutral tense marker | ROOT

Tense prefixes must precede the aspectual and derivational prefixes. The neutral tense marker is required after aspectual prefixes such as the imperfective, inchoative, and approximative but also after the derivational causative prefix (4.4). The passive form of the verb (4.5) is used after the passive perfective prefix and in some instances after the anticausative prefix (4.6).

Auxiliary verbs, which may be fully inflected for person and tense, precede the main verb. Tone and consonant substitution and vowel assimilation add to the complexity of morphological structure. The morpheme order within the verb phrase is exemplified in the following clause.

(2) *čiˀ³ˀ* *na³* *čũ³ša¹* *kʔu³tuã²-ʔa²=nda¹=čiˀ³ˀ*
pot FOC know.2 PST.paint.2-NEG=PL.2=CO
'It is pots that you.PL did not know to paint.'

Since person, negation, tense and aspect marking is applied to the outer edges of the verb stem, these categories may be considered as inflectional whereas processes that affect the inner structure of the verb stem as derivational. However, an absolute distinction between inflection and derivation is difficult to make in terms of formal realization since none of the morphological processes are confined to one or the other domain. Furthermore, argument structure and lexical meaning do not form a firm basis for separation either. For example, some verbs may extend their valency and change their

meaning by using distinctive inflectional endings (see 4.1) whereas the valency reducing agentless passive (4.5) proceeds from consonant substitution, which is a regular means of expressing time reference.[6]

This paper is structured as follows: a global outline of tense and person marking is given in §§2 and 3 respectively. §4 focuses on valency-changing processes, both derivational and inflectional. Finally, conclusions are presented in §5.

2 Tense marking

According to their inflectional possibilities in initial position, verb stems are divided into two classes. 67% of the verb stems contained in my material have a plain vowel or a vowel preceded by glottal stop or aspiration in initial position. These stems, which are predominantly of the dynamic type, prefix *t-* for present tense, *ku-* [*kw-*] for past tense, and *c-* for future tense. Past and future tense may include tone substitution in the first syllable. An example is *ti²ngaˡ* 'he runs'; *kuiˡngaˡ* 'he ran'; *ci²ngaˡ* 'he will run'. Since the present tense form is the least subject to phonological modifications, it can be considered the basic one. Accordingly, I call these verbs *t*-verbs.[7]

A neutral form, which is marked by a velar consonant resulting in initial *k-, kʔ-, kh-* or *x-,* is required after the imperfective prefix *kʔueˡ-*, and after the active perfective prefix *ciˡ-*, as shown in (3):

(3) *kueˡ-kʔɨʔ²* *kuaʔye²* (*tʔɨʔ²* 'to drink')
IMPERF-NEU.drink.3 much
'He used to drink much.'

[6] As discussed already by De Angulo (1926: 133), a drift from analysis to synthesis, from monosyllabism to polysyllabism, from 'isolation' to 'affixation' characterizes a large number of the Mesoamerican languages. Also in Popoloc, most disyllabic verb stems and practically all stems with more that two syllables show features of synchronic or diachronic composition. The complex layering of the actual Popoloc verb stems is largely due to recurrent and still operative transitivizing and in-transitivizing processes, which fused old pre-verbal items to the stem.

[7] It is plausible that the present and past tense prefixes used in *t*-verbs in present-day speech have their source in aspectual distinctions that are typically used with dynamic verbs, such as progressive, perfective and imperfective. The difference between future tense and irrealis mode is subtle in actual speech. The fact that most non-*t*-verbs may apply a future tense prefix but not a past or present tense prefix suggests that these verbs encode essentially a realis-irrealis distinction.

The neutral tense form is also required after other aspectual and derivational prefixes, as, for example, the causative prefix *čʔe²-* (see 4.4).

The remaining 33% of the recorded verbs have a consonant in initial position that does not allow substitution.[8] They do not mark tense although the prefix *cu³-* may be optionally used to indicate future tense. It is mainly the context of discourse that disambiguates the interpretation of time reference. I call them non-*t*-verbs. Most of them are of the static type as, for instance, *che³* 'he sings'/ 'he sang'; *(cu³-)che³* 'he will sing'.

Some irregular non-*t*-verbs, such as *čʔe²* 'to make' and the causative prefix derived from this verb, take particular syllabic prefixes to express time reference.

A consonant-initial stem may become a vowel-initial stem by derivation since derivational prefixes are often the unaccented forms of dynamic *t*-verbs. Tense is encoded then in the derivational prefix by the regular substitution of the initial consonant. For example, *tu¹-ni¹ʔ²* 'he becomes ill', derived from *ni¹ʔ²* '(to be) ill': *ku¹-ni¹ʔ²* 'he became ill', *cu³-ni¹ʔ²* 'he will be ill'. Since adjectives are used without a copula, a large part of the non-*t*-verbs may be classified as adjectives.

Tense and aspect marking do not cause valency change and are excluded from further discussion in this paper.

3 Person marking

Four verb classes are distinguished in terms of person marking. The S-verbs, forming the largest class, encode only the person of the subject. A smaller class, the so-called SO-verbs, marks the persons of subject and object with one portmanteau morpheme. A few verbs are inflected either way dependent on the syntactic structure of the clause, the S/SO-verbs (see 4.1). The reflexive R-verbs, take pronominal enclitics like most of the predicate adjectives. Reciprocal is marked with a specific pronoun, which is added to the S- or SO-inflected verb. The S-, SO- and S/SO-verb classes show subdi-visions

[8] Some recurrent initial consonants in several sets of these verbs strongly suggest that they are the remains of old prefixes defining the verb for specific semantic features, which were later reinterpreted as forming part of the verb stem. For example, a series of verbs with an initial velar consonant express some sort of an iterative movement, as *khĩ¹* 'to shave oneself', *khĩ³* 'to write', *xe³nʔu³* 'to smoke', *khã³* 'to come back, to turn around'. Other verbs are obviously lexicalized future forms or agentless passives, such as *šu¹te²* 'it boils', *še²xua²* 'it is possible', *šaa¹gũ³* 'he/she is afraid'. These verbs lack an active form and need a derivational prefix in transitive predication (see also §4.5).

based on morphological features and/or paradigmatic deficiencies.

The type of inflection a verb takes, S, SO or R, is for the most part an inherent characteristic of the verb stem based on the semantic functions of subject and object. With the exception of the S/SO-verbs, the presence of a direct object argument in the clause has no influence on the type of inflection a verb takes. Both the S- and the SO-classes contain verbs that may take a direct object and also verbs that cannot take a direct object. This means that the standard notion of transitivity is not a relevant factor for the inflection of the Popoloc verb. Thus the terms 'transitive' and 'intransitive' will henceforth only be used in the semantic or syntactic sense in this article. Semantic transitivity plays a fundamental role in derivational processes, especially in the valency-changing ones.

3.1 S-verbs

The S-verbs are transitive or intransitive but encode only the subject which is prototypically a human agent. The direct object of the transitive verbs is mostly a non-human patient. A human patient may be involved in the action of the verb but is not encoded as object. Most S-verbs mark first and second person of the subject using a suffix *-a,* which fuses with the final vowel of the stem. The third person is the unmarked form.[9] Example: *thiˡtu³* 'he piles (something) up'; *thiˡtua³* 'I pile up'; *thiˡtua²* 'you pile up'.

Two subclasses, S-I and S-II, are distinguished on the basis of tone alternations. In subclass S-I, a tone change occurs only in the final position of the second person form with a mid tone substituting a stem final low or high tone as in the preceding example. In addition to the tone substitution in the final syllable of the second person form, tonal substitution occurs also in non-final syllables of first and second person forms in subclass S-II. A large part of these substitutions show a contrastive mirror-like pattern with a high tone substituted by a low tone and vice versa. The behaviour of the mid tones depends on the entire tonal context; see Veerman-Leichsenring (1991) for a complete description of tone substitutions in S-II-verbs.[10] An example of an

[9] A number of S-verbs is lexically impersonal with a default third person form. They refer to natural phenomena or to an action that is accomplished without the intervention of a human actor as, for example, *taa³geˀ* 'it (the pot) breaks'. Depending on their meaning, impersonal verbs have active, mostly causative counterparts, such as *tʔaˡndaaˡgeˀ* 'to break (pottery)'.

[10] Pike's explanation (1972: 107) that tone substitutions in non-final syllables are the residue of an old inflection in originally independent auxiliaries that are retained in later compounds is a plausible one. His hypothesis is supported by the fact that most

inflected S-II-verb is *tʔu¹ka³* 'he beats'; *tʔu³ka³* 'I beat'; *tʔu³ka²* 'you beat'.

Plurality is optionally marked but only in reference to human entities. The four enclitics presented in Table 1 encode number as well as person.

Table 1.	*na¹*	1st person exclusive, added to the 1st person form
	nda¹	2nd person plural, added to the 2nd person form
	na²	3rd person plural, added to the 3rd person form
	ni²	1st person inclusive, added to the 3rd person form
Examples:	*tʔu³ka³=na¹*	'we (EXCL) beat'
	tʔu³ka²=nda¹	'you (PL) beat'
	tʔu¹ka³=na²	'they beat'
	tʔu¹ka³=ni²	'we (INCL) beat'[11]

3.2 SO-verbs

The SO-verbs form a morphologically defined class with semantically based features, expressing verb agreement with the subject and object arguments. SO inflection is associated with predicates that imply a human patient, in the grammatical role of a direct or indirect object, who is affected by a human agent, volitionally or unvolitionally, positively or negatively, physically or mentally. Typical SO-verbs are the equivalents of 'to obey', 'to hate', 'to

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prefixes, derivational as well as aspectual, substitute their tone when applied in different person forms. However, due to grammaticalization and consequent semantic reduction, the morphemic structure of the affected verbs is no longer recoverable. Beebe (1974: 5) supposes that stems with more than one tone change are two or more morphemes joined together with its own non-predictable tone change. This hypothesis is falsified by the unsegmentability of the greater part of the S-II verbs and by several verbs in subclass S-I that do **not** substitute their tones in non-final syllables while showing obvious signs of compounding. Furthermore, monosyllabic verb stems occur in both classes, in S-I with tone modification in the second person form only, and in S-II with tone substitution of the mirror-like type. The point of view offered by De Angulo (1926: 248) seems to fit better in synchronic analysis. According to him, grammatical tones have to be distinguished from lexical ones. The tone change in final position of the second person form is obviously a grammatical one dominating lexical tone. If no other tone change takes place, the tone is lexically fixed and an essential feature of the verb word itself. In the other verbs, my subclass S-II, the tone of the components is not lexically fixed showing substitutions that have a grammatical function in terms of person distinctions.

[11] The grammatical plural category is of fairly recent origin. Number is still lexically expressed in closely related Chocho and grammatically as well as lexically in Ixcatec. (See Veerman-Leichsenring 2000*b* and 2001).

forget', 'to know', 'to like', 'to love', etc. SO-verbs may be semantico-syntactically ditransitive but a non-human object is not expressed in the verb.

The following seven portmanteau suffixes are used in fully inflected SO-verbs. Two subclasses, SO-I and SO-II, are distinguished on the basis of phonemic differences in some person markers.[12]

Table 2.[13]	S^3	S^1	S^2
O^3	*-ʔe²* / *-ʔe³*	*-ʔa³*	*-ʔe¹*
O^1	*-na³* / *-nʔa³*	---	*-na²* / *-nʔa²*
O^2	*-ʔa²*	*-ʔa¹*	---

(The form after the slash is the SO-II marker.)

Vowel assimilation occurs in *-a*, *-e* and *-i* stems that add *-ʔa* or *-ʔe*. It is regressive in *-eʔa* > *-aʔa* and *-aʔe* > *-eʔe*, but progressive in *-iʔe* > *-iʔi*. An example of an SO-I inflected verb is *thua¹-* 'to love (a person)', as shown in (4):

(4) *thue¹-ʔe²* 'he/she loves him'
thua¹-na³ 'he/she loves me'
thua¹-ʔa² 'he/she loves you'
thua¹-ʔa³ 'I love her/him'
thua¹-ʔa¹ 'I love you'
thue¹-ʔe¹ 'you love her/him'
thua¹-na² 'you love me'

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[12] The SO-II endings coincide with the possessive endings of class B nouns, which have predominantly a low tone in stem final position. In Northern Popoloc, a low tone in stem final position triggers a glottal stop in the 1st person object endings of SO-verbs, viz. *-ʔn.ã³* instead of *-n.ã³* (Stark 1976: 29), which suggests that the Metzontla SO-II endings are diachronically based on tonal characteristics also.

[13] The morphemes expressing SO-relationships are diachronically fused suffixes that can be analyzed as segmental morphemes modified by tone morphemes. Table 2 shows a hierarchy that is based on distinctions of case as well as person, with O^1 (*-na* or *-nʔa*) as the higher ranked, followed by S^1 and O^2 (*-ʔa*) in equivalent positions, and O^3 (*-ʔe*) dominating S^2, but outranked by S^1 (*-ʔa*). S^3 is the lowest in rank and not encoded, as in the S-verbs. This hierarchy may be schematized as: O^1 > S^1/O^2 > O^3 > S^2 > S^3. The prominence of the object in the order of 1st > 2nd > 3rd person, which is obvious in most SO-endings, is interrupted by the 1st person subject. The equivalent hierarchical positions of S^1 and O^2 leads to analytical vagueness in the S^1O^2 ending, since the segment *-ʔa* can refer to an S^1-ending as well as to an O^2-ending.

The regular plural enclitics are added in an OS order, as in *thua¹-na²=na¹=nda¹* 'you.PL love us' and *thue¹-ʔe¹=na²=nda¹* 'you.PL love them'.

Some SO-verbs have a passive meaning and encode only the person of the object. In these S³O-verbs, the subject is an impersonal agent whereas the focus is completely on the object in the semantic role of patient, which undergoes the action of the verb.[14] Some examples of S³O-verbs are *nu²-* 'to know' (it is known to a person), *tũ¹-* 'to happen' (it happens to a person), *ti²-tha¹nia²-* 'to forget' (it gets lost to a person). Most of the polysyllabic S³O-verbs show obvious signs of derivation, synchronic or diachronic. For example, the verb *tu¹-ç̣hui¹-* 'to like, to be pleased', is derived from the adjective *ç̣hui¹* 'beautiful, pretty' using the ingressive marker *tu¹-;* the verb *ti²-tha¹nia²-* 'to forget' contains the prefix *ti²-* and is related to the causative verb *čʔe²-tha¹nia²* 'to lose'.[15]

3.3 Reflexive verbs

The action or state expressed by the reflexive verbs affects the subject of the predicate in a direct way. The subject, who fulfils the agent as well as the patient role, may be passive (to suffer, to feel warm) or active (to move oneself, to stretch oneself). The enclitic *na²* is applied for first and *a²* for second person. Stem tones are not substituted and the third person form is the unmarked one: *thu¹nga²* 'he sneezes'; *thu¹nga²=na²* 'I sneeze'; *thu¹nga²=a²* 'you sneeze'.[16] The reflexive type of inflection is also applied to predicate nouns and to the greater part of the adjectives: *čhĩ³* 'woman/ she is a

[14] Eight SO-verbs encode a default third person object although their meaning does not presuppose a human patient. Some of these verbs are *tha²kʔ¹tha²-* 'to open', *tĩ²-* 'to hear', *tʔa²šã²-* 'to enter', *tʔa²ya¹-* 'to receive'. My guess is that these verbs, expressing an impersonal object, are the relics of an older inflection type. I also registered four verbs that encode a default third person subject and object as well having consequently only the S³O³ form: *ši²the¹ʔe²* 'it opens', *thĩ²ʔ²* 'it is kept', *ti²tũ³ʔe³* 'it is given (as a present), *ti²xe²ʔe³* 'it closes'. These verbs refer to a spontaneous movement, not caused by a human agent and apparently not affecting a patient. Two of these verbs are impersonal reflexives with an anticausative meaning containing the prefix *ti²-* (see §4.6); three are the passive equivalents of the transitive SO³-verbs *ta²kʔe¹tha²-* 'to open', *tʔe³xa²-* 'to close' and *čʔe²tũ³-* 'to give (as a present)'.

[15] Some adjectives apply S³O endings in a predicative function, as e.g. *če¹-ʔe²* 'he is happy, *ča¹-nʔa³* 'I am happy', *ča¹-ʔa²* 'you are happy'. However, the S³O³ form is also used in an attributive function: *ngu² ndu³a³ če¹-ʔe²* (a man happy-3>3) 'a happy man'.

[16] The second person enclitic *a²* fuses with the stem final vowel in a diphthong or single vowel.

woman'; *čhĩ³=na²* 'I am a woman'; *čhĩ³=a²* 'you are a woman'; *xie¹ma¹* 'he is big'; *xie¹ma¹=na²* 'I am big'; *xie¹ma¹=a²* 'you are big'.

4 Valency-changing processes

Several morphological processes have a valency-changing effect, i.e. the number and kind of noun phrase arguments of a predicate (usually, a verb) is increased or reduced. A few verbs change their valency using inflectional means, which is discussed in §4.1. The comitative (4.2), instrumental (4.3), and causative derivations (4.4) are valency-increasing. The valency of the verb is reduced in agentless passive (4.5) and anticausative derivations (4.6). Where relevant, other prefixes are discussed, though these do not affect the valency.

4.1 Valency change by inflection

Although the type of inflection the verb takes is an inherent feature of most verbs, some S-verbs apply SO-inflection when a human patient or beneficiary is involved in the action of the verb. This class of 'labile' verbs is distinguished from the strictly SO-inflected verbs, which obligatorily take SO-endings even when the sentence does not mention a human object argument. They are equally distinguished from the strictly S-inflected verbs, which never take SO-endings even when the sentence explicitly mentions a human patient in object function. Some examples of these S/SO-verbs are given in (5):

(5)	*tha³nǯa²*	(S)	'to ask something'
		(SO)	'to ask a specific person for something'
	tʔe³ki²	(S)	'to tell something'
		(SO)	'to tell something to a specific person'
	ti¹te²	(S³)	'to cost something'
		(S³O)	'to cost something (to) a specific person'

Depending on the type of inflection, the S/SO-verbs express different shades of meaning, which may differ considerably. For example, S-inflected *ši²čha³* means 'to speak', but 'to greet a person' when SO-endings are applied; the verb *ne²* means 'to eat' with S-inflection but 'to bite a person' with SO-endings. The SO-inflection type may even change the phonological make-up of the verb as a result of accent shift as, for example *tha³kʔu³* (S) 'to show' and *tha³gu³-* (SO) 'to teach'. Impersonal S-verbs may refer to a human patient when SO-endings are applied, as shown in (6):

(6) *še²xua²* (S³) 'it is possible'
(S³O) 'it is possible for a specific person'
tu¹čhẽ² (S³) 'it takes time'
(S³O) 'to be late'

Reassignment of valency takes place in some S-verbs when marked with the reflexive enclitics, as shown in (7):

(7) *šaa¹gũ³* (S) 'to be afraid; (R) 'to get a fright'
khĩ¹ (S) 'to scrape pottery'; (R) 'to shave oneself'

Verbs that change their meaning significantly when marked with different inflection types can be considered separate verbs in spite of their common lexical source. Where appropriate, verbs encode reciprocal actions by adding the inflected form of the pronoun *ki¹ču¹* to the S or SO inflected form. The presence of the reciprocal pronoun results in a valency reassignment with identical agents and patients in a symmetrical action. The reciprocal S-verb marks the person of the agent. Although the action is by definition plural, number is only optionally encoded in the reciprocal pronoun. See (8).

(8) *ta¹te³ka³* *ki¹ču¹* *tĩ¹* *ši¹-ni²ci²nga¹*
push.3 REC.3 the CL-boys
'These boys push each other.'

The reciprocal SO-verb marks the agents as subject and a third person object, as shown in (9):

(9) *ni²ç̊he³-ʔe¹* *ki¹ču¹-a²=nda¹*
greet-2>3 REC-2=PL.2
'You greet each other.'

4.2 Comitative

A comitative (COM) suffix is added to the verb to express that the agent executes the action in the accompaniment of a human co-agent. The suffix has the following personal forms:[17]

[17] The value of the glottal stop deserves further study. There is no clear evidence that the absence or presence of the glottal stop in the comitative suffix is always phonologically conditioned. The difference in meaning of the verbs *thi²ku³* 'to take away'

3rd person:	*-ku³*	or	*-kʔu³*
1st person :	*-kã³*	or	*-kʔã³*
2nd person:	*-kua²*	or	*-kʔua²*

The suffix is applied to S- and R-inflected verbs but is not found with SO-verbs. Although the valency of the verb is extended with another human argument, the derivation does not affect the semantic role of the subject nor does it change the inflectional class of the verb. The suffix takes over the reference to the subject, which is the agent of the action whereas the verb stem is unmarked for person, as exemplified in (10) by the comitative forms of the verb *tʔɾ²* 'to drink'.

(10)	*tʔɾ²*	'he drinks'	*tʔɾ²-ku³*	'he drinks with another person'
	tʔa¹	'I drink'	*tʔɾ²-kã³*	'I drink with another person'
	tʔa²	'you drink'	*tʔɾ²-kua²*	'you drink with another person'

Usually, the comitative argument is nominal, whereas the person of the subject is expressed by pronominal inflection. The comitative argument immediately follows the predicate where it occupies the position that is normally taken by the subject/agent, as shown in (11).

(11)	*the³-the³xu¹-kʔu³=sẽ¹*	*tĩ¹*	*tʔe¹=sẽ¹*
	are-live.3-COM.3=REV	the	his.parent=REV
	'They are living together with his parents.'		

When both arguments are nominal, the comitative argument appears in preverbal position followed by the focus marker, as in (12):

(12)	*tĩ¹*	*ndu³a³*	*na³*	*tʔɾ²-ku³*	*ši¹nʔa³*
	the	man	FOC	drink-COM.3	my.husband
	'It is the man with who drinks my husband.				
	(= With the man drinks my husband.)'				

Since subject and comitative arguments can both be expressed nominally or pronominally, the semantic function of these arguments cannot always exactly be defined, which may contribute to ambiguous interpretations.

Taking into consideration that two participants are involved in the action

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and *thi³kʔu³* 'to bring', in which the comitative element is lexicalized, suggests that the presence of *ʔ* is based on a feature of direction.

of the comitative predicate, a complete paradigm of the comitative suffix should contain seven personal forms, with all possible combinations of the three grammatical persons, like the endings of SO-verbs. The fact that such detailed paradigms of the comitative suffix are not present in Metzontla Popoloc is in accordance with the agentive involvement of both participants in the action of the predicate, which may be represented as S/A and COM/A. This relationship differs fundamentally from the one between the participants in the SO-inflected verbs, which could be represented as S/A and O/P. The shared semantic function of the participants in the comitative predicate makes a paradigm of seven forms redundant. For example, the suffix *-kã³* refers to a first person associated with a third person in a function of co-agency, which can be represented as 1st + 3rd person or vice versa, 3rd + 1st person. Since comitative-derived predicates are not found with an SO inflection, the two categories seem to exclude each other. This should mean that it is impossible to express by morphological means that an agent together with a co-agent fulfils an action on behalf of another person. Of course, further research is needed to falsify this hypothesis.

The participation of two associate agents in the action of the verb, which in fact coincides with a dual distinction, can be pluralized using the regular plural enclitics:

(13) a. *tɾ̃²ɕ̰ĩ²-kua²=nda¹*
sleep-COM.2=PL.2
'You.PL sleep together' (2nd and 3rd persons)

b *tɾ̃¹ɕ̰ĩ³-kã³=na¹*
sleep-COM.1=EXCL
'We sleep together' (1st and 3rd persons)

The shared agent function and the shared position in terms of word order, indicate that S/A and COM/A occupy a close or similar position in the semantic function hierarchy of Popoloc (Dik 1978: 70ff.). Such a prominent function with respect to the predicate is in accordance with a high degree of control of the associated agents. Although this kind of associated involvement in the action of the verb is distinct from a reciprocal relationship, where the involvement is mutual, a reciprocal pronoun may be added to the comitative predicate to express a relationship of affection between the agent and the co-agent, as shown in (14).[18]

[18] A comparable kind of semantic and formal association of comitative and reciprocal categories is present in Otomí. In the dialect of Santiago Mexquititlán, a sin-

(14) *the¹xu³-kɂã³ ki¹či¹a³=na¹*
are-COM.1 REC.1=EXCL
'We are together (like brothers).'

Some speakers use the conjunct *ku³* to introduce the comitative argument, as in (15):

(15) *tɂa¹ ku³ tĩ¹ ndu³a³*
drink.1 and the man
'I drink with the man.'

Spanish word order and the phonemic resemblance of the Spanish preposition *con* 'with' most probably influenced the development of this kind of analytic comitative structure.

An inflected comitative element, verbal, pronominal or prepositional, is used in several Otomanguean languages, for example, in closely related Ixcatec (Fernández de Miranda 1961: 13; Veerman-Leichsenring 2001), in Chinantec (Rupp & de Rupp 1996: 494), in Chiapanec and in distantly related Tlapanec (Søren Wichmann, p.c.; see also Suárez 1983 and 1986), and appears to be an ancient, or even a Proto-Otomanguean category.[19]

4.3 Instrumental

The instrumental (INST) suffix *-ši²* extends the structure of the verb stem with an argument that is prototypically non-human. Neither the semantic role of the subject nor the type of inflection is altered. The inflection of the basic predicate just passes on to the suffix. The suffix is productively used in S-, SO-, and R-inflected verbs and in agentless passive verbs (see 4.5). The vowel of the suffix fuses with the ending *-a* in first and second person forms of the S-verbs; the suffix does not change its tone. SO-endings are added with the regular *-iɂe* > *-iɂ* vowel assimilation in S^3O^3 and S^2O^3 forms (see §3.2).

In most active verbs, the instrumental suffix encodes that the action is carried out with an instrument. In these cases, the instrumental argument

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gle series of suffixes is used to express comitative and reciprocal, as well as inclusive duality and plurality (Hekking 1995: 48, 51).

[19] The comitative is an interesting category because it expresses the concept of plurality of agents. Grammatical plural developed rather recently in the Popolocan languages and cross-linguistic differences in the degree of grammaticalization of number appears to be inversely related to different degrees in the loss of the comitative (Veerman-Leichsenring 2004).

regularly precedes the predicate, as shown in (16a-c).

(16) a. *ka³ši¹ na³ molde tʔu¹na²-ši²*
all FOC mould is.made-INST.3
'Everything is made with a mould.'
b. *nda³ tha³te²-ši² čʔi¹-to²ma¹*
stick beat-INST.3 CL-Tomas
'Mr. Tomas beats with a stick.'
c. *tu³tʔa¹ tʔui³nga²-ši²-ʔi¹*
your.foot touch-INST-2>3
'You touch him with your foot.'

The instrumental argument that follows the verb and its eventual nominal subject, occupies the object position and is not marked in the predicate, as shown in (17).

(17) *tha³te² čʔi¹-to²ma¹ nda³*
beat.3 CL-Tomas stick.
'Mr. Tomas beats with a stick.'

The argument of the instrumental used with verbs of motion refers to the source of the action; when used with telic verbs it refers to the cause of the result. In both cases the argument occurs postverbally, as shown in (18a-b).

(18) a. *ti³-ša² nda³či²na²*
come-INST.1 Tehuacán
'I come from Tehuacán.'
b. *kʔuẽ¹-ši² xi³nda³* (*tʔẽ³* 'to die')
PST.die-INST.3 hunger
'He/she died of hunger.'

In some cases, it is difficult to define the precise semantic value that the instrumental suffix adds to the basic predicate, as, for example in *tĩ²ʔĩ²-ši¹* 'to understand', an S-verb derived from SO³ *tĩ²ʔĩ²* 'to listen'; likewise in *te²gũ³-ši²* 'to trust', derived from *tee²gũ³* 'to understand', both S-verbs. Moreover, the meaning of 'to trust' and 'to understand' presupposes a human patient, which means that the valency of the basic predicate is extended with a human argument, and thus is contradictory to the prototypical non-human reference of the instrumental suffix. It is obvious that the main function of the instrumental suffix is a syntactic one, namely to increase the valency of the

verb with a further argument other than object or comitative. In most cases, the semantic value of the instrumental argument depends on and is disambiguated by the meaning of the verb to which it applies.

An element *-ši* is present in the final position of several verbs whereas a morphemic relationship with a verb without *-ši* is lacking. Examples are *sʔe¹-ši²* 'to try', *ti³šʔ²-ši³* 'to dream', *tha³ngi¹-ši²* 'to begin'. Some of these verbs show signs of inflection in internal position, which signals that the suffix functioned as a free form in an earlier stage of the language, see (19):

(19) *ti³šʔ²-ši³* 'he is dreaming'
ti³ši¹-nʔa³-ša¹ 'I am dreaming'
ti³šʔa²-ša¹ 'you are dreaming'

The instrumental and comitative markers are mutually exclusive, thus when the clause or sentence contains both an instrumental and a comitative argument, only one of the arguments is encoded in the predicate and a conjunction is used, as shown in (20):

(20) *xã¹ʔã³* *ku³* *xa²ʔa²* *na³* *kʔua³ç̊he²-ši²=ni²* *tĩ¹* *ča²a³sẽ²*
I and you FOC PST.leave-INST.3=INCL the village
'You and I left the village together.'

I have not discovered any criterion according to which the encoding of one argument is preferred over another.

4.4 Causative

Popoloc has three different types of causative constructions, which contrast semantically. Two are morphological derivations using one of the causative prefixes *čʔe²-* or *tʔe³-*. The third one is a periphrastic construction.

The derived verbs using a prefix are prototypically causative according to the characteristics formulated by Dixon & Aikhenvald (2000: 13), i.e., they are derived from underlying intransitive verbs; the argument in underlying S function (the causee) has O function in the causative; a new argument (the causer) is introduced as agent; there is some explicit formal marking of the causative construction.

The prefix *čʔe²-* is applied to intransitive S verbs, reflexive verbs, adjectives and some passive S³O predicates (verbs or adjectives). The prefix has the forms *čʔe²-* for second or third person and *tʔa²-* for first person, thus retaining the irregularities of the independent S/SO-verb *čʔe²* 'to make'. The specific tense markers that are used with the independent verb, PST *kui¹-*, FUT

ci²-/ si²-, NEU *ki²-,* are also used with the prefix. The neutral form of the underlying *t*-verb follows the causative prefix. Non-*t*-verbs follow unchanged. The derived causative verb applies S or SO inflection according to the inflectional features of the underlying verb. The causee of the derived causative verb may be a non-human patient or a human patient lacking control of the activity. When the causee is non-human, the agent (causer) of the causative action is encoded as subject in the causative prefix and also in the final position of the causative verb, as shown with the reflexive verb *ti²ngi²* 'to move oneself' in example (21a). A human causee without control over the action is encoded as subject in final position of the causative verb whereas the causer is encoded as subject in the causative prefix, as shown in (21b). When the causative verb derives from an SO-verb, the causer is encoded as subject in the prefix whereas causer and causee are encoded in an SO portmanteau morpheme in final position, as in (21c-d).

(21) a. *čʔe²-ki²ngi²* 'he/she moves (something)'
tʔa²-ki²ngia² 'I move (something)'
čʔe²-ki²ngia² 'you move (something)'

b. *ci²-tʔa²-sa¹nga²* *čhã³* (*sa¹nga²* S 'to cry')
FUT-CAU.1-cry.3 child
'I will make the child cry.'

c. *tĩ¹ šũ²ã³ʔ na³ kui¹-čʔe²-ni¹-ʔ²* *čhã³*
this medicine FOC PST-CAU.3-ill-3>3 child
'This medicine made the child ill.' (*ni¹ʔ²* S³O 'to be ill')

d. *tĩ¹ šũ²ã³ʔ na³ kui¹-čʔe²-ni¹-na³*
this medicine FOC PST-CAU.3-ill-3>1
'This medicine made me ill.'

The prefix *čʔe²-* also derives causative verbs from adjectives, which follow unchanged: *thu¹a¹* 'white', *čʔe²-thu¹a¹* 'to make white'; *ša¹ma¹* 'dry', *čʔe²-ša¹ma¹* 'to dry (TR.)'. In my corpus there is only one attestation of a causative verb derived from a noun, the intransitive *čʔe²-ša³ʔ* 'to work', based on *šaʔ* 'work'. The constraint of inserting morphemes between the two segments distinguishes the derived causative verb from the semantically similar verb phrase. Compare the two clauses in example (22).

(22) a. *si²-čʔe-²ša³-ʔa²=ni²*
FUT-CAU-work-NEG=INCL
'We will not work'

b. *si²-če²-ʔa²=ni²* *ša³ʔ*
FUT-make-NEG=INCL work
'We will not do the work.'[20]

The intransitive counterpart of the causative prefix *čʔe²-* is the prefix *tu¹-* (PST *ku¹-*, FUT *cu¹-*), which derives passive verbs from adjectives. The prefix is the altered form of the S³O verb *tũ¹-* 'to become, to happen'. The derived verb takes over the type of inflection of the underlying predicate. The meaning of the derived verbs is ingressive, i.e. to enter unvolitionally into the state expressed by the adjective. As in other passive verbs, the subject is patient or impersonal, as shown in (23).

(23)	*tu¹-xũ³ʔũ²*	'to become old'	< *xũ²ʔũ²*	'(to be) old'
	tu¹-xie¹ma¹	'to become fat'	< *xie¹ma¹*	'(to be) fat'
	tu¹-ti³ye²	'to get dark'	< *ti³ye²*	'(to be) dark, black'

No valency change is involved here since the subject of the original predicate continues to be the subject of the derived verb and no other argument is added.

In a number of verbs, the prefix *tu¹-* is commutable with the causative prefix *čʔe²-*, whereas the second component of these verbs is not used independently.

(24)	*tu¹-tʔe²* (irr.)	'to get married'	*če²-tʔe²* (S)	'to marry (tr.)'
	tu¹-sa¹ya² (S)	'to be thanked'	*čʔe²-sa¹ya²* (S/SO)	'to give thanks'

The *tu¹-* prefix appears in a relatively large number of impersonal verbs with an ingressive meaning where it cannot be omitted or substituted, as in *tu¹-ndu¹* 'night is falling' or *tu¹-thẽ²* 'it putrefies'.

The verbs *čʔe²* and *tũ¹-* are used as auxiliaries with Spanish loan verbs to enable the expression of person and tense reference. S-inflected *čʔe²* is used with transitive verbs with a non-human patient, *kui¹-čʔe² pi¹nta¹* 'he painted' < Sp. 'pintar'; *si²-tʔa²=na¹ re¹ga¹* 'we (EXCL) will irrigate' < Sp. 'regar'. S³O-inflected *tũ¹-* appears in some loan verbs with a human patient undergoing the action of the verb, as in *tũ¹-na³ yu¹da¹* 'I get help' < Sp. 'ayudar'; *tũ¹-ʔa² ma²nte²ne¹* 'you are supported' < Sp. 'mantenerse'. The possibility of inserting suffixes and enclitics between the auxiliary and the verb distin-

[20] The phoneme *ʔ* in a consonant cluster is generally omitted when immediately followed by a morpheme with an initial *ʔ* or a consonant cluster with *ʔ*.

guishes the auxiliaries from the prefixes.

The other causative prefix, *tʔe³-,* derives verbs that refer to a positional change of a direct object. Some examples are *tʔe³-ma³ʔ* 'to hide' and *tʔe³-ndu²* 'to expose to the sun'. The derived verb encodes the person of the subject, which is prototypically a human agent, using S- or SO³-inflection. The patient of the derived verb is prototypically non-human. The prefix *tʔe³-* is not overtly related to an independent verb with a comparable meaning. The second component may be an adjective, as for example in *tʔe³-ndu²a²* 'to straighten' based on the adjective *ndu²a²* '(to be) straight'. However, more often the second component is not found in isolation but always with a prefix, as, for example, with anticausative *ti²-* (see §4.6) or with the intransitivizer *ta²kʔe²-*.[21] Whereas *tʔe³-* is used in verbs that denote a positional change of an object, the prefix *ta²kʔe²-* occurs in verbs that denote a change in the physical or mental attitude of the subject. In most cases, the second component is an independent adjective, or an element that is not used in isolation; some examples are given in (25).

(25)

ta²kʔe²-xie¹ʔe² (R)	'to become furious'	*xie¹ʔe²* (R)	'(to be)furious'
ta²kʔe²-ma¹ (S)	'to hide oneself'	*tʔe³-ma³ʔ* (S)	'to hide (tr.)'
ta²kʔe²-nda¹ (S)	'to be attentive'	*tʔe³-nda³ʔ* (S)	'to guard'

The derived verbs encode subject or subject plus object according to the inherent inflectional features of the second component; the prefix encodes the person of the subject by tone substitution, and number by suppletive plural forms based on *tʔe²xu¹-* as exemplified in (26) by the forms of the S/SO verb *ta²kʔe²-su¹ši²* 'to be thankful':

(26) *ta²kʔe²-su¹ši²-ʔi²* 'he/she thanks him/her'
tʔe¹xu³-su¹ši²-ʔa³=na¹ 'we (EXCL) thank him/her'

[21] The causative prefixes *čʔe²-* and *tʔe³-* are lexicalized in a number of verbs, as in the verbs *čʔe²khi²* 'to sell' and *te³nʔa³* 'to buy'. Since the Spaniards introduced the market mechanism of buying and selling in replacement of the traditional exchange of products, the historical composition of both verbs is rather transparent. The first verb, *čʔe²khi²* 'to sell', contains the causative prefix *čʔe²-* followed by the neutral form of the verb *thi²* 'to go', so the verb means literally 'to make go'. The second verb, *te³nʔa³* 'to buy', is composed of the causative prefix *tʔe³-* and the noun *nʔa³* meaning 'farm, possession', which directs to an original meaning 'to put into possession'.

Since *ta²kʔe²-* appears in a relatively small number of intransitive verbs, its productivity seems to be limited in the Metzontla dialect.

A periphrastic causative construction is used when the causee fulfills the action volitionally or with a certain degree of control. The verb *čʔe²* 'to make' functions as the auxiliary encoding the SO relationship between the human agent (the causer) and the human patient (the causee). The main verb encodes the causee as subject and generally expresses future tense. The neutral tense form is not applied in the periphrastic construction. Co-referential pronouns and plural enclitics follow the auxiliary as well as the main verb in agreement with the argument structure of the clause.

(27) a. *si²-ta²-ʔa³=ša¹* *cʔa³e̥he²=ša¹*
FUT-make-1>3=CO FUT.leave.3=CO
'I will make him (boy) leave'

b. *si²-ta²-ʔa³=na¹=ša¹* *cʔa³e̥he²=ša¹*
FUT-make-1>3=EXCL=CO FUT.leave.3=CO
'We (EXCL) will make him (boy) leave'

c. *si²-ta²-ʔa³= ša¹* *cʔa³e̥he²=na²=ša¹*
FUT-make-1>3=CO FUT.leave.3=PL.3=CO
'I will make them (boys) leave'.

The first occurrence of the co-referential pronoun *ša¹* (boy) in the three examples relates to the person of the patient (the causee), the second one to the same person, which is now the agent of the action expressed by the verb 'to leave'.

The semantic difference between the morphological and the periphrastic causatives resides in the control or volition of the causee, which is absent in the morphologically derived causatives and present in the periphrastic construction.

4.5 Agentless passive

Transitive S-inflected *t*-verbs prototypically refer to an action with a human agent and a non-human patient. These verbs derive agentless passives using the prefix *š-* which replaces the tense marker. Although the identity of the agent is known or supposed, the agent is suppressed or defocused, which results in an intransitive predicate with a subject in the semantic role of patient that corresponds to the underlying direct object. The explicit mention of the agent should require the use of an active verb form. Like the impersonal verbs, the agentless verbs have only the third person form. However, they differ in the category of the agent, which is non-human in the impersonal

verbs but which is presumed to be human in the agentless passives.[22]

The agentless verbs behave in terms of time reference like non-*t*-verbs, i.e. past tense can only be encoded by the raising of a mid or low tone and future tense by the optional use of the future prefix *su³-,* the phonologically conditioned alternant of *cu³-,* as shown in (28a-b).

(28) a. *tʔu¹ nu³a³* 'he/she grinds the corn'
šʔu¹ nu³a³ 'the corn is/was ground'
(*su³-*)*šʔu¹ nu³a³* 'the corn will be ground'
b. *tha³ngi¹ši² ša³ʔ* 'he/she starts the work'
ša²ngi¹ši² ša³ʔ 'the work is (has been) started'
ša¹ngi¹ši² ša³ʔ 'the work was started'
(*su³-*)*ša²ngi¹ši² ša³ʔ* 'the work will be started'

Instead of using the *š-* prefix, SO-verbs use the first person inclusive form to direct the attention away from a specific agent, as shown in (29).

(29) *tĩ¹ či³Ni¹ na³ tĩ²ʔ²ši¹-ʔa²=ni²*
this word FOC PRES.understand.3-NEG =INCL
'We do not understand this word. (This word is not understandable).'

The state resulting from a transitive action is expressed using the passive perfective prefix *si¹-* before the agentless verb, forming a participle with a passive meaning, as in (30a-b).

(30) a. *si¹-šʔu¹ nu³a³* 'the corn has been ground'
b. *si¹-ša²ngi¹ši² ša³ʔ* 'the work has been started'

A number of impersonal and reflexive verbs have *š-* in initial position that cannot be replaced by tense markers. Some of these verbs can be made transitive using the causative prefix *čʔe²-*; see examples in (31).

[22] The frequent use of impersonal, agentless and lexically passive verbs is a characteristic of Popoloc discourse expressing a culturally defined tendency to avoid as much as possible the direct reference to the agent of the action (see also Bartholomew, Kalstrom & Austin 1991).

(31)

šu¹te² (S³)	'it boils'	*čʔe²-šu¹te²* (S)	'to boil (tr.)'
ša³še¹ši² (R)	'to wake up'	*čʔe²-ša³še¹ši²* (S)	'to wake up (tr.)'
šaa¹gũ³ (R)	'to get a fright'	*čʔe²-šaa¹gũ³* (S/SO)	'to frighten sb'

4.6 Anticausative

A number of the verbs with initial *ti²-* have an anticausative meaning, expressing a spontaneous action or process, not caused by a human being (the door closes, it moves, it stretches, etc.). These verbs are in fact impersonal reflexives, with a subject in the semantic role of a non-human agent/patient (the door closes itself, etc.). Like the other impersonal verbs, they seem to coincide in their argument structure with the agentless passives discussed in the preceding section. However, apart from the difference in morphological structure, they differ in the passive/active role assigned to the subject. The subject of the agentless passive is a passive patient since a (suppressed) human agent carries out the action. The subject of the anticausative is active since the action takes place without the intervention of a human agent.

Several anticausative verbs replace their prefix with a causative, thus forming transitive verbs; some examples are given in (32).

(32)

ti²-xa²- (S³O³)	'it closes (by itself)'	*tʔe³-xa²-* (SO³)	'to close'
ti²-ki²a³ʔ (S³)	'it throws itself off'	*tʔe³-ki²a³ʔ* (S)	'to throw'
ti²-thia³ngɲ¹ (S³)	'it hangs (by itself)	*tʔe³-thia³ngɲ¹* (S)	'to hang up'
ti²-ngi¹thẽ³ (S³/R)	'it rocks/ to rock oneself'	*čʔe²-ngi¹thẽ³* (S)	'to rock'
ti²-tha¹nia²- (S³O)	'to forget'	*čʔe²-tha¹nia²* (S)	'to lose'

The first verb in (32), with the S³O³ form, encodes an impersonal object, like its transitive counterpart. The last anticausative verb given in (32), *ti²-tha¹nia²-*, encodes a human object, which is the patient who undergoes the anticausative action of the verb ('to forget' or 'to get lost to a person'). The prefix *ti²-* is optionally added to some agentless passive forms, as shown in (33).

(33) *ti²-ša²kua³ ~ ša²kua³* 'it is supplied'
ti²-ši²khã² ~ *ši²khã²* 'it is mixed'
ti²-ši³ngi¹Nu¹ 'they are in a row' *thi³ngi¹Nu¹* 'to put in a row'

The first two forms in (33) appear in a text about the manufacture of pots where they have a clear agentless meaning and not an anticausative one, i.e. it is understood that an agent executes the action. The fact that related *t-* verbs are lacking signals that these *š-* forms are fully lexicalized and that the prefix is added in order to emphasize that the agent is not in focus. In the last verb in (33), the use of the prefix *ti²-* seems to be redundant since a related *t-* verb is available, which may signal that this agentless passive form is still in the process of becoming lexicalized.

The prefix *ti²-* appears only in a small number of impersonal verbs, which indicates that its productivity as an anticausative is very limited or even non-existent in present-day Metzontla speech. With the exception of the verbs mentioned in (33), the second component of the *ti²-* verbs is not found independently.

A similar prefix *ti²-,* but with a meaning that is not anticausative, appears in some S-verbs and in a single R-verb, as shown in (34). The second component of these verbs is not found as a free form.

(34)

ti²-nga²xĩ³ (S)	‘to come down, descend’	*thi²-nga²xĩ³* (S)	‘to bring down’
ti²-se¹ (S)	‘to bend, crouch down’		
ti²-khẽ³ (S)	‘to borrow’	*čʔe²-khẽ³* (S)	‘to lend’
ti²-ci¹nga³ (S)	‘to fall down’	*ta²kʔe²-ci¹nga²* (S)	‘to lie down, go to bed’
ti²-kʔ³tha² (R)	‘to (get into) reach’		

The meaning of the verbs containing the prefix *ti²-* includes the feature of a downward or a person-directed movement showing similarity with the approximative prefix *ti³-,* which is regularly followed by the neutral tense of the verb. See (35a-b).

(35) a. *ti³-ke³nʔa³* *ngu²* *nu³ʔ* (*te³nʔa³* ‘to buy’)
APR-NEU.buy.3 a rope
‘He comes to buy a rope.’

b. *ti³-ki²-čʔe²khi²* *nu²ša³ʔ* (*čʔe²khi²* ‘to sell’)
APR-NEU-sell.3 blanket
‘He comes to sell blankets.’

Two different prefixes might be distinguished on semantic grounds. First the anticausative and second the prefix that shows similarities with the approximative marker.

In a number of disyllabic intransitive verbs, a syllable *ti²-* forms part of the lexical entry and is not replaceable. These verbs derive transitives using the causative prefix *čʔe²-* followed by neutral tense, as in *ti²ca¹* 'to cover' (intr.) and *čʔe²-ki²ca¹* 'to cover (tr.)'.

5 Conclusions

In this article I focused on derivational processes that have a valency-increasing or -reducing effect. The productivity of some derivations, especially the comitative and the anticausative, is limited and seems to be decreasing. The observed mutual exclusion of the instrumental and comitative derivations suggests a possible constraint on the synchronic use of more than one derivative affix in a verb, a hypothesis that needs further investigation.

The type of derivation a verb applies depends greatly on semantic features, in the first place meaning and semantic transitivity. The human/ non-human parameter is a fundamental one. It distinguishes instrumental from comitative derivations. Since the comitative derivation is not found with SO-inflected verbs, a general constraint seems to be operative with regard to the encoding of more than two human arguments.

The human/non-human parameter operates together with control in the selection of causative constructions. Derived causatives are only used with a non-human causee or with a human causee without control over the action. When the causee has control, a periphrastic predicate is used.

The main difference between the anticausative and the agentless passive derivations resides in the agent/patient role of the subject and in human/non-human distinctions in the agent. The agentless passive is an impersonal verb because the human agent is suppressed; the anticausative verb is impersonal because the agent is non-human.

The valency of a verb is also increased by inflectional means in a subclass of S-verbs, the so-called 'labile' verbs. These verbs apply SO-inflection when a human patient is involved. In this case, the increased syntactic valency is directly reflected in the encoding of the object.

Other elements occur in transitive and in intransitive verbs that could be defined as derivational prefixes on the basis of formal characteristics (see Veerman-Leichsenring, 1991: 280ff. for examples). However, even in the few cases that such prefix-like elements can be substituted, they are no longer productive in the modern language. Most of them are lexicalized in new verb stems with the loss of their original syntactic value (de-grammaticalization) and of their meaning (semantic bleaching). Moreover, the derivational affixes that are discussed in this paper occur in verb stems that have become completely or at least partially lexicalized and consequently these

affixes can no longer be substituted or omitted. The agentless verbs that historically are clearly derived from transitive verbs which now require a transitivizing prefix in transitive predications, are a good example of the recurring layering of derivational processes in the evolution of Popoloc verbal morphology.

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Part II

South America

The vicissitudes of directional affixes in Tarma (Northern Junín) Quechua

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1 Language-geographical background

Quechua(n) is the name of a family of closely related languages spoken in the Andean nations Peru, Bolivia, Ecuador, Argentina, Colombia and Chile (here enumerated in order of importance as regards the number of speakers). It can be assumed that all the modern Quechuan languages descend from a common ancestor language, which was spoken somewhere in central Peru during the first millennium A.D. This assumption is motivated by the fact that the greatest and deepest internal variety is found in that area, whereas the similarity between the different languages belonging to the Quechua group as a whole does not suggest a greater time depth.

Traditionally, all Quechuan languages and dialects are called 'dialects'. There is no consensus as to how many Quechuan languages should be distinguished, and the demarcation between languages and dialects is characteristically vague. However, a general subdivision into two main branches, to be understood at the language level rather than at the dialect level, was recognized in the 1960s (Parker 1963, Torero 1964). This two-fold branching has often been questioned, and it does not seem to account for all dialects, but its overall validity holds firmly. One of the branches is known as Quechua I (Torero 1964, Cerrón-Palomino 1987), Quechua B (Parker 1963) or Central Quechua (Mannheim 1985, Landerman 1994). It comprises the Quechua dialects spoken in the central Peruvian departments of Ancash, Huánuco, Junín and Pasco, as well as some minor dialects spoken in the departments of Huancavelica, Ica, Lima and La Libertad. Quechua I has enough elements in common to be considered a unity, but it is heavily fragmented from a phonological, morphological and lexical point of view. There is certainly no full mutual intelligibility between the different dialects that make up this group. The second branch, Quechua II (Torero 1964, Cerrón-Palomino 1987) or Quechua A (Parker 1963) comprises two main subgroups, Quechua IIB (mainly in northern Peru, Ecuador and Colombia) and Quechua IIC (in southern Peru, Bolivia, Argentina and Chile), which account for most of the Quechua expansion during the past five centuries. Although the internal differentiation within each subgroup is considerable, it can to a large extent be attributed to post-conquest developments. The classification of the dialects originally taken together as Quechua IIA (Torero

1964) is uncertain, and these dialects may not constitute a unity at all. They are spoken in central Peru (department of Lima) and in northern Peru (departments of Cajamarca, Lambayeque and Piura).

The dialects relevant to the topic of this article belong to Quechua I and, to a lesser extent, to the Quechua IIC branch. Quechua IIB has undergone some morphological erosion, as well as mutations in its verbal morphology, which reached their highest degree in Ecuador, Colombia and the northern Peruvian forest dialects. Of the Quechua IIA dialects only a few (e.g. Cajamarca, Ferreñafe) have been investigated in connection with their verbal derivational morphology. Their relevance for the present discussion appears to be limited.

The Quechuan family has no widely accepted external relatives. However, the neighboring Aymaran family (for a justification of the use of this term see Adelaar, with Muysken, 2004: 170) shares many features with Quechuan at the phonological, morphosyntactic and lexical levels. Independently from the unsolved question as to whether or not the two groups are genetically related, there can be no doubt that the recorded similarities are mostly the result of borrowing and convergence. Although the morphological forms discussed in this article are limited to Quechuan, they may originally have been shaped following an Aymaran model, as we shall see below.

2 Overall structure of the Quechua verb

The main morphological device of the Quechuan languages is suffixation. Other formal options consist of vowel alternation and stem-reduplication, the latter not being relevant to the topic under discussion. Verbs exhibit the most elaborate morphological potential, and concatenations of up to eight different suffixes are not exceptional. The overall picture is one of great formal regularity. At the same time, Quechua verbal roots and suffixes operate under a number of formal restrictions which play no role in nominal morphology and thus contribute to making the difference between verbs and nouns more visible.

In order to establish the formal restrictions that regulate Quechua verb structure, one has to make a distinction between final and non-final suffixes. Final verbal suffixes can occur before a pause or before suffixes which are not specifically verbal. They indicate categories such as personal reference, tense, mood, nominalization, and subordination. Sequences of final verbal suffixes occur, but the number of possible combinations is limited. Some final suffixes have portmanteau functions. Verbal roots do not normally occur by themselves, but must be followed by one or more suffixes, including

at least one final suffix. It may be argued that final verbal suffixes in Quechua are always inflectional, bearing in mind, however, that these suffixes are defined here on a purely formal basis. On that basis, the nominalizing suffixes, which occupy the same slot as tense, mood and subordination markers, may also be viewed as inflectional.[1] From a functional point of view, some of the non-final verbal suffixes may be called inflectional as well (see below).

Verbal roots and non-final verbal suffixes share the characteristic that they must end in a vowel. Quechua normally does not allow tautosyllabic consonant clusters, and non-final verbal suffixes can exhibit the following shapes: CV, CCV, CVCV, CCVCV. (There is a maximum of two syllables and internal clusters do not occur.) Consequently, any combination of a verb root with one or more non-final suffixes will always yield a form that, like the verb root itself, (a) ends in a vowel and (b) does not contain any tautosyllabic cluster.[2]

(1)	*punu-či-*	'to put to sleep'
(2)	*kuti-rku-*	'to return upwards'
(3)	*rima-naku-*	'to speak to each other'
(4)	*kuĉpa-ykaĉa-*[3]	'to roll back and forth'

In Quechua I dialects, where vowel length is distinctive, non-final suffixes can have the effect of lengthening a preceding vowel (5), of blocking preceding vowel length (6), or they can behave in a neutral way as to preceding vowel length (7, 8). Suffixes with an initial cluster always block preceding vowel length.

(5)	*miški-ːku-*	'to be very sweet', 'to be over-sweet'	<	*miški-*	'to be sweet'
(6)	*ĉa-ru-*	'to arrive (perfective)	<	*ĉaː-*	'to arrive, to be cooked'
(7)	*ĉaː-či*	'to cook'	<	*ĉaː-*	'to arrive, to be cooked'
(8)	*punu-či-*	'to put to sleep'	<	*punu-*	'to sleep'

[1] In contradistinction with the other final verbal suffixes, nominalized verbs can occasionally acquire lexicalized (idiomatic) meanings, which may plead against their classification as inflectional. This matter will not be discussed any further here.

[2] Falling diphthongs in Quechua (e.g. *ay*, *aw*, *uy*, *iw*) are traditionally analyzed as VC, and sequences of full vowels of which the first is high are taken to contain an intermediate glide consonant (*iya*, *uwi*, etc.).

[3] We use the symbol *ĉ* for a retroflex affricate, distinct from alveo-palatal *č*.

Final verbal suffixes are not as restricted in shape as non-final suffixes are. They may end in a consonant (9), and they may even consist of a single consonant (10). In Quechua I dialects, the place of a final suffix can also be occupied by vowel length (11).[4]

(9) *miku-šun* 'Let us eat!'
(10) *miku-n* 'He eats.'
(11) *miku-ː* 'I eat.'

In Quechua I dialects, final verbal suffixes, like non-final verbal suffixes, may block the vowel length in a preceding suffix or stem. This is the case of all suffixes beginning with a consonant cluster (either synchronically or historically) and of those consisting in a single consonant.

The non-final verbal suffixes constitute the richest and most elusive part of Quechua morphology. In the linguistic literature on Quechua, non-final verbal suffixes are often referred to as 'derivational suffixes', 'modal suffixes' or 'pre-transition suffixes' (Weber 1989). They may appear in sequences in a particular order of occurrence, although not all combinations are permitted, and competing order options may obtain in some cases. Quechua dialects vary considerably in the way they organize the non-final verbal suffixes, some of them allowing more combinations and more order options than others (cf. van de Kerke 1996). From a semantic and functional point of view, the non-final verbal suffixes are heterogeneous. Their functions include valence change, semantic change, pragmatic use, as well as more inflectional categories such as aspect, number, object marking, applicative, speaker orientation, etc.

The overall impression of regularity conveyed by Quechua morphology rapidly disappears when the functional-semantic side of certain non-final verbal suffixes is considered. During the evolution of a Quechua dialect, these non-final verbal suffixes may shift or split functions, move from one category into another (e.g. derivational to inflectional), and produce semantically non-predictable or otherwise idiomatic combinations. There is a distinct tendency for a number of non-final verbal suffixes to merge with particular verb roots, yielding derived verbs with specialized meanings. Some verb roots are never found without a non-final suffix, either a particular one, or one from a set. This phenomenon of verb-suffix merger, referred to as co-

[4] In at least one dialect area (including Chongos Bajo, near Huancayo) mere vowel length can represent a non-final 'suffix' as well, e.g. the perfective aspect marker *-(V)ː-* (*<*-ʔ- < *-ʔlu- < *-rqu-*).

lexicalization in Weber (1989), usually bears consequences for the choice and type of suffix combinations in which the derived verb form can participate. Grammatical descriptions of Quechua dialects tend to be frugal in their specification of the functions and meanings of non-final verbal suffixes.[5] It probably has to do with the endeavor to produce simple and uniform semantic specifications for each suffix. For instance, the suffix *-ku-* is characteristically described as a 'reflexive', whereas it may have a range of other meanings and uses as well. In the Quechua I dialects of the province of Tarma, at least four suffixes *-ku-* must be distinguished not only semantically, but also formally on the basis of their influence on the length of a preceding vowel and differences in the way they co-occur with particular suffixes and subclasses of the verb. In (12), 'reflexive' *-ku-* blocks the inherent length of stem-final *-a-* in a tri-syllabic verb, whereas 'customary' *-ku-*, in (13), is neutral with respect to preceding vowel length.

(12)	*qunqurba-ku-*[6]	'to kneel', 'to prostrate oneself'
	(*qunqurba(:)-*	'to kneel')
(13)	*yanaba:-ku-*	'to always help', 'to be inclined to help'
	(*yanaba(:)-*	'to help')

3 Particularities of the verb structure in Tarma (Northern Junín) Quechua

The structure of the Quechua verb, as outlined in this paragraph, is based on research of the Quechua I dialects spoken in the province of Tarma in the northern part of the department of Junín. The Quechua of northern Junín and the neighboring department of Pasco has also been called *Yaru* (Torero 1974) or *Northern Junín Quechua* (Black, with Bolli and Ticsi Zárate, 1990) in an effort to underscore the unity of the dialects of that area. It is not unlikely that some of the facts observed in this group of dialects will also hold for other varieties of Quechua I, such as the Huanca dialects in the southern part of Junín, and the Quechua spoken in the departments of Ancash and Huánuco further north. However, the way in which research ques-

[5] Examples of this practice are the six grammars of Peruvian Quechua dialects published in 1976 by the Instituto de Estudios Peruanos and the Peruvian Ministry of Education.

[6] The symbol *q* represents a voiceless uvular fricative (originally a stop). In an area near Tarma the uvular and velar fricatives (*q*, *h*) have coincided, and the pronunciation is variable; e.g., in (12). The merged sound is represented as *x* in Adelaar (1977); in this article we write *q*.

tions have been formulated in relation to these dialects makes it hazardous to postulate a generalized validity for our findings. More field research and text analysis are needed in order to solve this matter.

The structure of the Tarma Quechua verb is subject to a further sub-division of the non-final verbal suffixes into two blocks, a left-hand block and a right-hand block. Each block is characterized by a cluster of features which are partly formal, partly semantic in nature. When suffixes pertaining to the two blocks co-occur in a verb form, those of the left-hand block must precede those of the right-hand block. Although the left-hand block suffixes are fully productive and combinations can be obtained through elicitation, they rarely co-occur in spontaneous discourse, except for a small number of fixed sequences with specialized meanings. As a result, the search for a dominant suffix order in relation to the left-hand block suffixes is largely an academic exercise. At the same time, left-hand block suffixes are frequently found with particular verb roots in idiomatic combinations (co-lexicalization). This, in its turn, may influence the order of the suffixes when another left-hand block suffix is added. In our view, only the left-hand block non-final verbal suffixes can be termed truly derivational.

The left-hand block non-final verbal suffixes that are productive in Tarma Quechua are *-ĉa(:)-* 'Distributive/Diminutive', *-ĉa:ri-* 'Experiment', *-či-* 'Causative', *-ka(:)-* 'Unintentional/Medio-passive', *-ku-* 'Reflexive', *-na(:)-* 'Desiderative', *-pa(:)-/-ba(:)-* 'Applicative/Goal-directed', *-ra(:)-* 'Continuous', *-rku-/-rgu-* 'Upward direction', *-rpu-/-rbu-* 'Downward direction', *-tya(:)-* 'Interrupted', *-(y)kaĉa(:)-/-(y)gaĉa(:)-* 'Hesitation/Back and forth', *-yku-/-ygu-/-yu-* 'Inward direction'. (An additional suffix *-ri-* 'Inchoative' is found in part of the dialect area.) Furthermore, there are two sequences which may be lexicalized combinations of suffixes with specialized meanings (*-ĉaku-* 'Multiple object' and *-paku-/-baku-* 'Mutual benefit') and one such combination including a suffix that does not occur by itself *-naku-* 'Reciprocal'.[7] One of the suffixes just enumerated, the causative marker *-či-*, has a well-defined place in both blocks without a significant variation in meaning. At least one other suffix, *-rku-/-rgu-* 'Upward direction', reappears in the right-hand block with a rather different function. From a synchronic point of view there is no reason to view these two instances of *-rku-/-rgu-* as identical. We shall see that the directional suffixes *-rku-/-rgu-* and *-yku-/-ygu-/-yu-* may have been subject to an additional functional-semantic split.

[7] Comparison with other Quechua dialects and synchronic semantics preclude the identification of the element *-na-* in *-naku-* with the desiderative suffix. Furthermore, *-naku-* allows preceding vowel length, whereas desiderative *-na(:)-* does not.

Right-hand block non-final verbal suffixes do not occur in fixed and idiomatic combinations with specific verb roots. In other words, they do not co-lexicalize. By contrast, they are frequently combined with each other, even though some combinations are disallowed for semantic reasons. The suffixes that have a place in the right-hand block of non-final verbal suffixes are *-či-* 'Causative', *-ku-* 'Customary ('always')', *-la(:)-* 'Restrictive ('only')', *-ma(:)-* 'First person object', *-mu-* 'Speaker-orientation', *-pa:ku-/-ba:ku-* 'Plural', *-pu-/-bu-* 'Benefactive', *-rka(:)-/-rga(:)-* 'Plural', *-:ri-* 'Plural', *-ru-* 'Perfective aspect', *-rku-/-rgu-* 'Sequential', *-šu-* 'Second person object', *-ya(:)-* 'Durative aspect'. This list again includes the causative marker *-či-* and the semantically modified *-rku-/-rgu-* 'Sequential'. The three plural markers are semantically identical, and their selection depends on the combination in which they occur (see below).

When right-hand block suffixes co-occur, they appear in a prescribed order which does not necessarily reflect the structure of the message. For instance, in some combinations aspect markers and plural markers must precede the causative suffix, even though they refer to the activity and the number of the causer, rather than to those of the causee. An alternative order is neither available, nor allowed. Compare (14) where the plural marker follows the causative suffix with (15) and (16), where both the aspect marker and the plural marker come first:

(14) *punu-či-pa:ku-n* 'They make him/them sleep.'
(15) *punu-ya:-či-n* 'He is making him/them sleep.'
(16) *punu-rka-ya:-či-n* 'They are making him sleep.'

An interesting phonological peculiarity of right-hand block non-final verbal suffixes is the fact that all but one of them (viz. plural marker *-pa:ku-/-ba:ku-*) allow a preceding low vowel *-a(:)-* to remain long or to become lengthened (depending on one's analysis), except when they begin with a consonant cluster or did so historically.[8] In this respect, right-hand block non-final verbal suffixes behave like final verbal suffixes. This shared behavior of final verbal suffixes and right-hand block non-final verbal suffixes strengthens the impression that they are both part of an inflectional system, as opposed to left-hand block suffixes, which are derivational (cf. Adelaar 1977, 1994). The presence of vowel length also suggests a 'looser' transition

[8] Plural marker *-:ri-* is special in that it lengthens and lowers a preceding vowel *-u-* (*...u-* > *...a:ri-*); it does not occur after other vowels.

between inflectional suffixes and their surroundings, on the one hand, than between derivational suffixes and roots, on the other.

The demarcation between the left-hand and right-hand blocks of non-final verbal suffixes is not clear-cut. We have seen that at least one suffix can occur on both sides, the causative suffix *-či-*. This suffix is characteristically found in the right-hand block. Otherwise, it must be followed by left-hand block suffixes such as Reflexive *-ku-* or Reciprocal *-naku-*. These are precisely the cases that produce competing suffix orders with alternative meanings, as shown in (17) and (18).

(17) *maqa-**či-naku**-rga-n*
beat-CAU-REC-PL-3S [9]
'They let each other be beaten.'

(18) *maqa-**naka**-ya:-**či**-n*[10]
beat-REC-PROG-CAU-3S
'He is causing them to beat each other.'

The case of causative *-či-* stands out in that, even from a synchronic point of view, it represents the same function regardless of its position in either one of the two blocks. It may be argued that some of the directional suffixes can also occur on both sides of the demarcation line (see below), but this is due to a functional-semantic split. In the course of time, their meanings and functions have diverged considerably.

4 The orientational suffix *-mu-*

Most, if not all, Quechua dialects have a non-final verbal suffix *-mu-*, which indicates orientation towards the speaker. Tarma Quechua is no exception in this respect. The suffix *-mu-* is located in the right-hand block section of suffixes. It characteristically has a two-fold function: with verbs of motion, it

[9] Abbreviations used in this article: 1SG/1INCL = first person singular/plural inclusive, 2/3 = second/third person, ACC = accusative case, ALL = allative case, ASP = aspect, CAU = causative, CONT = continuous, DIR = directional, EVID = evidential, FUT = future, GEN = genitive case, HAB = habitual, IMPER = imperative, MIR = mirative, NEG = negative, OPT = optative, PERF = perfective, PL = plural, POSS = possessor, PROG = progressive, PST = past, REC = reciprocal, REFL = reflexive, REL = relativizer, RESTR = restrictive, SEQ = sequential, S = subject, SUBORD = subordinator, TOP = topic, UNINT = unintentional and VENT = ventive.

[10] The lowering of *u* to *a* is automatic in suffixes followed by *-či-*, even when not adjacent (see below).

indicates that the motion is oriented towards the place where the speaker is at the moment of speaking or, less frequently, towards a place which the speaker has in mind; with verbs that do not by themselves refer to motion, it may be used to indicate an action performed at some other location, often with the implication of a circular movement (from the place of the speaker to the location of the action and then back again). The first type of use is obligatory; that is, absence of *-mu-* explicitly indicates that a motion event does *not* imply any movement or dislocation towards the speaker; the second type of use is optional.

The suffix *-mu-* has been referred to as 'Cislocative/Translocative' (Bills 1972), 'Afar' (Weber 1989), 'Centripetal' (Taylor 1994), or 'Ventive' (Adelaar, with Muysken, 2004).[11] In some of the older literature on Quechua, *-mu-* is described as a directional suffix, especially in relation to dialects in which true Directionals as defined in this paper do not occur (e.g. in Bills 1972, Quesada 1976).[12] There is an extensive literature on the suffix *-mu-* and its uses in Quechua, which we will not discuss here in detail. Like other inflectional suffixes belonging to the right-hand block of non-final suffixes, *-mu-* does not enter into fixed combinations with verb roots (although it is an obligatory component of the verb *ša-..-mu-* 'to come'). It should be noted that *-mu-* cannot add the concept of motion to the meaning of the verb. That concept must already be part of the meaning of the verb for *-mu-* to be used in its motional function. Although some Quechua dialects have more elaborate orientational systems – including a category 'Itive' in Cuzco Quechua (suffix *-pu-*), for instance – only *-mu-* is widely used in all varieties and can be reconstructed for the proto-language. Its Aymara counterpart *-ni-* is used in very much the same way.

The suffix *-mu-* is mentioned here because it has to do with motion, either tangible or psychological, and a change of location. It is doubtful, however, if it has anything to do at all with direction. There does not seem to be any functional shift connecting *-mu-* with the directional suffixes in the left-hand block sector, even though the pragmatics of their interaction, or rather the lack of interaction, merits a closer investigation (see below).

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[11] The term 'Ventive' was borrowed from an Africanist tradition of language description (cf. Jungraithmayr & Möhlig 1983).

[12] Parker (1976) uses the term 'Directionals' for both the true directionals and the suffix *-mu-*.

5 The directional suffixes

The system of verbal directional suffixes that can be reconstructed for proto-Quechua I consists of four categories 'Up', 'Down', 'In', and 'Out' (cf. Parker 1973: 22-3). Such a system is fully productive in Aymara, where the corresponding suffixes are *-ta-*, *-qa-*, *-nta-* and *-su-*,[13] respectively, but there are no varieties of Quechua that maintain all these distinctions. In Tarma Quechua, as in most of Quechua I, only two categories are used in productive formations: *-rku-* 'Up' and *-rpu-* 'Down'. However, the suffixes *-yku-* and *-rqu-*, representing the categories 'In' and 'Out', can easily be recognized in symmetric sets of directional verbs consisting of a root element that does not occur by itself and the directional suffixes in question.[14]

(19)	hypothetical root	**ya-*	'to go'
		yarku-, *yargu-*	'to climb'
		yarpu-, *yarbu-*	'to descend'
		yarqu-	'to go out', 'to leave'
		yayku-, *yay(g)u-*	'to enter'
(20)	hypothetical root	**qa-*	'to herd' (cf. *qati-* 'to follow')
		qarku-, *qargu-*	'to drive or herd upwards'
		qarpu-, *qarbu-*	'to drive or herd downwards'
		qayqu-, *qayku-*, *qaygu-*	'to drive or herd inwards'[15]
		qarqu-	'to drive or herd outwards'
(21)	hypothetical root	**ĉu-*	'to place' (cf. *ĉura-* 'to place')
		ĉurku-, ĉurgu-	'to put on top', 'to load (an animal)'
		ĉurpu-, *ĉurbu-*	'to put (food) in the pan'
(22)	hypothetical root	**hu-* (< **su-*)	'to take'(cf. *huqa(ri)-* 'to lift')
		hurqu- (**surqu-*)	'to take out'
		sulku- (**surku-*)	'to take water from a well' (Jauja Quechua)
		sulpu- (**surpu-*)	'to put down (e.g. pan from fire)' (Jauja Quechua)

[13] The formal specification of these suffixes includes the fact that a preceding vowel is suppressed before *-ta-* and *-su-*, not before *-qa-* and *-nta-*. (e.g. *ir-su-* 'to lead out', but *ira-qa-* 'to lead down').

[14] For a similar situation in Huánuco Quechua see Weber (1989: 121).

[15] The form *qayqu-* is more widely distributed than the expected *qayku-*; it may reflect a case of consonant harmony reinforcing the identity of *qayqu-* as a root.

(23)		*šaya(:)-*	'to stand'
		ša:(ku)-	'to stand'
		šarku-, *šargu-*	'to stand up'
		šay(g)u-	'to stop'
(24)		*taya(:)-*	'to sit'
		ta:(ku)-	'to sit'
		targu-	'to be erected'
		tarpu-, tarbu-	'to sow' (?)
		tay(g)u-	'to sit down'
(25)	defective root	*ana-*	'to look'
		(*ana-* occurs with other derivational suffixes as well)	
		anarku-, *anargu-*	'to look upwards'
		anarpu-, *anarbu-*	'to look downwards'
		anay(g)u-	'to look inside'

Some of these forms are found in Quechua II dialects as well. Noteworthy, however, is the low evidence for *-rku-* and *-rpu-*. While they are common in Quechua I, their former occurrence in Quechua II can only be conjectured from verbs such as *warku-* 'to hang', *tarpu-* 'to sow' and the derivational suffix *-rpari-* 'leaving behind'.[16] On the other hand, Quechua II dialects present ample evidence of the existence of *-rqu-* and *-yku-*, which survive as derivational suffixes with specialized, non-directional meanings.

6 (Morpho)phonological and dialectal variation of the directional suffixes

Non-final verbal suffixes ending in *-u-* have allomorphs in *-a-*. The occurrence of these *-a-* allomorphs is determined by the choice of a following non-final suffix. The suffixes *-či-* and *-mu-*, mentioned earlier, are among the ones that trigger this type of lowering (even when another suffix intervenes). Verbal roots containing an obligatory directional element, such as *qarku-*, *yarqu-*, etc. show the same alternation of their final vowel, which betrays the suffix origin of their root-final elements. The alternation in question does not apply to the verb *tarpu-* 'to sow', which casts doubt on the suffix origin of the root-final element in this particular case. From a semantic point of view,

[16] The Quechua II dialect of Cotabambas (Apurimac), as exemplified in an impressive collection of autobiographic texts narrating the lives of cattle-thieves, shows a frequent use of a suffix *-rpa-*, so far unexplained (Escalante and Valderrama 1992). There is no reason to conclude that this suffix has anything to do with *-rpu-* 'Down'.

however, the element *-rpu-* in *tarpu-* ‘to sow’ may very well represent the ‘Down’ directional.

Two directional suffixes, *-rqu-* and *-yku-*, can be affected by a simplification of their initial clusters. In that case, the simplified version of *-rqu-* is *-ru-*, and that of *-yku-* is *-yu-*. (Further simplification to *-r-* and *-y-* is found in the San Pedro de Cajas subdialect; these forms diverge from the canonical shape of suffixes as outlined above.) A similar simplification also affects a verb such as *yayku-*, which is found as *yaygu-* or *yayu-* in subdialects of the area. The simplification is part of a development that also affected other suffixes with an initial consonant cluster, such as *-rqa* ‘past tense’. It is found in a large number of Quechua dialects, regardless of the subgroup or branch to which they belong. In Tarma Quechua all these suffixes continue to block preceding vowel length, also in their simplified version.

One subdialect, which surrounds the provincial capital of Tarma and extends further southward as far as the border of the Jauja (Huanca) dialect, has undergone voicing of grave stops after a non-nasal consonant. In this variety *-rku-*, *-rpu-* and *-y(k)u-* have become *-rgu-*, *-rbu-* and *-y(g)u-*, respectively. This development bears no relation to the simplification process described above.

7 Motional input of the directional suffixes

All suffixes used as true directionals are left-hand block suffixes. When directional suffixes are used productively with verb roots that do not denote motion themselves, they can add an element of motion to the meaning of the verb base; e.g. *punu-* ‘to sleep’, *punu-rpu-* ‘to descend to a lower place and spend the night there’. This represents a fundamental difference with the behavior of the orientational suffix *-mu-* (see above), where the meaning of the verb remains essentially the same. The following remarkable example illustrates the absence of interaction between a true directional and the orientational suffix.

(26) *punu-rpa-mu-šaq*
sleep-Down-VENT-1SG.FUT
‘I will go down to sleep in a lower place and then come back up here.’

As the example shows, the directional suffix adds motion to the meaning of a verb that normally does not refer to motion (‘to go down and sleep’), but the orientational suffix is interpreted in the context of the original non-motional meaning of the verb (‘to go somewhere, sleep, and then come back to speaker’s place’).

8 Etymology of the directionals

Quechua verbal suffixes do not normally provide any clue as to what lexical origin, if any, they might have. At least one of the directionals, *-yku-* 'In', is exceptional in that it seems to be derived from a lexical term, namely *uku* or *uk^{h}u*, which means 'inside' or 'interior' in the Quechua II dialect branch. For *-rqu-* 'Out', one may venture to say that it could be derived from the word *urqu* ('mountain' in Quechua I) since mountains are an ubiquitous feature of the Andean landscape. For the other two directionals, no ready etymology can be found. (The word *urpu* 'chicha jar' as an etymology for the 'Down' directional seems rather far-fetched.). However, the latter has been found as a nominal affix in one single word from the area near Tarma, *ĉagirbu* 'the foot (of a mountain)' from *ĉagi* 'foot'. As far as we know, this form is not found in other dialects.

9 The development of directionals in Tarma Quechua and neighboring dialects

Although we may assume that the meaning of the suffixes *-rku-*, *-rpu-*, *-rqu-* and *-yku-* was originally purely directional, at least three of them have been affected by a series of developments in the Quechua of northern Junín. There is no indication that Tarma Quechua *-rpu-* 'Down' has anything else but a directional meaning. It operates as a left-hand block non-final verbal suffix. Nevertheless, a derived meaning for the equivalent of this suffix 'Overcoming resistance' has been recorded in the Huanca dialects of the Huancayo area (Cerrón-Palomino 1976*a*: 201).

(27) *ñakay-pa* *puñu-lpu-ʔ-ña ʔ* *ka-:*
suffering-GEN sleep-Down-PERF-MIR be-1SG.S
'With difficulty I managed to sleep.'[17]

The most radical and unambiguous change of function affecting any of the original directional suffixes can be observed in what happened to *-rqu-* 'Out'. The directional meaning of this suffix was lost in all Quechua dialects, except for the lexicalized cases such as *yarqu-*, *qarqu-* and *hurqu-*. During the development of southern Quechua I the suffix *-rqu-* moved from the left-hand block to the right-hand block and acquired a purely aspectual meaning. In Northern Junín Quechua (including Tarma Quechua) the suffix *-rqu-* became formally simplified to *-ru-*. The aspectual meaning of *-rqu-*

[17] Cerrón-Palomino (1976*a*) uses an etymological (polylectal) spelling *puñu-lpu-qlu-ñaq kaa*. The mirative requires the presence of the auxiliary 'to be'.

and its reflexes in southern Quechua I is 'perfective aspect' with shades of meaning reminiscent of the use of perfective verbs in Russian.

(28) *punu-ru-nki-man-taq*
sleep-PERF-2S-OPT-REMINDER
'Watch out, you may fall asleep (if you do not take care)!'

(29) *unayla* *punu-ra-ru-n*
long.while sleep-CONT-PERF-3S
'He has finally slept for quite a while.'

Perfective *-ru-* is mutually exclusive with the progressive aspect suffix *-ya(:)-* (< **-yka(:)-*). Both aspect markers occupy the same slot in the order of right-hand block non-final suffixes. They are both extremely frequent, and they are pragmatically related in the sense that they are found in clusters of sentences marking the dynamic passages in a discourse or text (cf. Adelaar 1988). Some speakers tend to use aspect markers in every verb form in which their presence is allowed. An environment in which their presence is not allowed is the main verb of a negative sentence, where only forms unmarked for aspect are found. Apparently, events that do not take place cannot be marked for aspect in Tarma Quechua.[18]

(30) *aywa-ru-n*
go-PERF-3S
'He has gone.'

(31) *aywa-ya-n*
go-PROG-3S
'He is going.'

(32) *mana-m aywa-n-ču*
not-EVID go-3S-NEG
'He does not go.' 'He has not gone.' 'He is not going.'

Although the directional element *-rqu-* and the perfective suffix *-ru-* are historically the same, they can co-occur, as in *yarqu-ru-n* 'it came out', 'it has come out', 'it finally comes out'. As a matter of fact, of all verb roots in Tarma Quechua only *ni-* 'to say' seems to be resistant to the use of the per-

[18] The dialect of Pacaraos in the province of Huaral (department of Lima), which has a similar aspect system, does allow the negation of main verbs marked for aspect. This difference has no explanation so far.

fective aspect marker (unmarked *ni-n* 'he says, etc.' is preferred over **ni-ru-n*).[19]

The close historical relation between the 'Out' directional and the perfective aspect marker in Tarma Quechua is borne out by the following interesting data. Verbs belonging to a directional set, such as *yarqu-* 'to go out', can be divided into two parts (*ya-...-ru-*) with infixation of a suffix *-ku-*.

(33) *ya-ku-ru-n*
go(.out)-ASP-Out-3S
'It got out.'

This *-ku-*, probably the result of a functional split of the 'reflexive' marker *-ku-*, has acquired a marginal aspectual function and indicates the completion of a change of position. Since *-ku-* is aspectual, it cannot be combined with the perfective aspect marker *-ru-*. Instead, *-ru-* is to be interpreted as a formally simplified version of the petrified directional suffix *-rqu-*. (In the parallel form *ya-ku-yu-n* 'it got inside', *-yu-* also has to be interpreted as the simplified version of the directional suffix *-yku-*.)

In other Quechua dialects the suffix *-rqu-* 'Out' has taken a different course. In Ancash Quechua (Quechua I), it became part of the tense system, referring to a 'Recent past' (Parker 1976). In Ayacucho and Cuzco Quechua (Quechua IIC) it indicates, among other things, a sense of urgency or compulsion (Parker 1969, Cusihuaman 1976). It cannot be interpreted as a part of the aspectual system because it can co-occur with the progressive aspect marker (*-čka-* in the Ayacucho dialect; cf. Parker 1969: 64).

The two remaining directional suffixes *-rku-* and *-yku-* also have undergone changes in meaning and function, sometimes amounting to a semantic split. However, it is more difficult to isolate their functions, and their participation in the right-hand block of non-verbal suffixes is less easy to determine than in the case of *-rqu-*.

Apart from its use as a directional, *-rku-* has at the least two other applications. It can refer to an action of which the speaker wants to emphasize the positive social implications: '**Please**, stay a while!', 'Let us have a drink, **if you feel like it**!' 'I shall continue my way, **if I may**.' etc. When used in this way, *-rku-* can follow true directionals.

[19] The almost ubiquitous occurrence of the suffix *-ru-* in combination with its elusive function constituted a real test of patience for a beginning field linguist.

(34) *kaĉa-rgu-rgu-šaq*
let.go.of-Up-Social.Act-1SG.S.FUT
'I shall let go (of the balloon), if you agree.'

In this function, *-rku-* does not normally co-occur with the aspect markers (although admittedly the distinction between the directional 'Up' and the 'Social Act' functions is not always crystal-clear). One may suspect that the Social Act function represents an additional aspectual category, or, more correctly, that it encodes perfective aspect with an additional shade of meaning of social desirability. If this analysis is correct, we may conclude that *-rku-* 'Social Act' has found a place in the right-hand block of non-verbal suffixes in the slot of the aspect markers.[20] More examples of *-rku-* 'Social Act' are:

(35) *upya-ku-rgu-šun*
drink-REFL-Social.Act-1INCL.S.IMPER
'Let us have some drinks!'
(36) *ka-rku-y*
be-Social.Act-2S.IMPER
'Please stay a while!'

The second application of *-rku-* 'Sequential' is widely found in Quechua I dialects and occurs under very restricted circumstances, namely in combination with the subordinator *-r*. The latter indicates subordination of a verb to a main verb and is part of the switch-reference system. It is used when the subjects of both verbs are identical. The use of *-rku-...-r* indicates a close temporal consecutiveness of the two events. Sequential *-rku-* is definitely part of the aspectual system, although the difference in function with perfective *-ru-* is not great. Use of the perfective aspect marker implies a previous effort or development (37), whereas sequential *-rku-* indicates a more neutral temporal relationship (38-39).

(37) *išgi-ra-mu-r* *pampa-man* *qutu-ka-ru-n*
fall-PERF-VENT-SUBORD ground-ALL pile.up-UNINT-PERF-3S
'Once they have fallen down, they remain piled up on the ground.'

[20] In Adelaar (1977) *-rku-* 'Social Act' and *-yku-* 'Special Care' (see below) were classified as derivational (left-hand block) suffixes. The present article proposes a revision of that classification.

(38) *maki-n-ta* *kutu-rku-r*
hand-3POSS-ACC cut.off-SEQ-SUBORD
warmi-qa *intrega-ru-ra* *maki-n-ta*
woman-TOP hand.over-PERF-3PST hand-3POSS-ACC
'After cutting off her hand, the woman gave it to him.'

(39) *rumi-ta* *isqira-man* *muyu-rga-či-r*
stone-ACC mud-ALL turn-SEQ-CAU-SUBORD
wayi-ta *rura-q*
house-ACC house-3HAB.PST
'After turning stone into mud, they would build houses.'

As a productive suffix, the directional suffix *-yku-* is usually found in its simplified form (*-yu-*) in Northern Junín Quechua (although *-ygu-* also occurs in the dialect that has voicing of velar stops). It has not entirely lost its directional function, except that the original meaning 'inwards', which is still present in specialized verbs such as *yayku-* and *qayqu-*, has been replaced by the meaning 'towards an indicated location'. By this means *-y(g)u-* is frequently used to add direction or motion to the meaning of the verb root.

(40) *qita-ra-y(g)u-y* (< **hita-ra(:)-* 'to lie down')
throw-CONT-Direction-2S.IMPER
'Lie down over there!'

(41) *qita-ra-yu-nqa-n* *gaq-man*
throw-CONT-Direction-REL-3S place-ALL
'to the place where he is lying down'

Apart from its directional function, the reflex of *-yku-* has a second application. It can indicate that the action is performed with special care or attention, while emphasizing that the job is not particularly extensive ('just a small matter that has to be handled with care'). In this function *-yu-* may also follow its directional counterpart, as in (42).

(42) *ana-yu-yu-y*
look-In-Special.Care-2IMPER
'Take a little peek inside!' 'Have a look inside!'

In its 'special care' reading *-yu-* is not normally combined with aspect markers, and we may conclude that it encodes an aspect meaning itself, for instance, 'perfective aspect plus special care', rather than special care alone. Black *et al.* (1990) have analyzed *-yu-* as an 'aspect of affectivity' marker.

The following example shows the close parallelism between *-yu-* 'Special Care' and the perfective aspect marker *-ru-* as illustrated in (37) above.

(43) *kalana-ta* *nina-man* *ĉura-ku-yu-r*
clay.pot-ACC fire-ALL place-REFL-Special.Care-SUBORD
čay-man-mi *čibi-rbu-nčik* *ismayču-ba* *rapra-n-ta*
that-ALL-EVID tear-Down-1INCL.S plant.name-GEN leaf-3POSS.ACC
'After putting the clay pot on the fire, we cut up the leaves of the *ismayču* plant and drop it (in the pot).'

The suffix *-yu-* is sometimes found in a combination with the suffix *-ku-* (*-ku-yu-*) following a directional, for instance, *-rpu-*. The exact meaning of this combination and the modalities of its use remain to be explored, but it appears to refer to a protracted process involving a change in substance or position. It may also convey the meaning 'completely'.

(44) *čaki-rpu-ku-yu-n*
dry-Down-ASP(?)-ASP(?)-3S
'It is drying out completely.'

10 Plural marking

A complex and rather unusual part of the verbal morphology of Tarma Quechua is the way in which plurality of subject (in unambiguous contexts also of direct or indirect object) is indicated, especially in connection with the aspect markers. Plural marking will not be treated here in detail, but some aspects of it are relevant to the present article. Whereas directionals usually combine with the regular default plural marker *-pa:ku-/-ba:ku-*, the perfect aspect marker *-ru-* can only be combined with the plural marker *-:ri-*, yielding a rather characteristic sequence *-ra:ri-* (with obligatory lowering and lengthening of the vowel *-u-*).[21] The plural marker *-:ri-* is furthermore found after other ex-directionals that lost their original meaning, in particular *-rku-* 'sequential', for which it is the only option available (*-rku-r* > *-rka:ri-r*). In this way, the selection of plural markers contributes to underscoring the difference between directional and non-directional functions of markers that are historically the same. Interestingly, when directional or ex-direc-

[21] An alternative representation of this suffix is *-a:ri-*, which would be in conflict with the canonical form of verbal suffixes mentioned before. The source of the suffix may be a sequence *-ya-ri-*; both *-ya-* and *-ri-* are plural markers in other dialects (cf. Cerrón-Palomino 1987).

tional suffixes are preceded by *-ku-* (regardless of its status or function), *-ːri-* is also the only option for plural marking. If *-ku-* is absent, speakers hesitate as to which type of plural marker should be selected.[22] Note that *-rka(ː)-/ -rga(ː)-* is the plural marker normally required after *-ku-*; it is the combination of *-ku-* with an (ex-)directional that requires *-ːri-*.

(45) *čimpan* *čimpan* *ĉura-naka-ya-ːri-r*
opposite.side opposite.side place-REC-DIR-PL-SUBORD
'standing in front of each other'
(lit.: 'after (carefully) placing each other at opposite sides')

(46) *ya-ka-ya-ːri-n*
go.in-ASP-In-PL-3S
'They got inside.'
ya-ka-ra-ːri-n
go.out-ASP-Out-PL-3S
'They got outside.'

(47) *upya-ka-rga-ːri-la-y* *tayta*
drink-REFL-Social.Act-PL-RESTR-2S.IMPER Sir
'Please have a drink, gentlemen!'

11 Conclusion

The historical identity and the formal uniqueness of verbal affixes in Quechua are challenged by the occurrence of functional and semantic splits and shifts. Derivational directional markers in Quechua I show a tendency to develop into perfective aspect markers more closely associated with the inflectional part of the verb. Of the four directional markers that can be reconstructed for Proto-Quechua I, three are productively used in Tarma Quechua with some kind of directional function, although only the vertical directionals ('Down', 'Up') have retained their original meanings. The fourth directional marker ('Out') has lost its directional function entirely and is now productively used only as an aspect marker. While retaining their directional uses, two directional markers ('Up', 'In') have acquired additional functions. One of these functions ('Sequential') is also aspectual. Two other functions ('Social Act', 'Special Care') combine aspectual use with attitudinal shades of meaning. There are no clear cases of combined use of these aspectual-attitudinal markers with real aspect markers, which seems to indicate that they operate as specialized aspectual markers themselves. Throughout this his-

[22] Black *et al.* (1990) report a wider use of the marker *-ːri-*, in contexts not treated here.

torical process Tarma Quechua has maintained a sharp distinction between the orientational marker *-mu-*, which is part of the inflection, on one hand, and the originally derivational directional affixes with their reflexes on the other.

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The verbalizers in Trio (Cariban): a semantic description

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1 Introduction

Trio has a range of verbalizers, many with aspectual meanings, which are suffixed to a nominal to form a verb.[1] Some of the verbalizers are more productive than others; some result in a transitive, others in an intransitive verb. This paper deals in particular with the semantics of the verbalizers showing how much cultural information can be gleaned from the specific semantics of both the verbalizers and the resultant verbs.

Many of the verbalizers encode various states of being or becoming, for example, one is used to express a 'sensory state' (*-pamï*), another a 'change into a state' (*-ma*), yet another 'entry into a state with endpoint highlighted' (*-ta*). Others have benefactive meaning, namely, *-pa*, *-htë* and *-ntë* the latter two of which are used for concrete concepts, resulting in verbs with the meaning 'to X-provide s/o', whereas the verbalizer *-pa* differs from these two in that it is much more restricted in its usage. The verbalizer *-pa* is non-productive and can be used with only a few nouns, among which the nouns *jo(tï)* 'meat', *joo(kï)* 'drink', *(j)omi* 'language, word', and *ënu* 'eye' four concepts which form the cornerstone of the Trio worldview, namely the first two refer to sustenance of the physical body, whereas the latter two refer to providing sustenance to the spiritual side of man; the latter two have the meaning 'speak (give voice to)' and 'teach (provide insight)' respectively. In Trio culture the eye embodies the ability to see, not just the visible in this human world but also the 'invisible' in the other, the spirit world. Language, for the Trio, is the seat of the soul, how one speaks reveals the soul, or the essence, of the speaker. These latter two nouns, *ënu* 'eye' and *(j)omi* 'language, word' can also be suffixed by the benefactive *-htë* resulting in the meanings 'provide with an eye (e.g., when making a doll)' and 'translate'.

This paper will investigate how the Trio classify and categorize the world in which they live, and will show how the worldview of the Trio, which includes a place for the spiritual and the physical, can be elucidated through looking at structures within the language itself. §2 gives an overview of some typological characteristics of the language. In §3 I deal with

[1] Trio is a Cariban language that is spoken by approximately 2,000 speakers in the southern rainforest of Suriname and across the border in Brazil.

verb types and verb formation, including processes that are marked on finite verbs. In §4 I look at the verbalizers themselves and their aspectual meanings. §5 deals with the non-aspectual verbalizers. In §6 I summarize the conclusions.

2 Typological features of Trio

Trio is an agglutinative language which uses mostly suffixes; there are two kinds of prefixes, namely those for person marking and three prefixes to mark diathesis. Those affixes relating to verb morphology are dealt with in more detail below. The unmarked word order in Trio is OVA or VS, whereby word order in general is subject to pragmatic considerations; new information tends to be found at the beginning of the clause. The language uses postpositions, some of which can be inflected for person; locative postpositions tend not to be inflected for person. Within the noun phrase there is a strict word order, namely Possessor – Possessum, with head-marking, and although Trio does not have adjectives as such since adjectival concepts are expressed by means of nouns, adverbs or verbs, it does have the word order Modifier – Modified when, for example, a demonstrative pronoun modifies a noun. Tense is not only a feature of verbs, rather there is obligatory past marking on nominals (mostly but not only) in possessive phrases whereby reference is made to a deceased possessor; a past relationship; or something that is old and useless. There are four clauses types, namely, non-verbal clauses, clauses with the verb 'be', verbal clauses, and quotative clauses. Embedded clauses are based on nominalizations. In general, nominalizations allow much more detailed aspectual distinctions than finite verbs.

3 Verb types

There are three morphophonological verb classes, namely (a) those that under certain circumstances (for example, before non-past tense marking) drop the final CV syllable (whereby V has the value *ï, u,* or *ë*), replacing it by compensatory lengthening or by *n* if the onset of the final syllable is a nasal; (b) those that end in *e, ë,* and *a,* which class also includes verbs that are formed by means of a verbalizer ending in C*a,* and the benefactive verbalizers *-htë* and *-ntë*; and (c) a small class of transitive verbs that have an initial syllable *tï-* in the absence of a person marker. The latter class of verbs is not represented in verbs derived by means of verbalizers and so is left out of consideration here.[2]

[2] Trio has seven vowel phonemes: *i, ï, u, e, ë, o,* and *a,* whereby the graphemes *ï* and *ë* represent the high central and the mid central (schwa) vowels respectively. The

Before discussing the details of the verbalizers, I give in the following paragraphs an overview of the categories and processes that are required for a finite verb. All inflectional morphology occurs on the outer edges of the verbal word, derivational morphology is closest to the verb root. Derivational prefixes are the diathesis markers, *i-* for transitive, *e-* (*et-*, *es-*) for middle, and *ë-* (*ët-*, *ës-*) for reflexive. To the left of these prefixes in linear order are the personal prefixes. All verbs in Trio, whether finite, non-finite, or nominalized, must be marked for person, that is, there is a person marking slot on the verb that must be filled; the absence of a specific person marker is also marked morphologically.

Trio distinguishes four exponents of the category of person, namely first (1), second (2), first and second (1+2), and third (3). With transitive verbs, both the A and the O are marked in a portmanteau prefix; a list of the transitive prefixes encoding A and O is given in (1).[3] The intransitive prefixes which refer to the S are given in (2); the object prefixes are identical to the intransitive prefixes with the exception of the third person where the object prefix is *in-* and the intransitive prefix is *n-*.[4]

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series of plosive consonants is unaspirated. The grapheme *hp* represents a voiceless bilabial fricative. There is a morphophonological rule that causes a change of vowel to all *ë*-initial nouns and verbs before person marking, namely: *ë* → *e* / person-marking for 1,2, and 3 (non-coreferential); retention of the *ë* vowel indicates the lack of a specific person marked on the noun or verb, see Carlin (2004).

[3] While is is evident that a third person object of person 1+2 is marked by means of the morpheme *-t-* or its allomorph length, the portmanteau analysis is applied here for ease of representation in the glosses; for details on person 1+2 marked on verbs, see Carlin (2004:275ff.).

[4] In the examples throughout this paper, the arrow symbol (→) with a preceding number, for example, 3→, indicates an intransitive verb and is to be read as 'third person acting'; the arrow symbol with a preceding and following number, e.g., 3→3, indicates a transitive verb and is to be read as 'third person (A) acting on a third person (O)'. The symbols ⊃ and ↔ express middle and reflexive, respectively. Abbreviations used are: A = agent, BEN = benefactive, CAU = causative, CERT = certainty, CESS = cessative, EU = euphonic, I.PST = immediate past, INCH.STAT = inchoative stative, MID = middle, NCERT = non-certainty, NOM = nominalizer, NR.PST = non-recent past, O = object, PL = plural, PROV = providative, PST = past, POSS = possessive, PRES = present, REFL = reflexive, REVERS = reversative, S = subject, SAP = speech act participant, SENS.STAT = sensory stative, STAT = stative, TERM = inchoative terminative, TR = transitive, TRANS = transitivizer.

(1) Transitive prefixes

1	*w-*	1→3
2	*m-*	2→3
1+2	*k(ï)-*	1→2 or 2→1
1+2	*k:- / kït-*	1+2→3
3	*n-*	3→3

(2) Intransitive prefixes

1	*j(i)-*
2	ë- / :[5]
1+2	*k(ï)-*
3	*n-*

In addition to person marking, each non-past finite verb requires an evidentiality marker, namely a certainty marker *-e* that is used with speech act participants (SAPs) only, and a non-certainty marker *-n(ë)* that is used with the third person and with SAPs in interrogative clauses. In the past tenses a different strategy is used to express evidentiality, namely finite, tense- and person-marked verbs are used to indicate eye-witness, and a specialized non-finite form of the verb is used to express non-eye-witness evidentiality (see Carlin 2004 and to appear).

The minimal and maximal forms of a finite verb are given in Table 1 and Table 2 respectively, and are exemplified in (3) through (6).

Table 1. Minimal marking on finite verb

person	valency prefix	**root**	tense	number	evidential

[5] Vowel-initial verbs that begin in *a* or *o* take the allomorph length in the second person, here represented by the colon symbol.

Table 2. Maximal marking on a finite verb

	STEM					
person	valency	verb root noun + verb root noun root + verbalizer	transitivizor	causative	tense/aspect/ number	evidential

(3) *s-e-pahka-ne*
1⊃-MID-break-NR.PST
'I broke myself (i.e. I broke my ankle, leg, etc.).'

(4) *m-e-po-ntë-Ø-ti*
2⊃-MID-clothes-BEN-I.PST-PL
'Did you dress yourselves?'

(5) *w-i-po-ka-Ø-e*
1→3-TR-clothes-REVERS-PRES-CERT
'I am undressing him.'

(6) *poto* *w-eeku-ta-nï-po-Ø-e*
butter 1→3-juice-term-TRANS-CAU-PRES-CERT
'I am melting the butter.'

3.1 Verb formation

According to Dixon (2000: 23) Amazonian languages are predominantly intransitive. However, in Trio the majority of non-derived monomorphemic verbs are transitive and the majority of intransitive verbs are not monomorphemic but derived, mostly by means of verbalizers. Noun incorporation also occurs in Trio but this does not seem to be a productive process and is generally restricted to body-part nouns; verbs based on noun incorporation are not dealt with in this paper. One general comment is valid for almost all

of the verbalizers that are discussed in the remainder of this paper: there are many verbs in Trio where one can recognize a given verbalizer although the nominal root is no longer found independently of the verb. Such cases are not discussed here because they do not give us additional information on the meaning of the verbalizing suffixes.

There are nine more or less productive verbalizers, four of which form transitive verbs, and five of which form intransitive verbs; these are given in Table 3 and Table 4 respectively.

Table 3. Transitive verbalizers

Verbalizer	Meaning	Gloss
-ka	reversative, (un-, de-)	REVERS
-htë / -ntë	benefactive (concrete)	BEN
-pa	providative (abstract)	PROV
-ma	inchoative stative (causative meaning)	INCH.STAT

Table 4. Intransitive verbalizers

Verbalizer	Meaning	Gloss
-pa(mï)	sensory stative	SENS.STAT
-ta	inchoative terminative	TERM
-wa	stative	STAT
-na	producing	PRODUCE
-ke(pï)	cessative (stop)	CESS

4 Aspectual features of the verbalizers

As can be seen in the two tables above, all of the intransitive and one of the transitive verbalizers, namely *-ma*, have some sort of aspectual meaning. The non-aspectual verbalizers are dealt with in §5 below. In the following sections I would like to show, by examining the aspect semantics of the resultant verbs, what kinds of verb type categorizations are salient for the Trio, in other words, how the Trio perceive and categorize the world of states and activities.

The types of aspect expressed in the verbalizers are listed in (7). Each of the verbalizers is dealt with in turn below.

(7)	*-ma*	inchoative stative
	-ta	inchoative terminative
	-pa(mï)	sensory stative
	-wa	stative
	-na	(stative) producing

The first two in this list, *-ma* and *-ta* have inception into a state as part of their meaning. The inchoative stative *-ma* has the meaning 'put s/one into a state of' or 'induce s/one's state' thus many verbs formed by means of this verbalizer express experiencer states, as can seen in examples (8a-c). What is highlighted with this verbalizer is entry into a state, the ensuing state having no inherent endpoint, or being unbounded, so to speak. Due to the causative nature of this verbalizer the actual experiencer, that is, the person who is sad (8a) or embarrassed (8b), is the object of the verb and the person inducing or causing the state is the subject. Example (8c) is a middle-marked verb and is used, for example, to express that someone became a totally acculturated Amerindian, or in religious terms that Jesus became man.

(8)a *m-emu-ma-Ø*
2→3-sad-INCH.STAT-PST
'You made him sad (caused him to be in a state of sadness).'

b *w-i-pïi-ma-Ø*
1→3-TR-shame-INCH.STAT-PST
'I embarrassed him (caused him to be in a state of shame).'

c *n-e-toto-ma-ne*
3⊃-MID-human.being-INCH.STAT-NR.PST
'He became an Amerindian (=he amerindianized himself).'
('He caused himself to be in a state of being human (Amerindian).')

Some body parts that take the inchoative stative *-ma* have specialized meanings, as shown in (9)-(10) below. The verb *pana-ma* 'turn', which is marked with a transitive (*i-*) or a middle (*-e*) diathesis prefix, is based on the noun *pana* 'ear', whereby the ear is taken as the most salient cardinal point of the body which changes its position when one turns either one's body or head; the verb *enpata-ma* 'go down slope of mountain' is made up of a lexicalized nominal compound, *ënu* 'eye' and *pata* 'place', together meaning 'face', which is then verbalized with *ma-*; thus coming down the slope of a mountain is akin to moving along its face.

(9) *ji-n-muku* *w-i-pana-ma-Ø-e*
1POSS-3O-bear.NOM 1→3-TR-ear-INCH.STAT-PRES-CERT
'I am turning my child around.'

(10) *pïï* *w-en-pata-ma-Ø*
mountain 1→3-eye-place-INCH.STAT-I.PST
'I went down the slope of the mountain.'

Furthermore, several verbs are based on the body part *ëre* 'liver', often with an indeterminate intervening element between the noun and the verbalizer, as shown in (11). It is not clear what these intervening elements are, nor are they productive. Other verbs based on the body part *ëre* 'liver' are given in the relevant sections below.

(11) *n-ë-ere-ko-ma-Ø-n*
3↔3-REFL-liver-unease-INCH.STAT-PRES-NCERT
'He is worried, upset.'

The terminative verbalizer *-ta*, on the other hand, which forms telic intransitive verbs, also has entry into a state as part of its meaning but it highlights the endpoint of a change of state or an action, that is, it is bounded. The nouns that take the verbalizer *-ta* mainly fall into two groups that I have subsumed under the names: relations (as in kinship or interpersonal relations) and body emissions or body-related, as shown in (12) and (13).

(12)	*injo*	'husband'	*injo-ta*	'marry (a man)'
	pï(tï)	'wife'	*pïh-ta*	'marry (a woman)'
	eemi	'daughter'	*eemi-ta*	'have a daughter'

(13)	*su(ku)*	'urine'	*suh-ta*	'urinate'
	ëramu(ku)	'sweat'	*eramuh-ta*	'sweat'
	ëta(ku)	'spittle'	*etah-ta*	'slobber'
	munu	'blood'	*mun-ta*	'bleed'
	ëre	'liver'	*ëre-ta*	'rest'
	(j)omi	'language'	*(j)omi-ta*	'speak'
	waku	'belly'	*waku-ta*	'get a big belly (in pregnancy)'

What all the verbs formed by means of this verbalizer have in common is their 'point of no return', when the consequences of the process become

visible. This is especially clear with those words that are body-related, where it involves the appearance of excretion of some sort from inside the body. For example, one can only talk about s/one sweating or bleeding if they are visibly producing sweat or blood. One cannot bleed without producing blood. Likewise one cannot get a big belly without it being visible. The resultant verbs are not agentive in any way. The verb for 'speak' *ijomita* in the list in (13) is used to express the notion 'have acquired language', that is, there is a break-off point at which it can be said that the child can speak. Similarly with having children, bearing a child has a visible result: the child is emitted from the body. What is important here is the fact that a change of state takes place that has some perceptible consequence.

It is interesting that bodily functions are conceptualized as irreversible change that happens rather than as an agentive concept where a person or body is producing the excretions. A comparison of, for example, English 'I am bleeding', and the German *mir blutet das Bein* 'the leg is bleeding me' where the body part has an agentive role and the person is a dative experiencer, with the Trio example *ji-mun-ta-e* 'I am bleeding' shows that in Trio a statement such as 'I am bleeding' is conceptualized as 'I'm having a blood-state whereby blood is visibly and irreversibly flowing out of me'.

Trio also has a specialized verb *kaimo-ta*, 'kill game', where the noun *kaimo* means '(dead) game'; the verb itself can only be used after the hunter has already killed and taken possession of the shot game that he will use as food. Again the body part noun *ëre* 'liver' can take the terminative verbalizer *-ta* with the resultant verb *ëreta* meaning 'rest', as shown in (14). Culturally speaking, the liver constitutes the 'life-source' or the seat of emotions for the Trio. Many of the verbs formed by means of this noun combined with a verbalizer express the emotions of fear, worry, confusion, restlessness, etc. Other verbs based on *ëre* 'liver' are rather cases of noun incorporation and are used to express the notion of 'anger'. The verb *ëreta* 'rest' has a meaning akin to 'resuscitate the life-source'.

(14) *n-ere-ta-Ø-n* *ji-pawana*
3→-liver-TERM-PRES-NCERT 1POSS-friend
'My friend is resting.'

The sensory stative verbalizer *-pa(mï)* is used only with animate referents and it expresses undergoing an intense physical or mental sensation, for example, feeling cold, hungry, being wise, being fevered etc. The aspectual meaning is that of stative without focusing on either the beginning or endpoint of the state, but rather expressing that s/one is 'in a general state of X',

as can be seen in the list in (15), and exemplified in (16). Note that also the notion 'lazy' is expressed as a state undergoing a mental sensation. Most of the states expressed with this verbalizer are seen as undesirable or unpleasant states. The noun *(tï)no(tï)* has the meaning 'shiver from cold or fear', hence when suffixed with the verbalizer *-pamï* it has the literal meaning 'be in a shivering sensation (due to cold)'.

(15)	*(tï)no(tï)*	'cold'	*-:noh-pa(mï)*	'feel cold'
	këi	'fever'	*këi-pa(mï)*	'be feverish'
	akunu	'laziness'	*akun-pa(mï)*	'be lazy'
	ëre(-ko)	'liver(-unease)'	*ëreko-pa(mï)*	'be restless'
	(j)emi	'hunger'	*-jemi-pa(mï)*	'be hungry'
	kïrïkïrï	'tremble'	*kïrïkïrï-pa(mï)*	'be atremble'

(16) *ji:-noh-pain-ja-e*[6]
1→shiver-SENS.STAT-PRES-CERT
'I am cold.'

The stative verbalizer *-wa* is not productive and has only been found on one noun, namely *(wï)karau* 'anger' resulting in the verb meaning ' be angry', as shown in (17).[7]

(17) *ni-karau-wa-Ø-n*
3→anger-STAT-PRES-NCERT
'He is angry.'

The verb given in (17) has a counterpart with the terminative verbalizer *-ta* , given in (18) which has the meaning 'become really angry'. The difference between the two verbs is that the verbalizer *-wa* expresses totally stative aspect, whereas that with *-ta* expresses terminative stative aspect. This latter verb expresses the type of anger a person feels when it is the last straw, when one is about to explode, this is the degree of anger that forces one to take action. Culturally, for the Trio, anger is a very undesirable and also

[6] The verbalizer *-pa(mï)* replaces the final syllable with *n* before present tense marking (*-ja*). In Trio orthography an *i* is inserted before the *n* to represent palatalization of the nasal before the glide, resulting in the form given here.

[7] There is another verbalizer *-ma(mï)* which is likewise only found on one noun, namely *koko* 'night', the resultant verb *ko:mamï* meaning 'spend the night' or 'get dark'.

dangerous state. A person who has become *karau-ta* can no longer contain his anger and thus is a very real threat to the causer of his anger.

(18) *ni-karau-ta-Ø*
3→anger-TERM-PST
'He has become really angry.'

The final one of the stative verbalizers is *-na*. It is a little-used verbalizer that is not attested frequently in the corpus but most attestations tend to have the meaning 'physically produce something so that it becomes visible or audible'. Some examples are given in (19). The verb *awaina* 'dawn' is semantically somewhat obscure but it seems to have something to do with 'being met by the spreading out of the light of the new day'. As an intransitive verb, it is inflected for person as shown in (20).

(19)

ërei	'smoke'	*ërei-na*	'produce smoke'
awain	'dawn'	*awain-a*	'to dawn'
ëremi	'spirit-song'	*ëremi-na*	'produce spirit-song (physically)'
potï	'lip'	*ipotï-na*	'whistle'

(20) *anpo j-awaina-Ø-n*
where 1→-dawn-PRES-NCERT
'Where will I wake up (where will I be as it is dawning)?'

The verb *ëremi-na* 'produce spirit-song' expresses the notion of actually singing a spirit-song. This verb has a counterpart with the providative verbalizer *-pa*, as shown in (21), which has the meaning 'evoke, call up the spirits'.

(21) *mëhparë* *Ø-eren-pa-Ø-n*[8]
tree.animals 3→3-spirit.song-PROV-PRES-NCERT
'He is evoking the spirits of the tree animals.'

5 The non-aspectual verbalizers

The non-aspectual verbalizers are the reversative *-ka*, the cessative *-ke(pï)*, the benefactive *-htë* and *-ntë*, and the providative *-pa*, all of which form transitive verbs. These are dealt with in turn in the following paragraphs.

[8] In the third person, when a lexical object immediately precedes the verb, the personal prefix *n-* is dropped.

The reversative *-ka* is derived from the verb *ka* ‘to remove, take away’ and can be added to virtually any noun. It has separative meaning, that is, the meaning of the resultant verb is that of to un-Verb or de-Verb someone or something as shown in (5) above, or ‘to lose something’, as shown in (22). Some verbs with *-ka* have specialized meaning, such as *inta-ka* ‘translate’ based on the noun *mïta* ‘mouth’, which reduces the first syllable to *n*, and which literally means ‘to un-mouth’. This verb is used with the meaning ‘to translate from a European language such as Dutch or English into Trio’.

(22) *s-e-mënparë-ka-Ø*
1⊃-MID-things-REVERS-NR.PST
‘I lost my stuff.’

The cessative verbalizer *-ke(pï)* is derived from the reducing intransitive verb *ke(pï)* meaning ‘to stop’. Although verbs forms by means of this verbalizer are not abundant in the corpus, it is productive. An example with the noun *munu* ‘blood’ is given in (23).

(23) *ni-mun-kepï*
3→-blood-CESS.I.PST
‘It has stopped bleeding.’

There are two benefactive verbalizers, similar in form, *-ntë* and *-htë* that in principle can be added to any noun. It seems to be lexically determined which of these two a noun takes, although some nouns have been found in the corpus that can take either of the forms. While there is no difference in meaning between the two forms, the variant with the nasal is found more frequently. It is also the variant with the nasal that is suffixed to more recent loanwords such as *oroko* ‘work’ from *wroko* in Sranantongo, the lingua franca of Suriname, resulting in the verb given in (25). These verbalizers are highly productive. The beneficiary of the benefactive suffixes is a direct object. Some examples can be found in (24).

(24)

amore	‘spirit’	*amore-htë*	‘dream’	(soul-provide)
po	‘clothes’	*-po-ntë*	‘dress’	(clothes-provide)
menu	‘design’	*menu-htë*	‘write’	(design-provide)
arï	‘contents’	*arï-htë*	‘fill’	(content-provide)
(j)omi	‘language’	*jomi-htë*	‘translate’	(language-provide)

(25) *w-i-j-oroko-ntë-Ø-e*
1→3-TR-EU-work-BEN-PRES-CERT
'I am providing him/her with work.'

These benefactive verbalizers contrast with another verbalizer that is similar in meaning but which is not at all productive, namely *-pa* which I call the providative verbalizer. This verbalizer can only combine with very few words, namely those in (26a-e). Those words that end in the syllable *mi*, *(j)omi* 'language' and *ëremi* 'spirit-song', reduce that syllable to *n*. The final vowel of the noun *ënu* 'eye' is dropped.

(26)

a.	*(j)omi*	'language'	*jon-pa*	'speak'	(voice-provide)
b.	*ënu*	'eye'	*en-pa*	'teach'	(insight-provide)
c.	*jo(kï)*	'drink'	*joh-pa*	'give drink to'	(drink-provide)
d.	*o(tï)*	'meat'	*oh-pa*	'give meat to'	(meat-provide)
e.	*ëremi*	'spirit-song'	*eren-pa*	'evoke'	(spirit presence-provide)

It is clear that the meaning of this verbalizer is very close to that of the benefactive verbalizers discussed above, indeed, two of the nouns given in (26), namely *(j)omi* 'language' and *ënu* 'eye', have also been found in the corpus with the benefactive verbalizers, however, the meaning of the resultant verbs is very different, as can be seen in (27a-b). The transitive verb *ijomi-htë* 'translate' is synonymous with the verb *inta-ka* 'translate', formed with the reversative verbalizer, given above.

(27)	a.	*(j)omi*	'language'	*i-jomi-htë*	'translate' ((Trio)language-provide)
	b.	*ënu*	'eye'	*enu-htë*	'put eye on' (eye-provide), e.g. on doll

Meira (1999: 273) correctly points out that the verbalizer *-pa* is very close in meaning to the benefactive verbalizers *-ntë/htë*, however, there is also a major difference between the two. Hence the distinction also in the gloss: providative for the former and the benefactive for the latter. Four of the nouns which are verbalized by means of the providative suffix *-pa*, namely 'meat', 'drink', 'insight (eye)', and 'language', constitute the four absolute essentials of life, the former two being physical and the latter two being spiritual (the abstract concept of language is seen as the seat of the soul). It is in this sense that providing someone with meat and drink (fluid) is seen as

providing sustenance for the body, without which the body cannot survive. Note that this verb does not refer to giving someone a piece of uncooked meat: rather it is cooked meat ready to be consumed.

In Trio culture, the eye embodies the ability to see, not just the visible in this human world but also the 'invisible' in the 'other', the spirit, world. In fact how humans see themselves in relation to animals and spirits and how they see animals and how animals see themselves and humans or spirits is a much-discussed facet of Amazonian cultures. As an example, animals see animals as living human lives, so that for the jaguar, blood tastes as pineapple does to humans. For a discussion of perspectivism in native Amazonia, see Rivière (1994), Viveiros de Castro (1998) and others quoted there.

Language, the seat of the soul, is likewise conceived as an indispensable part of being human. Without language (in the abstract sense of faculty of language), there is no human. It is language that distinguishes 'us' from 'the other'. In Trio mythology any animal that has taken on human form is not considered to be truly human. Language is the one thing that an animal does not acquire (see Rivière (1994)). Speaking amounts to manifesting one's soul. The way in which one speaks is the way one is. For the Trio speaking harshly or angrily shows a harsh or angry soul. Speaking gently and quietly points to a circumspect person who is *junme* [juŋ.me] 'mature, wise'. Thus the verb *ijonpa* (*(j)omi* + *pa*) meaning 'speak' could be understood as 'give a voice to (one's inner being or thoughts)'.

It is in this sense that providing someone with sustenance in the form of meat and drink on the one hand, and spiritual sustenance in the form of insight and language (soul) on the other is seen as having quite a different status from providing someone with a house or money which concepts take one of the other two benefactive verbalizers *-ntë* or *-htë*.

6 Conclusion

In the above I have shown that the verbalizers in Trio stand in a paradigmatic relation with each one either semantically or aspect-semantically just slightly different from the other. Furthermore, the differences that become evident can be shown to be culturally salient and thus give us insight into what these culturally salient aspects or categorizations are. Each verbalizer has both a specific aspectual *and* a semantic component that is relevant to the cultural facts. The type of aspect that the verbalizers express ranges from totally stative (*-wa*), through inchoative stative (*-ma*) with causative meaning, to sensory stative (*-pa(mï)*), to stative producing (*-na*), to terminative stative (*-ta*). Thus one can discern a fine-grained categorization of states within the language. The contrasting meanings of the non-aspectual bene-

factive and providative verbalizers likewise reveal linguistic distinctions based on the cultural values of the concrete versus spiritual, namely the material versus the intangible level.

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Verbal number in Itonama[1]

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1 Introduction

Itonama or *sihnipadara* (1PL.EXCL-speech) is a genetically unclassified language spoken in lowland Amazonian Bolivia, in the northeast, near to the Brazilian border. Nowadays Itonama is only spoken by a few elders in the town of Magdalena on the Itonamas River, a tributary of the Iténez (or Guaporé) River in the Province of Iténez, Department of Beni. These speakers are all well over 80 years old and they used to speak the language with even older people who all died in the past decades. The few speakers that are left do not speak Itonama among themselves. Furthermore, there are a few persons who claim to understand the language fully, who are even capable of judging the correctness of certain sentences and constructions, but who are not able to utter even a single word in Itonama.

Greenberg's (1987) classification of Itonama as Paezan, a sub-branch of Macro-Chibchan, has not yet been supported and Itonama is still considered an isolate. The Itonama phoneme inventory contains a typical Amazonian system of six vowels /i, e, a, o, u, ɨ/ and nineteen consonants, among which two glottalized stops /t͡ʔ/ and /k͡ʔ/, a glottalized affricate /t͡ʃ͡ʔ/, and a palatalized /tʲ/. Itonama is a polysynthetic, head-marking, nominative-accusative VSO-language, which lacks a grammaticalized gender system. It has a multiple classifier system and only two open word classes: verbs and nouns. While its nominal morphology seems quite transparent, the verbal morphology is much more complex with various prefix and suffix slots, verbal classifiers – which also appear on demonstratives – and body-part incorporation.

In this paper I will focus on a phenomenon that, according to Corbett (2000: 245), has been broadly attested in the native languages of North America and other parts of the world (African, Caucasian, Paleoasiatic, South Central Dravidian, Austronesian, Papuan languages, and American Sign Language), but not yet in South America: verbal number, number which relates to events as opposed to nominal number, which relates to entities. Apart from very few exceptions, number seems to be a verbal category

[1] I am highly indebted to Don Lauro Chanato, Don Ascensio Cacharana, Doña Juanita Bolome, and Don Manuel Guasase († 2005), my Itonama consultants and teachers, the last speakers of the language.

in Itonama. In §2, I will give a short typological overview of verbal number, drawing heavily on Corbett (2000). §3 deals with the expression of verbal number in Itonama, while §4, finally, contains a short conclusion.

2 Typology of verbal number

As pointed out by Corbett (2000: 243), one needs to be careful about the terms one uses. Verbal number relates to the semantics of the verb and is not merely marked on it. So even in pro-drop languages, when there is no noun phrase present and number is marked on the verb, this does not necessarily indicate verbal number. Consider (1) below. The copula in (1a) marks person and number and the adjective marks gender and number. However, both instances of plurality involve nominal number, simply indicating the number of crazy persons/women, just as it is marked by the pronoun in (1b):[2]

(1) Spanish (Indo-European)
   a. *Están* *loc-a-s*.
      COP.PRES.3PL crazy-F-PL
      'They are being silly.'
   b. *Ell-a-s* *están* *loc-a-s*.
      3-F-PL COP.PRES.3PL crazy-F-PL
      'They are being silly.'

In the following I will list some examples of what verbal number does look like. Usually it is expressed by a class of morphemes that takes the form of an affix on the verb, frequently reduplicative as in (2), most often derivational rather than inflectional, and expressing a broad range of notions, among others, typically temporally iterated and spatially scattered action.

[2] The following abbreviations are used in this paper: ACT = active, CAU = causative, CLF2 = classifier: animate+vertical+plural, CLF5 = classifier: planted+vertical+singular, CLF6 = classifier: planted+vertical+plural, CLF8 = classifier: flat+plural, CLF9 = classifier: oval+singular, CLF10 = classifier: oval+plural, CONT = continuative, COP=copula, DEM = demonstrative, DM = discourse marker, DIS = distal, DISTR = distributive, EXCL = exclusive, F = feminine, HON = honorific, IMP = imperative, INCL = inclusive, INTNS = intensive, INV = inverse, ITE = iterative, MULT = multiple, NEG = negative, NEU = neutral, NON.S = non-subject, O = object, PL = plural, POSS = possessive, PRES = present, PROX = proximal, Q = question, interrogative, REL = relativizer, REP = repetitive, SG = singular, SUBORD = subordinate, S = subject, 1 = first person, 2 = second person, 3 = third person, and ∅ = zero marker. Moreover, ~ indicates reduplication and < > encloses an infix.

(2) Indonesian (Austric)
Bu Yem meng-urut~urut rambut anak-nya
HON.F Yem ACT-stroke~ITE hair child-3POSS
'Mrs Yem stroked her child's hair (over and over again).'

Yet another way of expressing verbal number is discussed in Mithun (1988: 213). In many North-American languages, verb stems alternate according to the number of participants involved. The set of alternating stems consists of a limited number of common verbs, in some languages only two or three, in others up to several dozen. They usually include intransitives, such as: *sit*, *lie*, *stand*, *go*, *walk*, *fly*, *run*, *die*, and transitives, such as: *take*, *pick up*, *carry*, *throw*, and *kill*. For intransitive verbs, the selection of a stem reflects the number of subjects, and for transitive verbs, it reflects the number of objects involved. Consider the examples given by Mithun (1988) in Table 1:

Table 1. Stem alternation in North-American languages (Mithun 1988: 213)

LANGUAGE	VERB	SG	NON-SG	SOURCE
	'sit/dwell'	'(one to) sit'	'(group to) sit'	
Shuswap		*ʔém*	*téq*	Gibson (1973: 52)
Southern Paiute		*qarï*	*yuɤwi-*	Sapir (1930: 242)
Haida		*q!ao*	*L!ū*	Swanton (1911: 276)
	'kill'	'kill (one)'	'kill (several)'	
Shuswap		*púl*	*'ik^{w}*	Gibson (1973: 52)
Southern Paiute		*paq-a*	*qɔ'i-*	Sapir (1930: 242)
Haida		*tia*	*L!da*	Swanton (1911: 276)

Morphemes expressing verbal number are frequently labelled **distributive** markers, or **verbal plurality** markers, but, as pointed out by Newman (1980, 1990), this term does not sufficiently distinguish the morphemes in question from those verbal affixes that merely indicate agreement with a plural argument. Therefore, Newman suggests the term **pluractional** markers, a term which is nowadays mainly used by Africanists.

The semantics of verbal number or pluractional markers has been discussed in some detail by Dressler (1968), and especially by Cusic (1981) and Lasersohn (1995); furthermore, a major approach is to be found in Fraj-

zyngier (1985), and especially Durie (1986), while Mithun (1988) gives a diachronic approach.

Corbett (2000: 246) distinguishes two main types of verbal number: event number and participant number. In the case of event number the most common distinction to be made is that of single event as opposed to multiple events. Consider (4):

(4) Hausa (Chadic; Eulenberg 1971: 73-4, quoted in Corbett 2000: 246)
a. *naa aikee su*
I send them
b. *naa a''aikee su*
I send.PL them

Taking into account (4), we see that the verb in (4b) is partly reduplicated, marking it as 'plural'. It indicates that the sending was not simple, that it involved, so to say, more than one time, more than one place, thus, more than one 'sending-event', as opposed to the single 'sending-event' in (4a). According to Durie (1986: 356), in the case of participant number the most common distinction is single as opposed to plural, or one and two versus three or more. Mithun's examples of stem alternation in Table 1 seem to be good examples of participant number. Consider also the Huichol examples quoted in Comrie (1982):

(5) Huichol (Uto-Aztecan; Grimes 1964: 98, quoted in Comrie 1982: 112)
a. *Wan maria maa-ti me-neci-mieni.*
Juan María and-S 3PL-1SG-kill.SG
'Juan and María are killing me.'
b. *Nee wan maria maa-me ne-wa-qiini.*
I Juan María and-NON.S 1SG-3PL-kill.PL
'I am killing Juan and María.'

Recall that with transitive verbs, it is always the number of the object that is relevant. Thus, in Huichol, the verb *kill* has a singular stem *-mie* (5a) and a plural stem *-qii* (5b). Finally, Corbett (2000: 249) notes that some languages have mixed event and participant number, and may signal both using the same formal device.

In the following section I will present and discuss the Itonama data.

3 Verbal number in Itonama

3.1 Nominal number

Like in many Amerindian languages, Itonama nouns referring to non-humans are not marked for number at all (6), and only a few nouns referring to human beings and kin terms have frozen plural forms (7):

(6)	*upa'u*	'dog'	*upa'u*	'dogs'
	uku	'house'	*uku*	'houses'
	yowo'ti	'ax'	*yowo'ti*	'axes'
(7)	*wabï'ka*	'woman'	*ïwabï*	'women'
	umu	'man'	*umu'ke*	'men'
	t'iyaya'tya	'girl'	*t'iyaya'tye*	'girls'

Kin terms seem to have plural marking, but being derived from verbs, these terms owe their plural marking to their underlying verbal origin:

(8)	*ah-may-maye'ne*	*ah-may-maye'ne-'cha'ke*
	3-SUBORD-father	3-SUBORD-father-MULT
	'his father'	'their fathers'

3.2 Verbal number

Itonama has a relatively complicated verbal morphology. There are several prefix and suffix slots. While first and second person subject arguments are obligatorily marked on the verb with a prefix, object arguments are marked with a suffix (9). As pointed out before, the number expressed in these instances is nominal number, simply agreeing with the arguments.

(9)	*uwe'cha*	*padï*	*a'-may-yumo'-na-mo*
	why	uncle	2SG-SUBORD-eat-NEU-1O
	'Why are you going to eat me, uncle?'		

Verbal moods, like negation, interrogative, and imperative are expressed after the subject cross-reference prefix right before the stem. When interrogative or imperative are expressed in combination with negation, the first two moods are expressed closest to the stem (10). Note that the negative infix in the form of a glottal stop causes the verb stem *-ch'awa-* 'want' to become discontinuous.

(10) *uwe'cha* *padï'ka* *a'-mi-di-ch'a<'>wa'-ko*
why uncle 2SG-NEG-Q-want<NEG>want-NEU
a'-may-yumo'-tyo *nu'u-du* *tere'ke*
2SG-SUBORD-eat-PL DEM.PROX-CLF9 food
'Why, uncle, don't you want to eat this food?'

Third person singular and plural are zero-marked in subject and object position, as glossed in (11).

(11) *ø-yomoni'-ye'-na-'ka-ø* *ni-mariya* *k'ipala* *naylu*
3-leave-CLF10-NEU-F.SG-3 HON.F-María egg nest
'María left the eggs in the nest.'

As exemplified in (11), if the third person singular is feminine, the feminine singular marker *-'ka* is suffixed to the aspect marker. This feminine marker is also prefixed to the unmarked masculine second person singular subject cross-reference marker; compare the masculine forms of the second person singular in (9) and (10) to the feminine form in (12):

(12) *no'o-so* *opi* *lowo'-tya*
DEM.PROX-CLF8 fish be.rotten-NEU
k-a'-ki-maku-mu *ch'uka'te*
F.SG-2SG-IMP-give-1O other
'These fish are rotten, give me some others!'

3.2.1 Event number

Apart from the exceptions that we have seen above, number seems a verbal category in Itonama. The language can express event number in various ways, for example, by using a distributive marker as contrasted in (13) and (14), by partial reduplication of the verb stem in combination with an intensifying infix as in (15) and (16), or by the use of a pluractional marker as in (17).

(13) a. *wase'wa* *si-makï* *uwaka* *k'a-dïlï* *ubuwa*
yesterday 1SG-give meat DEM.DIS-CLF2 person
'Yesterday I gave those persons meat.'
b. *wase'wa* *si-makï-he* *uwaka* *k'a-dïlï* *ubuwa*
yesterday 1SG-give-DISTR meat DEM.DIS-CLF2 person
'Yesterday I gave each of those persons meat.'

(14) a. *wabï'ka* *nutyo-na-'ka* *wanu'we* *ïyak'ï*
woman pour-NEU-F.SG water gourd
'The woman poured water into the gourd.'
b. *wabï'ka* *nutyo-he-'ka* *wanu'we* *ïyak'ï*
woman pour-DISTR-F.SG water gourd
'The woman was pouring water into the gourd (little by little).'

(15) *ohni* *ni~su<hu>suh-ne* *kay-chadï-ne-'o*
he foot~ITE<INTNS>smell-NEU face-find-NEU-REP
'He kept smelling his tracks and got him again.'

(16) a. *sosohte* *yumani* *ya~ka<'a>ka-ne-'ka* *wabï'ka*
all night sing-ITE<INTNS>sing-NEU-F.SG woman
'The woman sang every night.'
b. *sosohte* *yumani* *ya~ka<'a>ka-na-'ke* *ïwabï*
all night sing~ITE<INTNS>sing-NEU-PL women
'The women sang every night.'

(17) a. *ubuwa* *ibah-ne* *ihwana*
person hit-NEU Juan
'The man hit Juan (once).'
b. *ubuwa* *bah-na-'ke* *ihwana*
person hit-NEU-PL Juan
'The man hit Juan (several times).'

The difference between (13a) and (13b) is the distributive marker *-he* in (13b), which marks the different 'giving-events' to each of the persons involved, whereas in (13a) there was just a single 'giving-event', in which, as my informants pointed out, the meat was given in one package. The sentences in (14) form another example of the difference in event number caused by the use of *-he*. Partial CV reduplication of the verb stem in combination with an intensifying infix, as in examples (15) and (16), is yet another strategy to render 'plural verbs' and, therefore, plural event number. In (17b), finally, the verb gets a plural reading by the addition of the pluractional marker *-'ke*.

3.2.2 Participant number

Participant number can be expressed by altering the verb stem through partial CV reduplication as in (18b), by different verb stems for singular and plural (19), verbal classifiers (20), or by pluractional markers as in (21).

(18) a. *sih-k'i-ma-doh-ne* *upa'u*
1PL.EXCL-INV-hand-bite-NEU dog
'The dog bit us on the hand.'
b. *sih-k'i-ma-do~doh-ke* *upa'u*
1PL.EXCL-INV-hand-ITE-bite-PL dog
'The dogs bit us on the hand.'

(19) a. *ah-may-sewa-na* *tyahka'kahka* *wa'ihna* *oli'-na*
3-SUBORD-see-NEU moon DM fall.SG-NEU
'When he saw the moon, he fell.'
b. *ispi'i* *soloh-ke* *wanu'we*
almost fall.PL-PL water
'They almost fell into the water.'

(20) a. *s-mi-chuwanano* *si-chobo* *abïte* *opi'i*
1SG.POSS-REL-compound be-CLF5 tree small
'There is a small tree in my compound.'
b. *nik'abï* *chokosno* *osi-bo* *abïte*
over.there forest be-CLF6 tree
mi-yu-so~lo<ho>loh-te *dih-ni-yumo'-te*
REL-CAU-fall~ITE<INTNS>fall-CONT 1PL.INCL-REL-eat-CONT
'There are trees over there in the forest that are dropping fruit all the time so that we can all eat.'

(21) a. *chaswada-'ke* *ihwana* *obeha*
shave-PL Juan sheep
'Juan shaved the sheep (SG).'
b. *chaswada-'cha'ke* *ihwana* *obeha*
shave-MULT Juan sheep
'Juan shaved the sheep (PL).'

(22) a. *isuh-ne* *upa'u* *uwaka*
smell-NEU dog meat
'The dog smelled the meat.'
b. *suh-na-'ke* *upa'u* *uwaka*
smell-NEU-PL dog meat
'The dog sniffed at the meat.'
c. *suh-na-'cha'ke* *upa'u* *uwaka*
smell-NEU-MULT dog meat
'The dogs sniffed at the meat.'

In (18b) the partial reduplication of the verb stem signals that more than one dog was involved in the biting incident as opposed to (18a), in which just one dog is involved.[3] Without the reduplication the free translation of *sihk'imadohke upa'u* would be 'The dog bit us (several times) on the hand'. As exemplified in (17), this implies that the pluractional marker *-'ke* does not denote participant plurality, but rather event plurality. In (19) the use of suppletive verb stems for singular and plural automatically leads to a distinction in participant number. In example (20a) the verbal classifier, *-chobo*, here attached to the existential root *si-* refers to a single, vertical and planted object, while *-bo* in (20b) refers to more than one vertical and planted object. Thus, in Itonama verbal classifiers are clear markers of participant number. In example (21), the use of different pluractional markers indicates a difference in participant number. Note that in (21a), the pluractional marker *-'ke* only refers to event number: it took Juan more than one 'shaving-event' to shave one sheep. In (21b), however, the marker *-cha'ke* indicates plural participant number, reflecting the number of objects involved. Example (22), finally offers another instance of the way in which the semantics of a verb may be changed by the use of different pluractional markers.

Going back to example (16) in the previous subsection, it is obvious that the feminine marker *-'ka* in (16a) indicates single participant number, while plural event number is indicated by the partial reduplication of the stem in combination with the intensifying infix *-'a*. In (16b) however, plural event number is indicated in the same way, while plural participant number is signalled by the pluractional marker *-'ke*. This implies that although *-'ke* usually denotes event plurality, the marker sometimes may denote participant plurality, especially when event plurality is already indicated by another strategy, as in the case of (16b).

(16) a. *sosohte* *yumani* *ya~ka<'a>ka-ne-'ka* *wabï'ka*
all night sing~ITE<INTNS>sing-NEU-F.SG woman
'The woman sang every night.'

b. *sosohte* *yumani* *ya~ka<'a>ka-na-'ke* *ïwabï*
all night sing~ITE<INTNS>sing-NEU-PL women
'The women sang every night.'

[3] While there is no intensifying infix in the case of participant number, it has been shown in examples (15) and (16) that partial reduplication of the verb stem in the case of event number is accompanied by an intensifying infix.

4 Conclusion

In this paper I have shown that in Itonama with very few exceptions nominal plurality is not expressed; instead morphemes associated with plural meaning are affixed to the verb. Cross-linguistically the most common means of forming these so-called 'plural verbs' are reduplication, affixation, and suppletion (Cusic 1981: 72).

As shown in the previous section, there are indeed several possibilities to mark event and participant number on the Itonama verb: partial CV reduplication of the root – either in combination with (event number) or without an intensifying infix (participant number) –, suppletive singular and plural verbs, and classifiers. Moreover, Itonama makes use of a number of pluractional morphemes, which seem to be related exclusively to verbal number, be it event number, participant number, or both. One of these morphemes, *-'ke* seems to apply to this last category. As listed in Table 2, the markers have a different formal expression in dependent constructions.

Table 2. Pluractional markers in Itonama

INDEPENDENT	DEPENDENT	GLOSS	VERBAL NUMBER
-na[4] *-ne* *-tya*	*-ko* *-na* *-tyo*	neutral	neutral
-'ke	*-cha, -tyo*	plural	event number & participant number
-te/-tye	*-cha*	continuative	event number
-he	*-cha*	distributive	event number
-cha'ke	*-cha'cha*	multiple	event number & participant number

Verbal number or pluractional markers can take a wide scope of readings and there is an urgent need for a more standardized terminology. Not only are several different terms in use, but some of these terms are used in very different senses by different authors (cf. Cusic 1981; Lasersohn 1995). The steadily growing amount of new data from previously undescribed languages, especially in South America, calls for an even more urgent

[4] Although the marker *-na* appears in the same position as the other pluractional markers (i.e. right after the verb stem), it seems to play a neutral role as far as verbal number goes. The reason that *-na* has two allomorphs, *-ne* and *-tya*, has to do with the fact that Itonama has different verb classes.

standardization of terminology. It would facilitate the analysis of verbal number, a neglected category in most grammars of South-American indigenous languages.

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Object cross-reference in Leko

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1 Introduction[1]

During the second half of the sixteenth century both civilian and missionary expeditions went in search of gold and converts into the lowland Moxos area, in Bolivia. They used the paths that had been followed by the Incas a century before to cross the Andean eastern slopes, a rough mountainous zone where the 'Chunchos' lived. The term *chuncho* was used as a cover term for any 'uncivilized' and thus 'dangerous' group of lowland Indians. Today, it reflects the general disdain that highland people, from Spanish, Aymara or Quechua background, feel for lowland Indians. The Leko were one of these ethnic groups that were contacted by the Spaniards early after the conquest, but nevertheless scarcely any information, ethnological or linguistic, can be found in the sources.[2] The major published source on the language, apart from the small word lists in Lázaro de Ribera (Palau & Saíz 1989), Wedell (1853), Cardús (1886), Brinton (1946) and Montaño Aragón (1987), is a

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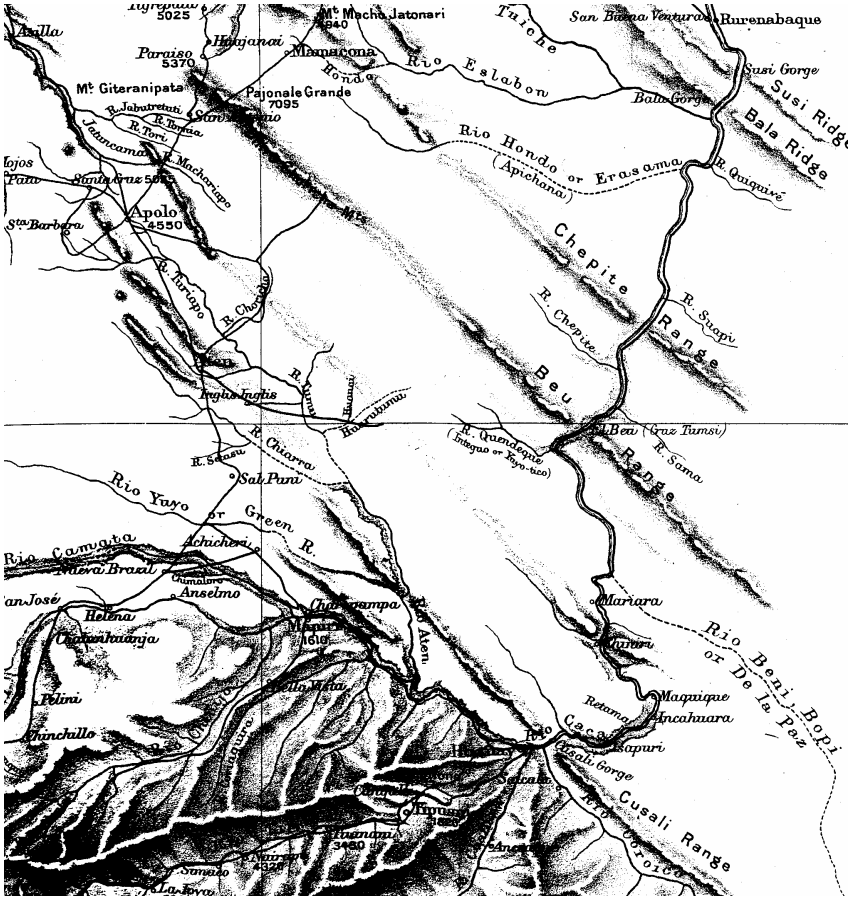
[2] This is the case with almost all of the indigenous languages in this area. At the beginning of the previous century Schuller (1917, xcii) wrote: "All those Indian languages of central, eastern, and northern Bolivia have not yet been studied methodically and systematically. No corner of South America is less known than the *habitat* of the Moseteno (close neighbours of the Leko – SvdK) and adjoining parts, especially as far as the native Indian languages are concerned. Of all these Indian languages, we possess vocabularies, accompanied by short grammatical sketches, of Tacana, Cavineño and Leco only." Since then, the situated has not improved, and although Schuller forgot to mention La Cueva's (1893) description of Yuracare, the only serious linguistic work on one of these unknown languages in the last century has been done on Cayuvava (Key 1967). By now, almost all of the ethnic groups have been incorporated into mainstream Bolivian lowland culture and have shifted to the use of Spanish for daily interaction, with the effect that almost all the languages of this region are by now extinct or moribund. Only recently there is both political and scientific attention for the lowland Bolivian languages as a result of the growing self-consciousness of the different ethnic groups, the ensuing territorial claims, and the policy of bilingual education (Crevels 2002).

Christian doctrine composed by the missionary Andrés Herrero in the beginning of the nineteenth century. The Leko doctrine has been published by Lafone Quevedo (1905, a reinterpreted version is presented in van de Kerke 1999), who used it as the major source for a short grammatical sketch of the language. His work has remained the only serious analysis of Leko, since no other linguistic study of the language has been undertaken in the last century.

In Grimes (1988), Leko, classified as an isolate, was reported to be dead. However, Montaño Aragón (1987) reported a number of speakers in the region of Atén and Apolo in the province of Franz Tamayo and along the river Mapiri in the province of Larecaja, both in the Andean foothill region (the eastern slopes), to the north of La Paz, Bolivia. In 1994, responding to an appeal in Adelaar (1991) to investigate the possibility that speakers of the Leko language might still survive, I undertook a fieldwork trip to Bolivia. A thorough search in the region of Atén and Apolo was in vain, but I contacted some elderly men and women on the Mapiri river, who spoke a language that, on the basis of the existing data, could be characterized as Leko.

Short visits in the following years produced much more language data. Collecting these data was a time-consuming affair, since the informants, most of them male and over 60 years of age, had not spoken the language for over 40 years. The reader should keep in mind that Leko is a moribund language: all the language data were produced by elderly people who stopped speaking the language in their youth and learned it in a situation of diglossia with Spanish as the language of prestige. One of the major problems is the fact that the last Leko speakers who are willing to speak the language live dispersed along the river. When they are brought together they do not feel free or are not able to enter into spontaneous conversation with each other in Leko. So, until recently, all my data were the result of elicitation. It was only in 2001 that an informant, whom I contacted in 2000, was able and willing to tell me a number of stories in Leko. So, we have to accept that there is still a lot we do not know and probably never will know about Leko. Partial analyses of some striking characteristics of Leko have been presented in van de Kerke (1998, 2000 and 2002) and the purpose of the current article is to present an overview of the role of object cross-reference in this understudied Bolivian *pie de monte* language. It will be shown that Leko heavily depends on object cross-reference markers to take the place of full referential NPs. In this sense they act like pronominal elements, but the problem is that their use is not unconstrained and not fully predictable. It will be shown that the realization of the object cross-reference markers is the result of an intricate interaction between semantic, syntactic, and pragmatic factors.



Map 1. The Leko habitat (part of the map of the 1901/1902 Caupolican expedition led by J.W. Evans; cf. Evans 1903).

2 The Leko language: some relevant characteristics

Leko is an agglutinative language that predominantly employs suffixes. It has four major word classes: noun, verb, adjective, and adverbial. It looks like a Nominative/Accusative language and it has a number of other overt case markers. As in many other case-marking languages, word order is relatively free, although objects tend to precede the verb. Generally modifiers precede their heads. Leko does not have determiners, but demonstratives and adjectives precede the noun, adverbials precede the adjective they modify, and the possessor precedes the possessum.

In (1) an example of a well-formed sentence is given. Since Leko is a pro-drop language, the realization of the personal pronoun *chera* 'we' is optional. The verbal root *du-* 'speak' is modified by one of the derivational verbal suffixes *-kama* 'to be able', which is followed by the tense marker *-te* and the first person plural marker *-an*. The direct object of 'to speak' is *burua*. This is the name which the Leko speakers on the Mapiri river sometimes use to refer to their own language. Normally they use the term *dialecto* 'dialect', like other people along the river who are aware of the existence of the language. Then follows the verbal root *da-* 'to want', which is modified by the negation marker *-in*, the main tense and the first person plural marker. It selects an infinitival complement marked by *-ch*. Note that neither the direct object nor the infinitival complement is marked for case.[3]

(1)	*(chera)*	*du-kama-te-an*	*burua*	*da-in-te-an*	*du-ch*	
	we	speak-be.able-MT-1PL	Leko	want-NEG-MT-1PL	speak-INF	
	'We were able to speak Leko, but we do not want to speak (it).'					

Leko has different cross-reference paradigms to mark person of subject and object on the verb. In some cases subject marking fuses with the marking of tense, in not yet fully understood ways, but in the present tense paradigm the suffixes used as subject markers can be easily recognized. In (2) the subject pronouns are added for convenience, but they may be dropped, as I have argued above:

(2)	*era*	*du -no -to:*	'I speak'
	iya	*du -no -te -n*	'you speak'
	kibi	*du -no -te*	'he speaks'
	chera	*du -no -te -an*	'we speak'
	heka	*du -no -te -noh*	'you.PL speak'
	kibi-aya	*du -no -aya -te*	'they speak'

For all persons the verbal root *du-* is followed by, what I will argue below is, a nominalizing element *-no*. The suffix *-te* is nothing but an auxiliary element marking Main Tense and functions as a landing site for the person marker: 3rd

[3] The following abbreviations are used: CAU = causative, COM = comitative, DAT = direction/benefective, DES = desiderative, DUR = durative, GEN = genitive, HOR = hortative, HSAY = hearsay, INF = infinitive, (IN)TR = (in)transitive, LOC = location, MT = main tense, NEG = negation, NOM = nominalizer, O = object, PL = plural, POT = potential, PP = past participle, PST = past tense, Q = question marker, REC = reciprocal, SG = singular, TOP = topicalizer, and VOC = vocative.

person is zero marked, 2PL by *-noh*, 1PL by *-an*, 2SG by *-n*. Since we do not find *-te* in 1SG, I assume that the marker *-o*, that we find in other paradigms for 1SG expression, has been fused with *-te* into *-to:*.

Object cross-reference is realized by means of a prefix on the verb. In (3) we find the root of the verb *sohich* 'to look at', followed by the durative marker *-cha*, and the tense and person markers presented in (2). The object marker consists of a (C)V sequence. The vowel, in almost all cases, is a copy of the first vowel of the root. The preceding consonant is /y/ in the case of first person, and /d/ in the case of third person singular objects. Second person singular objects are marked by the mere realization of the vowel. In the plural the preceding consonant is /ch/ for first person and /h/ for second and third person, as shown below:

(3)	*era*	*o-*	*soh -cha -no -to:*	'I am looking at you'
	iya	*yo-*	*soh -cha -no -te -n*	'you are looking at me'
	kibi	*do-*	*soh -cha -no -te*	'he is looking at him'
	chera	*ho-*	*soh -cha -no -te -an*	'we are looking at you.PL'
	heka	*cho-*	*soh -cha -no -te -noh*	'you.PL are looking at us'
	kibi-aya	*ho-*	*soh -cha -no -aya -te*	'they are looking at them'

What kind of arguments trigger object cross-reference marking is the central issue that will be addressed in the following section. Apart from the paradigm in (3), there is a slightly different paradigm for the marking of dative/ benefactive 'objects'. Instead of a harmony vowel, the dative/benefactive objects contain a fixed /i/ vowel followed by a nasal /n/, as shown in (4):

(4)	1O	*yV-*	1DAT	*yin-*
	2O	*V-*	2DAT	*in-*
	3O	*dV-*	3DAT	*din-*
	1PL.O	*chV-*	1PL.DAT	*chin-*
	2PL.O	*hV-*	2PL.DAT	*hin-*
	3PL.O	*hV-*	3PL.DAT	*hin-*

It is noteworthy that, with the exception of the 3rd person, the object cross-reference markers are also used to derive nominal possessive forms. In (5), the paradigms of both inalienable and alienable nouns are presented. The main difference is the fact that in combination with inalienable possessed nouns the person marker is attached to the noun, while in combination with alienable possessed nouns the person marker is followed by *-moki*, the genitive and purposive case marker:

(5)	*yo-*	*bora-aya*	‘my friends’	*yo-moki*	*kuchi-aya*	‘my dogs’
	o-	*bora-aya*	‘your friends’	*o-moki*	*kuchi-aya*	‘your dogs’
	ko-	*bora-aya*	‘his/her friends’	*ko-moki*	*kuchi-aya*	‘his/her dogs’
	cho-	*bora-aya*	‘our friends’	*cho-moki*	*kuchi-aya*	‘our dogs’
	ho-	*bora-aya*	‘your.PL friends’	*ho-moki*	*kuchi-aya*	‘your.PL dogs’

Note that *-aya* marks plurality on nominal elements: cf. *bora-aya* ‘friends’ in (5) and *kibi-aya* ‘they’ in (2). This is one reason to assume that Leko heavily relies on nominalization of verbs, cf. *sohchanoayate* in (3), where one finds *-aya* after what I therefore analyze as a nominalizing element *-no*. Further evidence for such an analysis is the fact that we may find the derived verb with *-no* as an adjectival relative clause modifying a noun, and even as an independent nominal phrase followed by a case marker, as shown in (6):

(6) a. *chilchis-no* *(yobas)-ki* *di-min-a-te*
dance-NOM (man)-DAT 3O-see-PP-MT
‘I have seen the dancing (man)/dancer.’

b. *soboto-ki* *di-min-a* *ka-te* *henwai* *kis-no-ki*
soboto-DAT 3O-see-PP be-MT spider kill-NOM-DAT
‘He has seen the soboto (a giant flying insect) who killed spiders.’

In (6a) the noun *yobas* ‘man’ is optional, while in (6b) one sees that heavy relative clauses may be dislocated. The last obvious reason to analyse *-no* as a nominalizer is that we then have an explanation for the fact that the possessive markers in (5) are, with the exception of the third person marker, identical to the object markers presented in (4).

3 Object cross-reference

These two features of Leko, the nominal possessive and the verbal object cross-reference systems as presented in (4) and (5), are very striking, cf. the first line of the Herrero doctrine (the first two lines are copied from Lafone Quevedo, the last three represent my reinterpretation):

(7)	*Yachipaique*	*aya*	*yebanocui*	*Dios*	*nem?*
	¿Hijos mi	os	decidme	Dios	hay?
	ya-atspai-ki-aya		ye-eba-noku-i	Dios	ne-no-n
	1SG-child-GEN-PL		1O-tell-HOR-VOC	God	be-NOM-Q

‘My children, tell me, does God exist?’

Lafone Quevedo (1905: 51) correctly analysed /i/ or /y/ for first person possessive in *yatspaiki* and /ye/ as the first person object marker 'me' in *yebanocui*: 'I o y es partícula inicial de primera, el *me*, del romance' ('I or y is the initial particle for first person, the *me*, from romance' (translation mine – SvdK)). While he observed the paradigmatic character of the nominal person marking system, he did not notice the small number (some six or seven) of other object cross-reference markers that occur in the text, and by consequence he was not aware of the fact that the paradigms of possessive and object marking are almost identical.

Although the data that were provided to me by my informants made me aware of the existence of object marking from the beginning of my fieldwork, the exact operation of the process remained quite unclear. Object marking is also operative in the process of textual cohesion, i.e. topicalization, and elicited data do not give much evidence on such pragmatic conditions. It was only in 2001 that I was able to tape a number of spontaneously produced texts with Cerilo Figueredo from Karura. The analysis of object marking that will be presented below is mainly based on one of these texts, Tomaku, the Bear Story. This tale has a wide distribution all over the Andes and is also known by other groups who live in the Andean foothill region, cf. the Asheninca version in Weber (1987).

3.1 The distribution of cross-reference markers in Tomaku, the Bear Story

This version of the story is about half an hour long. Although the data presented below are based on rough and impressionistic counting, the tendencies are clear. As one can imagine, there is quite some Spanish in the text, but the purely Spanish phrases have been left out of the computation. The text contains 1800 words, in some 300 simple and complex expressions. These expressions contain 400 verb forms based on 103 verbal roots. 26 of these roots are Spanish loan verbs that are the target for object cross-reference marking just as easily as Leko roots. Of these 26 Spanish roots, 17 (65%) were used only once in the text. Of the remaining 77 verbal roots, 5 were clearly shared with Quechua/ Aymara: *tapusich* 'ask', *lamkasich* 'work', *yampasich* 'help', *yatesich* 'learn', *kuch* 'give'. Of these 77, 26 (only 35%) occurred once.[4]

[4] This is the same, at face value, counter-intuitive fact that I encountered in the analysis of texts of bilingual Quechua speakers. Both Quechua and Leko rely on rich verbal derivation to express complex meanings, something that is achieved in Spanish by lexical means (the total number of lexical verbs is higher). It might be the case that when these speakers, faced with the problem of having to express a com-

Of the total of 400 verb forms, some 170 are based on an intransitive root (40%). From the remaining 230 based on a transitive root, 135 contain an object cross-reference marker (60%). Some 25 of these are dative markers (20%), half of them realized on the verb *moch* 'to say'. The important point is that the remaining 110 object markers represent half of the 205 transitive verb forms on which an object cross-reference could have been realized. So, although we see that object cross-reference is an important process in the language, it does not seem to be a purely syntactic process, which one would expect to be exceptionless. Below I will address the question which factors may condition the absence or presence of a cross-reference marker.

3.1.1 Object cross-ceference

The main target for object cross-reference is a patient argument of a transitive action verb, as shown in (8):

(8) *yo-noko* *(era-iki)* *ye-kel-a* *ka-te*
1SG-brother (1SG-DAT) 1O-hit-PP be-MT
'My brother has beaten me up.'

Other viable targets are the goal/recipient argument of the following ditransitive verbs: *kuch* 'to give', *ebach* 'to tell', *tapusich* 'to ask', *kontestasich* 'to answer', and the objects of a class of, what I call, directional verbs like *dach* 'to want', *sohich* 'to look at'. The Spanish loan verb *bostasich* 'to like' is also a, somewhat deviant, member of this class:

(9) *on* *kathi* *(era-iki)* *yo-bostas-in-te*
that chicha (1SG-DAT) 1O-like-NEG-MT
'I don't like that chicha (maize beer).'

Note that the argument in the scope of the cross-reference marker, if it is lexically realized, must be marked with the case marker *-ki* and normally refers to an animate, preferably human, entity.

3.1.2 Dative cross-reference

The verbs *duch* 'to speak', *chosich* 'to lie', *somduch* 'to chat', *koschoch* 'to annoy', *osaich* 'to abuse' are second-place verbs, the second argument of

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plex meaning are not able to do so with the means provided within the Quechua/Leko system, switch to their second language and make use of a more specific lexical entry stored in their Spanish lexicon.

which must refer to an animate entity which is also obligatorily marked with *-ki*. Just like the verb *moch* 'to say', one would expect these verbs to behave like *ebach*, *tapusisch* and *kontestasich* that refer to the preferably human goal argument by means of an object marker, but in reality they are always found with a dative cross-reference marker. I assume that these verbs subcategorize for a dative.

Arguments which are often analyzed as a special case of datives, and which almost always refer to an animate entity, are benefactives and malefactives. Such secondary affected persons may be case-marked with *-ki*, but this occurrence is in free variation with the purposive/genitive case marker *-moki*. I therefore analyze *-ki* in these cases as a reduced form of *-moki*. In this way, we may account for the fact that these arguments have the status of an adjunct and are referred to by means of the set of dative cross-reference markers. In fact, one may find a dative marker on almost any verb as an ethical dative marker, cf. (10):

(10) *on kuchi senen tanta yin-k'o-aka-te*
that dog all bread 1DAT-eat-PP-be-MT
'That dog ate all the bread, to my detriment.'

3.2.1 Object cross-reference in causative constructions

Object cross-reference marking often occurs in causative constructions, because these are inherently transitive. The morpheme /*ki*-/ functions both as a lexical verb with the meaning 'to make' and as a causative suffix (incorporated verb). The object of the lexical verb normally does not refer to animate entities (unless the subject refers to gods, parents and their like), but Leko has a large number of postural elements that combine with the auxiliary *kach* 'to be' or *kich* 'to make, to do':

(11)	*bar*	'flat'	*bar kach*	'lie flat'	*bar kich*	'lay flat'
	cha	'seated'	*cha kach*	'sit'	*cha kich*	'set'
	thes	'standing'	*thes kach*	'stand.INTR'	*thes kich*	'stand.TR'
	lewa	'hanging'	*lewa kach*	'hang.INTR'	*lewa kich*	'hang.TR'

The combinations with *kach* are intransitive. The combinations with *kich* are transitive and by consequence viable targets for object marking, realized on the lexical verb, cf. (12b):

(12) a. *thaq-te* *cha* *ka-cha-no-te*
stone-LOC sit be-DUR-NOM-MT
'He is sitting on the stone.'
b. *thaq-te* *cha* *di-ki-a* *ka-te*
stone-LOC sit 3O-make-PP be-MT
'He made him sit on the stone.'

Given the paradigmatic alternation between *kach* and *kich*, it is clear that Leko easily allows nominal elements that in Spanish combine with *hacer* 'make' to be combined with *kich*, as shown in (13):

(13) *hacer caso* *kaso kich* 'obey'
hacer daño *dañu kich* 'cause damage'
hacer bulla *bulla kich* 'make noise'

Object markers are realized on the main verb, which is a reason not to analyze these combinations as cases of noun incorporation:[5]

(14) *carambas* *heka* *dañu* *yi-ki-a* *ka-te-s* *misi-aya*
damn you damage 1O-make-PP be-MT-PL cat-PL
'Damn, you have caused me trouble, you cats.' (Bear Story)

When *-ki*, as a causative suffix, is attached to a lexical verb, the object marker is realized to the left of the derived verb:

(15) a. *hachu* *hete -cha -no-te*
sugarcane carry-DUR-NOM -MT
'He is carrying sugarcane.'
b. *hachu* *he-hete-ki-cha-no-te*
sugercane 3O-carry-CAU-DUR-NOM-MT
'He is making them carry sugarcane.'

[5] A special case is found in the combination of the Spanish loan *faltaskich* 'hacer falta', which selects a dative marker which precedes the whole verb:

(i) *choswai-ki* *din-faltas-ki-in-mono-te* *k'och*
woman-DAT 3DAT-lack-CAU-NEG-HSAY-MT food
'He did not let the woman be short of food, one says.' (Bear Story)

These object marking facts also gave me the clue that apart from *-ki*, *-tar* is an element with a causative function. When the verb *koschoch* is realized as an intransitive verb with the meaning 'to be annoyed', the affected person has to be referred to by means of a dative marker. However, when it is combined with the suffix *-tar*, the affected element is realized by means of an object marker, just as we found in the causative *-ki* derivations:

(16) a. *din-koscho-a-mono* *ka-te* *fuerte* *polo-aya*
3DAT-annoy-PP-HSAY be-MT strong puma-PL
'The pumas really annoyed him, it is said.' (Bear Story)
b. *tomako tomako osito osito* *on* *do-koscho-tar-no-aya*
that 3O-annoy-CAU-NOM-PL
'Tomaku, Tomaku, little bear, bear, they made him annoyed.' (Bear Story)

3.2.2 Object marking in other higher verb constructions

In the text no realization of the verb *dach* refers to the lexical verb 'to want' with a direct object. All instances refer to the modal verb that selects an infinitival sentential object. Leko seems to allow both for a same subject as well as a disjoint interpretation of the embedded subject, although no object marker is realized:

(17) *ha-ache-ki-ne* *da-in-mono-te* *ni* *ubus-ich* *hekor*
3PL-dad-GEN-TOP want-NEG-HSAY-MT not leave-INF outside
a. 'Their father did not want them to go outside.' (reading in Bear Story)
b. 'Their father did not want to go outside.' (possible reading in Spanish)

In the text I found another example that shows that there is an unambiguous way to express the meaning of (17a) in Leko, with an extra causative on the embedded verb. This might, in fact, be the only correct way:

(18) *korwa-ra* *chu-ubus-ki-ch* *da-in* *mo-no-mono-te*
door-LOC 1PL.O-leave-CAU-INF want-NEG say-NOM-HSAY-MT
'It is said that she (the mother) said: he does not want to let us leave the door.' (Bear Story)

A completely different picture emerges in constructions with the Spanish loan verb *dejasich* 'to let', which seems to be an object control verb both in Leko and in Spanish:

(19) *on oso-n de-dejas-in-mono-te ubus-ich hekor*
that bear-TOP 3O-let-NEG-HSAY-MT leave-INF outside
'The bear did not let him/them go outside.' (Bear Story)

3.2.3 Object cross-reference in small clause constructions

I have also encountered object cross-reference markers in what may be analyzed as small clause constructions:

(20) *a-paus-a-te (u-)us*
2O-forget-PP-MT (2SG-)name
'I have forgotten your name.' (Bear Story)

Of course, an expression like *apausate* is correct: 'I forgot you'. So one could argue that (20) is nothing else than a special case of this object construction. I think it is preferable to assume that we encounter a small clause construction here: 'I forgot you (with respect to) your name'. A similar analysis may be relied on to account for the contrast in (21):

(21) a. *heka ya-awantas-in-kama-te-noh*
you 1O-stand-NEG-be.able-MT-2PL
'You cannot endure me.'
b. *heka-n ni ber puñete ya-awantas-in-kama-te-noh*
You-TOP not one punch 1O-stand-NEG-be.able-MT-2PL
'You cannot endure me one punch.' (Bear Story)

As we see in the first line, the Spanish loan verb *aguantar* 'endure' may be combined with an object marker. However, in the second line we find the verb also in construal with *ber puñete* 'a punch', so we end up with two objects unless we assume a small clause: [I punch].

3.3 The relation between case, animacy and object cross-reference

Discussing (1) above, I stated that direct objects in Leko are not overtly marked with Case. This is in accordance with the fact that *henwai* 'the spider(s)', the direct object of *kisich* 'to kill' in (6b), is not case marked. However, in relation with (8), I later argued that the main target for object cross-reference was a patient argument of a transitive verb that had to be marked with the case marker *-ki*, exemplified by the object of the verb *minich* 'to see' in the very same sentence (6b), repeated here for convenience:

(6b) *soboto-ki* *di-min-a* *ka-te* *henwai* *kis-no-ki*
soboto-DAT 3O-see-PP be-MT spider kill-NOM-DAT
'He has seen the soboto (large flying insect) who killed spiders.'

This contradiction has to be explained and I will argue that it is not a fortuitous fact that the argument that is case marked is cross-referred to by means of an object marker on the verb, while the object without a case marker is not.

In van de Kerke (2000), the case marker *-ki* was analyzed as the 'dative' marker. It is in particular used to mark indirect objects, the animate third argument of ditransitive verbs. To account for the fact that the object of verbs like *sohich* 'to look at' and *dach* 'to want, to like' are realized with *-ki* and are referred to by means of an object marker, I argued that both these and the third argument of the ditransitives might be analyzed as directional arguments. We might push this argument a little further and argue that the second argument of *minich* 'to see' is also a directional argument, but I think that one would push it too far if one would like it to hold for the patient argument of a verb as well. This would be in line with the fact that in (6b) the object of *kisich* 'to kill' is not case marked and not referred to by an object marker, but (8) and (22) show that this argumentation cannot be correct:

(22) *ya-yanas-cha-a-ra* *di-kis-kam* *ho* *animal-ki*
1O-gain-DUR-PP-LOC 3O-kill-be.able this animal-DAT
'When he is beating me, let's kill him, that animal.' (Bear Story)

This also holds for an alternative analysis that one could suggest on the basis of (6b): objects of embedded verbs cannot be case marked and cross-referred to. The embedded verb *yayanaschara* 'when he is beating me' in (22) carries a cross-reference marker and the personal pronoun *era-iki* 'me-dat' could have been realized just as in (8), if Leko were not a pro-drop language. Given the fact that, prototypically, directional arguments represent animate entities, one might hypothesize that it is preferable to analyze *-ki* as an animacy marker, which would also entail that such arguments are the target for object cross-reference marking. This cannot be the full story since the objects in (6b) are both animates. There must be other ways to differentiate between such objects and I want to conjecture that we find here an interaction with definiteness and referentiality/topicality, two other factors in the definition of what I will call *saliency*. In (6b), the speaker tells about the fierceness of one 'soboto', who is the topic of the story, while the 'spiders' are not individuated and are only presented as a heap of victims. The saliency spectrum goes from low (an indefinite non-referential/non-topical inanimate) to high (a first or second

person, who is by definition definite, referential and topical). The latter are, in principle, always marked with *-ki* and cross-referred to by an object marker, the first never are. It is in between these two extremes that the speaker can make choices in his presentation.

When the story tells about how Tomaku's mules are eaten by pumas, and the speaker goes into detail on how Tomaku fights with one of these pumas, almost kills him and then ties him with a lasso, we encounter case and cross-reference markers. After all, he seizes a group of ten to force them to do the job of carrying firewood home, but then we do not find *-ki* marked on the object, nor an object marker on the verb:

(23) *polo-ki-n ber puñete di-ki-a di-kis-bats-a-mono-te...*
puma-DAT-TOP one punch-3O-do PP-3O-kill-almost-PP-HSAY-MT
…*polo-ki-n bar di-ki-a-mono ka-te lehleh ka-cha-no…*
puma-DAT-TOP flat 3O-make-PP-HSAY be-MT shiver be-DUR-NOM
…*laso-ra de-hep-ka-a-mono on polo-ki…*
lasso-LOC-3O-grab-be-PP-HSAY that puma-DAT
…*polo hep-ki-a-mono diez polos hep-ka-a-mono ka-te…*
puma grab-CAU-PP-HSAY ten pumas grab-be-PP-HSAY be-MT
'He gave the puma a punch, he almost killed him, it is said; he laid him flat, that puma, it is said; he was shivering; with a lasso he tied him, that puma. Pumas he grabbed, it is said, (a group of) ten pumas he grabbed, it is said.' (Bear Story)

In the last line *polo* 'the pumas' is animate and forms the topic of the story, but it is an indefinite and non-referential nominal phrase. This also suggests the reason why we do not find a case and an object marker in the following fragment:

(24) *on-da ber nasion-ne kondenado k'o-cha-no-mono ch'aya*
that-LOC one nation-TOP condemned eat-DUR-NOM-HSAY people
'There is another nation, one says, where the condemned is eating people.' (Bear Story)

Since *ch'aya* 'people', the object of the verb *k'och* 'to eat', is introduced for the first time, it is by definition not specific (people and not *the* people) and non-referential. The object is not marked with *-ki*, with the consequence that it is not referred to by means of an object marker. In the whole Tomaku text, the noun *ch'aya* occurs three times in object position, but it is never referred to by means

of an object marker, since it is by implication an indefinite. This does not prevent it to be case marked with *-ki*, as we may conclude from another story:

(25) *baykia hep'aq-ne cho ki-no ch'aya-ki thah-no atspai-ki…*
big ant-TOP itch CAU-NOM people-DAT bite-NOM child-DAT
…thah-no yobas-ki-as thah-no on hep'aq
bite-NOM man-DAT-also bite-NOM that ant
'The big ant (type) makes one itch, it bites people, children; it bites, it also bites men, that ant.' (Ant Story)

In this fragment we see that *ch'aya* 'people' is treated in the same way as *atspai* 'child' and *yobas* 'man'. As objects of the verb *thahich* 'to bite', they are case-marked but these nouns are not referential and thus cannot be referred to by means of a cross-reference marker. A comparable case is found in the following fragment:

(26) *chera hote-te-an ho lal-da dañino-aya soboto on-ne…*
we with-MT-1PL this earth-LOC harmful-PL insect that-TOP
…on soboto-n kis-no-te k'eso-ki kis-no-te henwai-ki…
that insect-TOP kill-NOM-MT snake-DAT kill-NOM-MT spider-DAT
…kibi kel-mo-cha-a-ra k'eso-i hap k'eso-i…
he beat-REC-DUR-PP-LOC snake-COM hap snake-COM
…on-chka do-soh-in-kama-te ni ha-ka on animal-ki…
that-near 3O-look-NEG-be.able-MT not who-as that animal-DAT
'We have in this region harmful creatures, one is the soboto; that soboto kills snakes, it kills spiders; at the moment it is fighting with a snake, with a *hap* snake from nearby no one can look at him, at that animal.' (Soboto Story)

Just as in the preceding example we see that generic NPs like *k'eso* 'snake' and *henwai* 'spider' may receive a case marker, but there is no object cross-reference on the verb. The case for the *soboto* is completely different. In the first line it is introduced as a generic NP, and it then becomes the topic of the story. It is still generic in interpretation, but it may be referred to by means of a subject pronoun in the third line. It is so salient that it is referred to by means of an object cross-reference marker when it is presented in the last line as the object of the verb *sohich* 'to look at'.

Generally, human third persons are much more individuated. When they are introduced in the text and become the subject of discussion (topic), they are normally cross-referred to by means of an object marker, but not always:

(27) *ne-no taaq ber yobas, ber yobas-ne choswai-hote taaq-te…*
be-NOM PST one man one man-TOP woman-with PST-MT
…on yobas-ki, kibi nos lamkas-no taaq-te,…
that man-DAT he far work-NOM PST-MT
…ko-moki choswai-ne nu-no taaq-te ki-ich-ra…
3SG-GEN woman-TOP-send NOM-PST.MT 3SG-field-LOC
'Once there was a man, that man used to be with a wife (married), that man, he used to work far away, his wife used to send (him) to his/her field.' (Bear Story)

In the third line of (27) the direct object *yobas* of the verb *nunich* 'to send' should have been cross-referred to by an object marker on that verb. The referent is human, it is the topic of the story and is marked with *-ki* case. However, this fragment represents the introduction of the story and in the first line the stage is set for 'a man', of whom we are immediately informed that he has 'a wife'. So, both of them are viable topics for further information. It is in this unclear situation that the speaker wants to create a very complicated expression by fronting the direct object, then adding extra information to facilitate a good interpretation of what follows, then realizing that the subject of the clause picks up information that has recently been given and therefore has to be topicalized. Given this clash, it might be the case that not all conditions for cross-reference were fulfilled, possibly by a locality constraint.

The reverse situation is presented in (28). In other texts, I encountered instances of highly salient inanimate objects marked with *-ki*, but in the whole Tomaku story not one inanimate object is marked with *-ki*. I found only one clearcut case of an inanimate object that is referred to by means of an object cross-reference marker, presented in (28). The few other cases involved body parts which are by nature almost as animate as the body they are part of.

(28) *ber mesa chika-la phel-a mesa-te sok'och chika-la soncho-no...*
one table very-well lay-PP table-LOC food very-well smell-NOM
…hichis-cho-no tomaku on do-k'o-a-mono ka-te…
hunger-DES-NOM that 3O-eat-PP-HSAY be-MT
'There was a table very well laid out, on the table food, very well it smelled. He felt hungry, tomaku; he ate it, it is said.' (Bear Story)

In the first line of (28), *sok'och* 'food' is introduced as an indefinite. Then follows the reason for the subsequent 'eating' event, and although the noun is not repeated we know that 'the food' is topicalized and definite, since it is referred to by means of an object marker.

4 Conclusion

The present overview has shown that Leko heavily depends on object cross-reference markers to take the place of full referential NPs. In this sense they act like pronominal elements, but the problem is that their use is not unconstrained and not fully predictable. The constraints are syntactic/semantic but also pragmatic. Object cross-reference is restricted to the patient argument of transitive and the goal argument of ditransitive verbs. Syntactically, this is visible in the strong coincidence between *-ki* and object marking, since the latter may only occur when an argument with *-ki* is realized or could have been realized. With the ditransitives, object cross-reference with the goal is almost obligatory since this argument almost always refers to a human entity. It is with the patient argument of normal transitive verbs that we find variation which is induced by an animacy hierarchy in combination with a definiteness effect. We may rely for Leko, just as for so many other languages, on a hierarchy as in (29):

(29) human (1ps, 2ps > 3ps definite) > animate definite > inanimate definite

In combination with topicalization this boils down to a saliency hierarchy: speaker and addressee are always salient. Third persons, either human or animate may be highlighted and become salient, just as inanimates but normally to a rather low degree. So we see the higher end of the hierarchy exemplified by a human object in (6a) and an animate object in (6b), both marked with *-ki* and cross-referred to by an object marker. The lower end is exemplified by an indefinite animate object in (6b), an abstract and a sentential object in (1), all of them without case-marking and without cross-reference marking on the verb.

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Stative verbs vs. nouns in Sateré-Mawé and the Tupian family

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1 Introduction[1]

Mawé (or Sateré-Mawé) is a Tupian language with approximately 5,000 speakers living mostly along the Marau and Andirá rivers in the states of Amazonas and Pará, in Brazil. Several studies have already sketched analyses of aspects of Mawé morphosyntax: Graham *et al.* (1984), Rodrigues & Dietrich (1997, based on data from Graham *et al.* 1984), and, more recently, Franceschini (1999, 2002).

The present study concentrates on the topic of the so-called **stative verbs** and their morphosyntactic properties. This topic has been discussed in the literature, though not in much detail. Graham *et al.* (1984: 188) mention

[1] There are different Mawé orthographies currently in use; the transcription used here basically adopts the most widespread orthographic features, with the exception of long vowels, usually either left unmarked or written as vowels with a macron (e.g., [su:] 'blood', written as *su* or *sū*), and here transcribed as sequences of identical vowels (*suu*). Symbols that deviate from IPA usage are *y* [ɨ], *g̃* [ŋ], *r* [ɾ], *j* [j], and *'* [ʔ] (frequently realized as laryngealization of the surrounding vowels). Stress falls usually on the last syllable. The data in this paper were gathered in four field trips to the Mawé-speaking area in 2001, 2002, 2003, and 2004, financed by the Max-Planck Institute for Psycholinguistics in Nijmegen, the Netherlands, the Netherlands Royal Academy of Arts and Sciences (KNAW), and the DoBeS (*Dokumentation bedrohter Sprachen*) program of the Volkswagen Foundation. Language names with final stress are written with acute accent: Mawé, Awetí, etc., following a convention normally used in Brazil. The abbreviations used in the glosses are: 1 = first person, 2 = second person, 3 = third person, 3R = third person possessive or coreferential, A = agent of transitive verb, ARG = argumentative (case), AUX = auxiliary, CAU = causative, CL = class marker, COM = comitative, COP = copula, DECL = declarative, DEIC = deictic, DES = desiderative, ESS = essive, EX = existential, FOC = focus, FUT = future, IMPERF = imperfective, LOC = locative, N = noun, NEG = negative particle, NFUT = non-future, NP = noun phrase, NUC = nuclear (case), NOM = nominalizer, O = patient of transitive verb, OBL = oblique, PARTC = particle, PE = plural exclusive, PI = plural inclusive, PL = plural, POS = possessive, PROG = progressive, PRTCPL = participle, PST = (nominal) past, Q = question marker, REC = reciprocal, RED = reduplication, S = subject of intransitive verb, SG = singular, and TAM = tense-aspect-mood.

"verbos descritivos" ('descriptive verbs'), and Franceschini discusses "verbes d'état" (1999: 96-106) or "verbos de estado" (2002), i.e., 'state verbs'. Rodrigues & Dietrich, on the other hand, implicitly analyze the words in question as nouns (1997: 293, *passim*). The main goal of the present study is to discuss the properties of these "stative words" (a more neutral term) and compare their analyses as verbs and as nouns. A second goal is to compare the situation in Mawé to what has already been described for a number of other languages in the Tupí-Guaraní sub-branch of the Tupian family, in which a similar set of stative words have also been variously analyzed as verbs and as nouns. It will be seen that the phenomenon is exactly the same in Mawé. The same pattern is also found in Awetí, but not in other Tupian languages; this fact may lend support to Rodrigues' hypothesis that Mawé, Awetí, and the Tupí-Guaraní languages form a genetic subgroup within the Tupian family (for which one might propose the name 'Mawetí-Guaraní').[2]

In §2, person marking on nouns and verbs is described in detail; stative words are initially presented as a subclass of verbs. The morphosyntactic similarities between stative words and nouns are the topic of §3. A review of the similar situation in Tupí-Guaraní languages and in Awetí is then given in §4, followed in §5 by a short comparison with some other Tupian languages. §6 contains a conclusion, with a short discussion of some consequences of stative words for the status of the verb-noun distinction in Tupian (or at least Mawetí-Guaraní) languages.

2 Person marking.

Mawé, like most Tupí languages, distinguishes first person (1), second person (2), third person (3), first person plural inclusive (1PI), first person plural exclusive (1PE), second person plural (2PL), and third person plural (3PL). For each distinction, there is at least one pronoun (there are several for the third person, with various demonstrative or anaphoric values) and two person markers, forming two distinct sets. Table 1 gives an overview of all pronouns and person markers. On possessed nouns, there is an additional coreferential (or 'reflexive possessive') prefix *to-*, *tuw-* '3R', which indicates that the (third-person) possessor is the subject of the clause ('s/he...his/her own N'; cf. Latin *suus*, Swedish *sin*, Esperanto *sia*).

[2] This name first came up in a conversation between Sebastian Drude and me, during a Comparative Tupí Meeting in Belém (Brazil).

Table 1. Mawé person markers: pronouns and prefixes.

	PRONOUNS	SET I	SET II
1	*uito*	*a-*	*u-*
2	*en*	*e-*	*e-*
3	*mi'i, ...*	*Ø-*	*Ø-*
1PI	*aito*	*waa-*	*a-*
2PL	*eipe*	*ewe-*	*e-*
1PE	*uruto*	*uru-*	*uru-*
3PL	*mi'i-ria, ...*	(several)	*i'atu*

Set II markers (plus *to-* '3R') are used on nouns to refer to their possessor. There are at least three noun classes, defined by an intermediate element between the prefix and the stem: the *i-*, *h-*, and *he*-classes, exemplified in (1) below. In the case of the *h*-class, the intermediate element may be analyzed as a part of the stem; notice that *et* 'name' never occurs without this element, even in the unpossessed form *s-et* 'name', while *kyse* 'knife' does often occur without *(h)e-*. Similar elements in Tupí-Guaraní languages have been called relational prefixes (cf. e.g., Jensen 1998); in the Mawé case, an analysis involving stem-initial alternations (*het ~ set*) seems preferable.[3] With respect to semantics, the *he*-class tends to contain alienable nouns (e.g., instruments and artifacts), while the other two classes contain mostly inalienable nouns (e.g., body parts and kinship terms). There are, however, significant exceptions: e.g., *u-i-pory'a* 'my arrow', in the *i*-class, or *u-he-hary'i* 'my wife', in the *he*-class. There are several irregularities: most *i*-class nasal-initial nouns denasalize their initial consonant when possessed (*mu'aap* 'path', *u-i-pu'aap* 'my path'; *g̃o* 'field, garden', *u-i-ko* 'my field, garden'); *h*-class nouns with a nasal vowel alternate *h* with *j* ([ɲ] in this context) instead of *s* (*u-h-ãi* 'my tooth', *e-j-ãi* [ɛɲãj] 'your tooth'). There are also some cases of suppletion (*g̃etap* 'house', *u-i-'yaat* 'my house').

[3] Denny Moore (p.c.) suggests that the Tupí-Guaraní relational prefixes may be the reflex of this kind of stem-initial alternations (in case they are reconstructible to Proto-Tupí), with one of the alternants having lost its initial consonant. This hypothesis is currently being examined.

(1) Examples of person markers on nouns.

a. *ty* 'mother' (*i*-class)

u-	*i-*	*ty*	'my mother'
e-		*ty*	'your mother'
	i-	*ty*	'his/her mother'
a-	*i-*	*ty*	'our (PI) mother'
e-	*i-*	*ty*	'your (P) mother'
uru-		*ty*	'our (PE) mother'
i'atu-		*ty*	'their mother'
Maria		*ty*	'Maria's mother'
to-		*ty*	'his/her own mother'

b. *et* 'name' (*h*-class)

u-	*h-*	*et*	'my name'
e-	*s-*	*et*	'your name'
	h-	*et*	'his/her name'
a-	*h-*	*et*	'our (PI) name'
e-	*h-*	*et*	'your (P) name'
uru-	*s-*	*et*	'our (PE) name'
i'atu-	*s-*	*et*	'their name'
Maria	*s-*	*et*	'Maria's name'
to-	*s-*	*et*	'his/her own name'

c. *kyse* 'knife' (*he*-class)

u-	*he-*	*kyse*	'my knife'
e-	*e-*	*kyse*	'your knife'
	he-	*kyse*	'his/her knife'
a-	*he-*	*kyse*	'our (PI) knife'
e-	*he-*	*kyse*	'your (P) knife'
uru-	*e-*	*kyse*	'our (PE) knife'
i'atu-	*e-*	*kyse*	'their knife'
Maria	*e-*	*kyse*	'Maria's knife'
tuw-	*e-*	*kyse*	'his/her own knife'[4]

Postpositions, like nouns, also take Set II markers (e.g., the *he*-class *u-he-pe* 'to/for me', or the *i*-class *u-i-tote* 'on top of me'). Notice that the 1PE and 3PL markers *uru* and *i'atu* parallel free NP possessors like *Maria*; they were probably independent words at some point in the past.

Transitive verbs have two participant arguments, here termed A and O (following Dixon 1994). The two person-marking sets are used to identify these participants. Instead of co-occurring, the sets form two distinct paradigms: the A-conjugation, in which Set I markers indicate the A participant and the O participant is a third person ('I → him/her/it', 'you → him/her/it', etc.), and the O-conjugation, in which Set II markers indicate the O participant and the A participant is a third person ('s/he/it → me', 's/he/it → you', etc.). There is a special prefix *mor(o)-* '1A2O' for the 'I → you' situation (its reverse, 'you → me', has no specific prefix; it is expressed with the 1O form preceded by the second-person pronoun *en* 'you'). When both partici-

[4] The form *t-ee-kyse* 'his/her own knife' is apparently in free variation with *tuw-e-kyse*.

pants are third persons, there are special forms to indicate whether the preceding nominal refers to the A or to the O participant (and also a *to-* '3A' form, in which the prefix plays the role of an explicit third-person A participant, so that only O nominals co-occur with it; the pronoun 's/he' in the gloss is meant to indicate that).

(2) Examples of person markers on transitive verbs.

a. *muu'e* 'teach O' (*ti*-class)

A-conjugation		O-conjugation	
a- ti- muu'e	'I teach O'	*u- i- muu'e*	'A teaches me'
e- ti- muu'e	'you teach O'	*e- muu'e*	'A teaches you'
waa- ti- muu'e	'we.PI teach O'	*a- i- muu'e*	'A teaches us.PI'
ewe- i- muu'e	'you.PL teach O'	*e- i- muu'e*	'A teaches you.PL'
uru- i- muu'e	'we.PE teach O'	*uru- muu'e*	'A teaches us.PE'
ta'atu- muu'e	'they teach O'	*i'atu- muu'e*	'A teaches them'
Maria ti- muu'e	'Maria teaches O'	*Maria muu'e*	'A teaches Maria'
to- i- muu'e	's/he teaches O'		
moro- muu'e		'I teach you'	
en u-i- muu'e		'you teach me'	

b. *enoi* 'tell about O' (*h*-class)

A-conjugation		O-conjugation	
a- h- enoi	'I tell about O'	*u- h- enoi*	'A tells about me'
e- h- enoi	'you tell about O'	*e- enoi*	'A tells about you'
waa- h- enoi	'we.PI tell about O'	*a- h- enoi*	'A tells about us.PI'
ewe- h- enoi	'you.PL tell about O'	*e- h- enoi*	'A tells about you.PL'
uru- h- enoi	'we.PE tell about O'	*uru- enoi*	'A tells about us.PE'
ta'atu- h- enoi	'they tell about O'	*i'atu- enoi*	'A tells about them'
Maria h- enoi	'Maria tells about O'	*Maria enoi*	'A tells about Maria'
to- h- enoi	's/he tells about O'		
mor- enoi		'I tell about you'	
en u-h- enoi		'you tell about me'	

As was the case with nouns, there are different stem classes identified by an element that occurs between the person markers and the stem. In the *ti*-class (2a above), this element is *ti-* ~ *i-* in the A-conjugation and *i-* ~ Ø- in the O-conjugation.[5] These elements can be seen as markers of third-person O and

[5] Graham *et al.* (1984: 178) report that *ti-* occurs also in the 2PL, 1PE and 3 forms (*ewe-ti-, uru-ti-, to-ti-*) in the speech of older people and in conservative discourse

A participants, respectively. In the *h*-class (2b above), the intermediate element is *h-* in both conjugations, with some gaps in the O-conjugation. Interestingly, the *h-* disappears when there is a preceding O nominal, as if the nominal had occupied its structural position. This suggests that there is still some connection between this intermediate element and the marking of a third-person O participant. Given, however, the *h-*'s in most O-conjugation forms, this connection is synchronically far from obvious, which makes it difficult to analyze this element as a 3O marker.

Intransitive verbs appear to fall into two major classes: the 'active' or *re-* class (termed "middle" in Franceschini 1999: 94, 145-158), and the 'stative' class ("descriptive" in Graham *et al.* 1984: 188). These classes are identified (a) by an intermediate element, *re* for active verbs, and *i*, *h* or *he* for stative verbs (i.e., there are three stative subclasses), and (b) by the person markers: Set I occurs on active verbs, and Set II on stative verbs. Note that there are many irregularities in the active class: the intermediate element is *re* for the first and second person, but *to ~ tu* in the third person and in the 1PI and 1PE forms, *ro* in the 3PL form, and *i* in the 2PL form. Most active verbs are synchronically or historically reflexives, which is indicated by the reflexive morpheme *we-*; compare *muu'e* 'teach O', from (2) above, with *we-muu'e* 'study', an active verb which follows the paradigm of *put* 'run' in (3b).[6]

Given the distribution of person-marking sets (Set I marks A on transitive verbs and the subject (S) on active intransitive verbs, while Set II marks O on transitive verbs and S on stative intransitive verbs), it is easy to come to the conclusion that Mawé has a typical 'active-stative' system (Mithun 1991). Set I and Set II could then be renamed 'active' and 'stative' person markers. For the subjects of verbs of the two intransitive classes, the labels S_A and S_O (from Dixon 1994) could also be used. A semantic basis for the system also seems to exist: Mawé stative verbs usually denote states (*kahu* 'be pretty', *wato* 'be big', *hup* 'be red', etc.). In fact, most traditional adjectival meanings correspond to stative verbs in Mawé.

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genres. In the data used for this paper, this phenomenon was occasionally observed with *uru-*, and, more frequently and more unexpectedly, with a proceeding A nominal: *Sérgio ti-wenka ~ Sérgio i-wenka* 'Sérgio invited him/her'. This *ti- ~ i-* variation suggests ongoing change.

[6] The occasional occurrence of long-vowel variants of the first- and second-person forms (*a-re-put ~ a-ree-put, e-re-put ~ e-ree-put*) suggests the earlier presence of the *we-* prefix (**a-re-we-put* > *a-ree-put ~ a-re-put*). An alternation between the *we-* prefix and a long vowel occurs in the other persons: *tuwe-put ~ tee-put, wa-tuwe-put ~ wa-tee-put, uru-tuwe-put ~ uru-tee-put, te'e-ruwe-put ~ te'e-ree-put*; notice also the alternation *ewe-iwe-put ~ eiwe-put* (also *ewe-he-put*).

(3) Examples of person markers on intransitive verbs

a. *ket* 'sleep' (*re*-class)

a-	*re-*	*ket*	'I sleep'
e-	*re-*	*ket*	'you sleep'
	to-	*ket*	's/he sleeps'
waa-	*to-*	*ket*	'we.PI sleep'
uru-	*to-*	*ket*	'we.PE sleep'
ewe-	*i-*	*ket*	'you.PL sleep'
te'e-	*ro-*	*ket*	'they sleep'
Maria	*to-*	*ket*	'Maria sleeps'

b. *put* 'run' (*re*-class)

a-	*re(e)-*	*put*	'I run'
e-	*re(e)-*	*put*	'you run'
tuwe-		*put*	's/he runs'
waa-	*tuwe-*	*put*	'we.PI run'
uru-	*tuwe-*	*put*	'we.PE run'
ewe-	*iwe-*	*put*	'you.PL run'[7]
te'e-	*ruwe-*	*put*	'they run'
Maria	*tuwe-*	*put*	'Maria runs'

c. *to* 'go' (*re*-class)

a-	*re-*	*to*	'I go'
e-	*re-*	*to*	'you go'
	to-	*to*	's/he goes'
waa-	*tu-*	*wat*	'we.PI go'[9]
uru-	*tu-*	*wat*	'we.PE go'
ewe-	*i-*	*wat*	'you.PL go'
	tu-	*wat*	'they go'
Maria	*to-*	*to*	'Maria goes'

d. *kahu* 'be pretty' (*i*-class)[8]

u-	*i-*	*kahu*	'I am pretty'
e-		*kahu*	'you are pretty'
i-		*kahu*	's/he is pretty'
a-	*i-*	*kahu*	'we.PI are pretty'
e-	*i-*	*kahu*	'you.PL are pretty'
uru-		*kahu*	'we.PE are pretty'
ia'atu-		*kahu*	'they are pretty'
Maria	*i-*	*kahu*	'Maria is pretty'

[7] A variant form *ewe-he(e)-put* is also attested; one speaker preferred it to *ewe-iwe-put*.

[8] Franceschini (1999: 106) mentions an additional third-person *to*-form (e.g., *to-kahu* 's/he is pretty'). In the data used for this paper, this form did not occur as an independent main clause predicate, but only in subordinate contexts (e.g., *to-kahu hap* 'something for his/her beauty, for making him/her beautiful', 'cosmetics').

[9] Also *waa-to* 'we (dual) go' = 'the two of us go', 'you and I go'. This suggests that the 1PI category is actually dual ('you.SG and I'), but this can only be seen with verbs that have suppletive plural stems. This topic needs further research.

e. *eera* 'be tired' (*h*-class)[10]

u-	*h-*	*eera*	'I am tired'
e-	*s-*	*eera*	'you are tired'
	h-	*eera*	's/he is tired'
a-	*h-*	*eera*	'we.PI are tired'
e-	*h-*	*eera*	'you.PL are tired'
uru-	*s-*	*eera*	'we.PE are tired'
ia'atu-	*s-*	*eera*	'they are tired'
Maria	*h-*	*eera*	'Maria is tired'

f. *hay* 'talk' (*he*-class)[11]

u-	*he-*	*hay*	'I talk'
e-	*e-*	*hay*	'you talk'
	i-	*hay*	's/he talks'
a-	*he-*	*hay*	'we.PI talk'
e-	*he-*	*hay*	'you.PL talk'
uru-	*e-*	*hay*	'we.PE talk'
ia'atu	*e-*	*hay*	'they talk'
Maria	*he-*	*hay*	'Maria talks'

3 Stative verbs and nouns: a closer look.

One striking fact about Mawé stative verbs is their morphological similarity to (possessed) nouns. The three subclasses of both groups are virtually identical, as can be seen by comparing (3d-f) and (1). Even irregularities such as the *m* ~ *p* alternation between possessed and non-possessed forms of certain *i*-class nouns can also be found among stative verbs (e.g., *motpaap* 'work', *u-i-potpaap* 'I work'). So far, the only apparent difference is the occurrence of a third-person form after a subject nominal with stative verbs (*Maria i-kahu* 'Maria is pretty'), while possessed nouns with an explicit nominal possessor occur in a prefixless form (*Maria ty* 'Maria's mother'). Consider, however, the examples in (4):

(4) Comparing examples of stative verbs (a-b, e-f, i-j) and nouns (c-d, g-h, k-l)

a. *Maria potpaap*
Maria work
'Maria's work'

b. *Maria i-potpaap*
Maria 3:CL-work
'Maria works.'

c. *Maria pohaɡ̃*
Maria medicine
'Maria's medicine.'

d. *Maria i-pohaɡ̃*
Maria 3:CL-medicine
'Maria has medicine.'

e. *Maria s-eera*
Maria CL-be.tired
'Maria's tiredness.'

f. *Maria h-eera*
Maria 3:CL-be.tired
'Maria is tired.'

[10] There is variation in the last vowel of this stem: *eera* ~ *eero*. Graham *et al.* (1984: 188) has *ero*.

[11] The form *i-hay* occurred in the data on which this paper is based. Franceschini (1999: 104) reports an additional more regular third-person *he*-form (in this case, *he-hay*), apparently in free variation with the *i*-form. In the data on which this paper is based, *he-hay* occurred only with a preceding subject NP. Further research is clearly necessary here.

g. *Maria* *s-et*
Maria CL-name
'Maria's name.'

h. *Maria* *h-et*
Maria 3:CL-name
'Maria has a name.'

i. *Maria* *e-hay*
Maria CL-talk
'Maria's talk.'

j. *Maria* *he-hay*
Maria 3:CL-talk
'Maria talks.'

k. *Maria* *e-kyse*
Maria CL-knife
'Maria's knife.'

l. *Maria* *he-kyse*
Maria 3:CL-knife
'Maria has a knife.'

The above examples show a remarkable parallelism between nouns and stative verbs: members of both groups can occur in a prefixless 'possessed' form with a preceding 'possessor', and in a third-person prefixed form as a predicate. These two situations are distinct only for the third person: the other person-marked forms in (1) are ambiguous between simple possessive phrases ('my mother', 'your name', 'our knife') and possessive predicates ('I have a mother', 'you have a name', 'we have a knife / knives').[12] With stative verbs, along with the possessive translation ('Maria's tiredness'), there is a more common translation as a modifier ('tired Maria'); cf. (5) below, which can be compared to the examples in (4).

(5) Examples of stative verbs as modifiers.

a. *aware* *wato*
dog be.big
'the big dog'

b. *aware* *i-wato*
dog 3:CL-be.big
'The dog is big.'

c. *waipaka* *hup*
chicken be.red
'the red chicken'

d. *waipaka* *i-hup*
chicken 3:CL-be.red
'The chicken is red.'

The above parallelism between nouns and stative verbs becomes even more striking when the causative prefix *mo-* is taken into consideration. It occurs on verbs, and also on possessed nouns (6).

[12] There is, in addition to the simple forms in (1), another possessive predicate construction, involving an existential verb *toĩ*: e.g., *toĩ suu* 'there is blood (on something)', from *suu* 'blood', and *Maria toĩ i-pohaɡ̃* 'Maria has medicine'. The latter is, as far as could be ascertained, equivalent to, though less frequent than, the simpler *Maria i-pohaɡ̃* 'Maria has medicine'.

(6) The causative suffix *mo-* on verbs (a-d) and nouns (e-f: *i*-class; g-h: *he*-class).

a. *a-re-ket*
1-CL-sleep
'I sleep.'

b. *a-ti-mo-ket*
1A-CL-CAU-sleep
'I make him/her sleep.'

c. *u-i-'ahuu*
1-CL-be.ill
'I am ill.'

d. *a-ti-mo-'ahuu*
1A-CL-CAU-be.ill
'I made him/her be ill.'

e. *u-i-pory'a*
1-CL-arrow
'My arrow.'; 'I have an arrow.'

f. *a-ti-mo-pory'a hirokat*
1A-CL-CAU-arrow child
'I make the child have an arrow.'

g. *Maria e-sokpe*
Maria CL-clothes
'Maria's clothes.'

h. *uru-i-mo-e-sokpe*
1PE.A-CL-CAU-CL-clothes
'We (PE) make him/her have clothes.'

Notice also the parallel behavior in negative clauses. Given that negation is often marked with two elements around the predicate, the negative examples also suggest that a possessed nominal and its possessor form a single phrase, while a possessive clause or stative verb clause actually contain two constituents: a noun phrase playing the role of the subject, and a verb phrase functioning as the predicate (7a-d). The other verbal examples (7g-j) illustrate the fact negation works similarly for all predicates.

(7) Negative nominal (a-d) and verbal (stative: e-f; active: g-h; transitive: i-j) clauses.

a. *Maria pohaɡ̃*
Maria medicine
'Maria's medicine'

b. *yt*[13] *Maria pohaɡ̃ 'i*
NEG Maria medicine NEG
'It isn't Maria's medicine.'

c. *Maria i-pohaɡ̃*
Maria 3:CL-medicine
'Maria has medicine.'

d. *Maria yt i-pohaɡ̃ 'i*
Maria NEG 3:CL-medicine NEG
'Maria doesn't have medicine.'

e. *aware i-wato*
Maria 3:CL-be.big
'The dog is big.'

f. *aware yt i-wato 'i*
dog NEG 3:CL-be.big NEG
'The dog isn't big.'

[13] Sometimes with a long vowel: *yt* ~ *yyt*.

g. *to-'e*
3:CL-say
'S/he says.'

h. *yt to-'e 'i*
NEG 3:CL-say NEG
'S/he doesn't say.'

i. *a-ti-kuap*
1A-CL-know
'I know him/her/it.'

j. *yt a-ti-kuap 'i*
NEG 1A-CL-know NEG
'I don't know him/her/it.'

Tense-aspect distinctions are expressed with particles, not with morphological elements. They do not differentiate verbs from nouns. The completive particle *ra'yn*, for instance, can co-occur with transitive verbs (8a), active intransitive verbs (8b), stative verbs (8c), and nouns (8d).

(8) Verbs (a-c) and nouns (d) with the completive particle *ra'yn*.

a. *a-tu-'u ra'yn*
1A-CL-eat PARTC
'I've already eaten it.'

b. *a-re-'e ra'yn*
1-CL-speak PARTC
'I've already spoken.'

c. *i-wato ra'yn*
3:CL-be.big PARTC
'It's already big.'

d. *Maria i-pohaĝ ra'yn*
Maria 3:CL-medicine PARTC
'Maria already has medicine.'

4 The situation in Tupí-Guaraní languages

In many languages of the Tupí-Guaraní branch of the Tupian family, a similar situation of almost perfect overlap between 'nouns' and 'stative verbs' has often been noted. Recently, a whole book (Queixalós 2001) was dedicated to this question. The two obvious analyses of stative words – namely, (a) that they are really possessed nouns that can be used predicatively, and (b) that they are stative verbs, a subgroup of the verbal class – have been proposed for different languages.

Seki (2001) champions the verbal analysis for the Kamayurá language. She classifies stative words as a subgroup of verbs (termed 'descriptive verbs'), based on the existence of certain morphemes that are not compatible with both classes. For instance, the case-marking suffixes *-ip* ~ *-im* 'locative', *-(r)am* 'essive', *-a* 'nuclear case', and the nominal past suffix *-(h)et* 'ex-' occur only on nouns. (Final *t* becomes *r* when followed by a vowel.)

(9) Examples of case-marked nouns in Kamayurá (Seki 2000, 2001; glosses mine).

a. *ok-ip i-ko-w*
house-LOC 3-be-TAM
'He is at home.'

b. *ije rak morerekwar-am*
1 PART chief-ESS
'I was (there) as a chief.'

c.	*je=r-uw-a*	*nite*	d.	*morerekwar-er-a*
	1=POS-father-NUC	with		chief-PST-NUC
	'with my father'			'(one who) was a chief'

Descriptive verbs can take the action/state nominalizer *-(t)ap* (10a). Transitive (10c) and active intransitive (10b) verbs can also be nominalized with *-(t)ap*. Nouns, on the other hand, never take this suffix. (Note that Kamayurá final *p*'s become *w*'s when followed by a vowel.)

(10) Kamayurá verb stems with the nominalizer *-(t)ap* (Seki 2000, 2001; glosses mine)

a. *a-kwahaw=in* *ne=katu-taw-a*
1A-know=PARTC 2-be.good-NOM-NUC
'I know that you are good.'

b. *a-kwahaw=in* *i-tu-aw-a*
1A-know=PARTC 3-come-NOM-NUC
'I know that he will come.'

c. *a-kwahaw=in* *je=u'u-taw-a*
1A-know=PARTC 1=bite-NOM-NUC
'I know that it will bite me.'

The nuclear case marker *-a* is an interesting morpheme. It is found in most Tupí-Guaraní languages and can be reconstructed to Proto-Tupí-Guaraní (Jensen 1998). In general, it marks nouns in typically nominal functions (although there are differences in its distribution from language to language; cf. Cabral 2001). In Kamayurá, these functions include: subject of predicates (11a-e, i-j), object of transitive verbs (11b, j), argument of postpositions (9c), possessor (11b), copular complement (11c), and nominal predicate (11d-e). Nouns without this marker occur in the other contexts: as vocatives (11f), citation forms (11g), dislocated constituents (11j), indefinite predicates (11e, g), and possessive clauses (11h-i). Note that both nouns with *-a* and nouns without *-a* can be predicates, but with a significant difference in meaning: the former result in a more descriptive, 'quality-like' meaning ('to be (a) chief'). Seki distinguishes these cases as different clause subtypes: predicate nouns with *-a* occur in equative clauses, while predicate nouns without *-a* occur in classifying clauses.

(11) Nouns with and without *-a* in Kamayurá (Seki 2000, 2001; glosses mine)

a. *kunu'um-a* *tete* *rak* *o-ho* *ko'yt*
boy-NUC only PARTC 3-go PARTC
'Only the boy went.'

b. *kunu'um-a* *ka'i-a* *r-uwaj-a* *w-ekyj*
boy-NUC monkey-NUC POS-tail-NUC 3-pull
'The boy is pulling the tail of the monkey.'

c. *kara'iw-a* *pe-ko*
non.Indian-NUC 2PL-COP
'You (PL) are non-Indians.'

d. *je=tutyr-a* *morerekwar-a*
1=uncle-NUC chief-NUC
'My uncle is the chief.'

e. *je=tutyr-a* *morerekwat*
1=uncle-NUC chief
'My uncle is a chief.'

f. *je=y*
1=mother
'Mother!'

g. *jawat*
jaguar
'jaguar'; 'It's a jaguar.'

h. *je=pyt*
1=house
'It's my house.'; 'I have a house.'

i. *jawar-a* *'aŋ* *i-memyt*
jaguar-NUC DEIC 3-son
'This jaguar has child(ren).'

j. *a'e-a* *rak* *paku-a* *o-juka,* *mytũ,* *jakuaem*
this-NUC PARTC paca-NUC 3-kill mutum jacu
'This (man) killed paca, (also) mutum (=curassow), (also) jacu (=bird sp.).'

Seki classifies possessive clauses like (11h-i) as a subtype of descriptive clauses. This seems to imply that predicative possessed nouns are to be seen as descriptive (stative) verbs. This claim, however, is not made explicitly, nor is it clear whether the tests that classify stative stems as verbs (case markers, nominalization with *-(t)ap*) are also valid for predicative possessed nouns like those in (11h-i).

Dietrich (2001) defends the nominal analysis for the Tupí-Guaraní subbranch, with special emphasis on the Guaranian languages (Paraguayan Guaraní, Chiriguano, Kaiwá, Mbya); Rodrigues (2001) also prefers this analysis for Tupinambá. Both authors stress the defining character of the verbal person-marking prefixes (corresponding to the Mawé Set I): only the stems on which they can occur are verbs. Nouns take other person markers (corresponding to the Mawé Set II). Since stative words take the same person markers as nouns, Dietrich and Rodrigues classify them as nouns, noting that nouns can also be predications. Dietrich thus interprets nouns (12a-b) and stative words (12c) with Set II person markers as implicit existential predications. He further proposes the same interpretation for transitive verbs with Set II markers, analogous to the Mawé O-oriented conjugation in (2): he claims that they also contain implicit existential predications (12d). His conclusion is that only verbs with Set I markers are fully verbal, i.e., describe processes or actions.

(12) Chiriguano (a-c) and Paraguayan Guaraní (d) (Dietrich 2001; glosses mine)

a. *háe* *i-wɨ́rápa*
he 3-bow
'(There is) his bow with respect to him.' = 'He has a bow.'

b. *kóa* *wɨ́rápa*
this bow
'(There is) a bow with respect to this.' = 'This is a bow.'

c. *jánde* *r-óɾɨ́*
1PI POS-joy
'(There is) joy with respect to us.' = 'We are happy.'

d. *che=juhu*
1=meet/find
'(There was) meeting with respect to me.'= 'S/he/they found/met me.'

Rodrigues proposes basically the same analysis for Tupinambá (except for transitive verbs with Set II prefixes, which he apparently does not consider as nominal predicates). Stative words (13c-d) are nouns and can, like all nouns (13a-b), be the heads of verb phrases functioning as nominal predicates. The Kamayurá nuclear case marker *-a* exists also in Tupinambá; Rodrigues calls it the 'argumentative case' marker. Note that, unlike Kamayurá, Tupinambá allows case-marking suffixes to occur on stative words (13c), and, in fact, on all verbs (13e-f). Rodrigues' analysis is simply that, just as

nouns can occur as predicates (i.e., as heads of verb phrases: 13b, d), verbs can occur as arguments (i.e., as heads of noun phrases: 13e-f).

(13) Tupinambá examples (Rodrigues 2001; glosses mine; *v* = IPA [β])

a. *sjé re-kúj-a*
1 POS-gourd-ARG
'my gourd', 'It's my gourd.'

b. *sjé re-kúj*
1 POS-gourd
'I have a gourd / gourds.'

c. *sjé r-orɨ́v-a*
1 POS-joy-ARG
'my joy, happiness'

d. *sjé r-orɨ́v*
1 POS-joy
'I am happy / joyful.'

e. *né kér-a a-j-potár*
2 sleep-ARG 1-A-want
'I want your sleep.'
= 'I want you to sleep.'

f. *a-s-epják sjé kér-ɨpe*
1-A-see 1 sleep-LOC
'I saw it in my sleep.'
(= 'in my dreams')

Thus, Seki's first argument (the impossibility of taking case-marking suffixes) is not true for Tupinambá. It is not known whether the nominal past marker (equivalent to Kamayurá *-(h)et*) and the general nominalizer (equivalent to Kamayurá *-(t)ap*) can also occur on stative stems. It may be that such restrictions vary from language to language in the Tupí-Guaraní subbranch.

In Mawé, Seki's criteria would not differentiate stative stems from nouns. There are no Mawé equivalents of the Kamayurá nominal case marker *-a* and nominal past marker *-(h)et*. The locative and essive markers (*pe* and *wo* respectively, equivalent to Kamayurá *-ip* and *-am*) can occur on nouns (14a, c) and on stative stems (14b, d).

(14) Mawé examples of locative and essive markers on nouns and on stative stems

a. *u-i-'yaat pe to-ĩ=ne'en*
1-CL-house LOC 3:CL-be=PART
'(S/he/it) is in my house.'

b. *u-i-kahu pe a-re-ĩ=ne'en*
1-CL-pretty LOC 1-CL-be=PART
'I am always pretty.'

c. *uito satere wo teraan*
1 Sateré ESS DES
'I want to be a Sateré-Mawé.'

d. *u-i-kahu* *wo* *teraan* *u-he-wyry*
1-CL-pretty ESS DES 1-CL-walk
'I want to walk (being) pretty', 'I want to be pretty while/as I walk.'

The action/state nominalizer equivalent to Kamayurá *-(t)ap* is a particle *hap* which changes whole predicates of all kinds into noun phrases (often, like Kamayurá *-(t)ap*, to form subordinate clauses) and thus does not distinguish any of them: transitive verbs (15a), stative stems (15b), nouns (15c), possessed nouns (15d), and possessive predicates (15e).

(15) Examples of the particle *hap* in Mawé.
a. *a-ti-kuap* *u-he-katu'u* *hap*
1A-CL-know 1O-CL-bite NOM
'I know that (s/he/it) bit me.'
b. *a-ti-kuap* *waipaka* *i-hup* *hap*
1A-CL-know chicken 3:CL-be.red NOM
'I know that the chicken is red.'
c. *a-ti-kuap* *mohaɡ̃* *hap*
1A-CL-know medicine NOM
'I know that (it) is medicine.'
d. *a-ti-kuap* *Maria* *pohaɡ̃* *hap*
1A-CL-know Maria POS:medicine NOM
'I know that (it) is Maria's medicine.'
e. *a-ti-kuap* *Maria* *i-pohaɡ̃* *hap*
1A-CL-know Maria 3:CL-medicine NOM
'I know that Maria has medicine.'

Table 2 below summarizes the comparison of Kamayurá and Mawé according to Seki's criteria. The conclusion is that the nominal analysis seems better for Mawé stative stems, while the verbal analysis is preferable for Kamayurá.

Table 2. Seki's criteria in Kamayurá and in Mawé

CRITERIA	KAMAYURÁ		MAWÉ	
	NOUNS	STATIVES	NOUNS	STATIVES
Locative	*ok-ip* 'in the house'	X	*u-i-'yaat pe* 'in my house'	*u-i-kahu pe* 'in my beauty'
Essive	*morerekwar-am* 'as a chief'	X	*satere wo* 'as a Sateré'	*u-i-kahu wo* 'as a pretty one'
Nuclear Case	*je r-uw-a* 'my father'	X	N/A	N/A
Nominal Past	*morerekwar-er-a* 'ex-chief'	X	N/A	N/A
Nominal-ization	X	*ne=katu-taw-a* 'that you are good'	*mohaɡ̃ hap* 'that it is medicine'	*i-hup hap* 'that it is red'

5 The situation in other Tupian languages

Among non-Tupí-Guaraní languages, only Awetí, together with Mawé, has the possibility of using possessed nouns, without any modification, as simple possessive predicates. In other Tupian languages, other constructions, usually with the presence of an auxiliary, are necessary.[14]

For Awetí, Drude (2001) proposes a large class of nominals ('Nomina') with two subclasses: nouns ('Substantive') and statives ('statische / adjektivische Verben'). These two subclasses differ only in that statives do not have a third-person coreferential ('reflexive possessive') form, and do not take the third-person prefixes of the female speech variety, while nouns do have a third-person coreferential form (prefix *o-*) and take both male-speech (*nã-*, *n-*) and female-speech (*i-*, *t-*) third-person prefixes. Furthermore, statives cannot be referential expressions without being nominalized (unlike, e.g., the Mawé examples in (14b, d)). With respect to predicative uses, however, possessed nouns can be used, without any changes, as possessive predicates (16a), just like statives (16b). Note that possessive predicates occur in the same negative construction as verbs (16c), and can also take verbal tense-aspect markers (16d). Drude sees possessive predicates as existential (since bare nouns can also be used as existential predicates) and wonders if

[14] There often are also existential constructions involving postpositions like Mundurukú *kə́ŋ* or Gavião *tá*, both meaning 'with': 'there is an axe with me' = 'I have an axe'. These are not considered here.

they exemplify zero-derived existential verbs (morphology) or nominal existential predication (syntax).

(16) Awetí (Drude 2001)

a. *i-mẽpyt*
1-child
'my child', 'I have a child'

b. *i-katu*
1-be.good
'I am good'

c. *an i-mẽpyr-yka*
NEG 1-child-NEG
'I don't have a child.'

d. *i-mẽpyr-eju*
1-child-PROG
'I am pregnant.'

For Munduruku, Croft (1985: 163) claims that possessed nouns must be reduplicated (with replacement of the final vowel by *e*) in order to become possessive predicates (17b): a simple possessed noun (17a) is only a referential expression ('my firewood'), usable at most as an equative or identificational predicate ('it is my firewood'). Interestingly, reduplicating a non-possessed stem is one way of making existential predicates (17c), which agrees with Dietrich's and Rodrigues' analyses of possessive predicates (like 17b) as existential predicates with possessed nouns ('there is my firewood' = 'I have firewood'). Stative stems, on the other hand, do not need reduplication to become predicates (17d); in fact, it is not clear from Croft's description that they can at all be regularly reduplicated. Picanço (p.c.) claims that some stative stems can undergo reduplication, with an added feature of 'intrinsicness' (being 'by itself', 'inherently'; 17e), but some cannot, without obvious reasons, semantic or otherwise (17f).

(17) Munduruku (Croft 1985, Picanço p.c.; tone marking follows Picanço 2002)

a. *ò-dàʃá*
1-firewood
'my firewood'

b. *ò-dàʃá-ʃé*
1-firewood-RED
'I have firewood.'

c. *dàʃá-ʃé*
firewood-RED
'There is firewood.'

d. *ò-dírèm*
1-be.wet
'I am wet.'

e. *jò-bòŋ-bèŋ*
3-be.big-RED
'It becomes bigger (by itself).'

f. **ì-díp-dép*
3-be.beautiful-RED
(It becomes beautiful.)

In Mekens, according to Galucio (2001, p.c.), possessive predicates also seem to need an existential element (18a-b) which distinguishes them from

stative predicates (18d). Simple possessed nouns as predicates, usually followed by the focus particle *te*, have the expected equative or identificational meaning (18c).

(18) Mekens (Galucio 2001; p.c.)

a.	*o-tek*	*piro-apõ=õt*	b.	**o-tek*	*õt*
	1-house	exist-NEG=1		1-house	1
	'I don't have a house.'			(I have a house.)	
c.	*o-tek*	*te*	d.	*o-kẽrẽ*	*õt*
	1-house	FOC		1-angry	1
	'It's my house.' 'The house is mine.'			'I am angry.'	

In Makurap, a language closely related to Mekens, there are, according to Braga (2005), possessive predicates that look at first like simple possessed nouns without an overt existential marker (19b), as in Tupí-Guaraní languages. Note, however, that such predicates cannot be analyzed simply as possessed nouns used predicatively: a possessed noun (19a) takes a prefix (or 'clitic pronoun', as Braga calls them), not a full pronoun, and it also takes an extra 'possessive' suffix *-(e)t* ~ *-(e)n*.[15] For the same reasons, stative predicates like (19c), which do look similar to possessive predicates like (19b), are different from simple possessed nouns (19a). Note that both seem different from usual existential predicates, which, in Braga's description, need the verb *ekoat* (19d).

(19) Makurap (Braga 2005)

a.	*o-ʃeg-et*		b.	*on*	*ʃek*	
	1-house-POS			1	house	
	'my house'			'I have a house.'		
c.	*on*	*kãraŋ*	d.	*paako*	*toa*	*ekoat?*
	I	big		banana	Q	exist
	'I am big.'			'Are there bananas?'		

In Karo (Arara), possessed nouns, possessed predicates and stative predicates are quite different. Inalienably possessed nouns take person-marking clitics (20a), while alienably possessed nouns occur with special possessive

[15] This suffix is different from the Tupí-Guaraní 'nuclear' or 'argumentative' case marker *-a* (see previous section) in that it is restricted to possessed nouns, while Tupí-Guaraní *-a* occurs on any noun, possessed or not, in referential (not predicative) function.

pronouns that are historically derived from a dummy possessive element *at* (20b).[16] The result is a simple referential noun phrase which could occur as an argument but not, by itself, as a predicate meaning 'I have N'. For predicating possession, it is necessary to use a different construction, with a classifier element (*'a'* 'round') and a verb (in (20d-e), the verb *kət* 'live'; postural verbs are also sometimes possible). Stative predicates have different word order, an explicit personal pronoun, and never take possessive pronouns. In Gabas' analysis, they are a separate sentential type, different from the other types found in this language.

(20) Karo/Arara (Gabas 1999, p.c.; the acute accent marks high tone)

a. *o=cãp*
1=leg
'my leg'

b. *w-at ka'a*
1-POS house
'my house'

c. *pãttem 'õn*
beautiful 1
'I am beautiful.'

d. *w-at ka'a 'a' kət*
1-POS house round live
'I have a house.'
(= 'my house lives')

e. *'õn ka'a 'a' ta-kət*
1 house round COM-live
'I have a house.' (= 'I live with my house.')

In Karitiana (Arikém sub-branch), possessed nouns (21a) need an auxiliary to be possessive predicates (21b). Stative predicates also have an auxiliary, but a different one, and also different word order (21c). This makes stative and possessive predicates clearly distinguishable.

(21) Karitiana (Storto 1999, p.c.).

a. *i-ʔo sop*
1-head hair
'my hair'

[16] A cognate of Karo *at* occurs in Mawé: the dummy possessed noun *wat*, which is optionally used in addition to simple person-marking prefixes (with an irregular first-person form *u-j-at* < **u-i-wat*). Thus, 'my path' is either *u-i-pu'aap* or *u-j-at e-pu'aap* (pronounced [ujaɾ ujpuʔa:p], with lenition of the final *t*). Interestingly, possessed nouns with *wat* cannot be possessive predicates: *e-wat e-pohaɡ̃* can mean only 'your medicine', not 'you have medicine'. The same is true for stative stems: *u-i-kahu* 'I am beautiful', 'my beauty', but *u-j-at u-i-kahu* 'my beauty', not *'I am beautiful'.

b. *ʔo* *sop* *horop* *i-taka-ʔa* *tɨka-t* *ɨn*
head hair long 1-DECL-AUX IMPERF-NFUT 1
'I have long hair.'

c. *ɨn* *na-aka-t* *i-seʔa-t*
1 DECL-AUX-NFUT PRTCPL-beautiful-OBL
'I am beautiful.'

Finally, also in Gavião (Moore 1984, p.c.) possessed nouns (22a) cannot by themselves be possessive predicates; an existential auxiliary is necessary (22b). Stative (or adjective) stems can also take the existential auxiliary (22d), but another construction, involving what Moore describes as a copula, is also possible (22c). Note that this copular construction is not possible for possessive predicates, which can only take the existential auxiliary. Interestingly, Moore analyzes Gavião adjective stems as always attributive: their occurrences with person-marking clitics, as in (22c), are actually NPs in which the adjective modifies a generic referent ('something tall' rather than 'it is tall'). From this perspective, it is not surprising to find examples in which different person markers occur on the copula and on the adjective (22e). No such cases of 'disagreeing prefixes' have been reported thus far for other Tupian languages.

(22) Gavião (Moore 1984, p.c.; the acute accent marks high tone).

a. *ẽ-záp*
2-house
'your house'

b. *ẽ-záp* *mága*
2-house EX.AUX
'You have a house.'

c. *taa-tóò* *zap* *máà*
3-tall house COP
'The house is tall.'
(= 'The house is (something) tall.')

d. *zap* *atóò* *mága*
house tall EX.AUX
'The house is tall.'
(= 'There is a tall house.')

e. *tá-sot* *pa-máà* *aaná*
3PL-bad 1PI-COP now
'We are no good now.'
(= 'We are something(s) bad now.', 'We are bad ones/things now.')

6 Conclusion

Various analyses have been proposed to account for the syntax of stative verbs and possessive predicates in Tupí-Guaraní. For some languages, Rodrigues and Dietrich propose that both are existential predicates, usually without an explicit existential marker (though there are cases in which one does occur: see, e.g., Rose 2002 for Émérillon). For Kamayurá, Seki pro-

poses that stative stems are a subtype of intransitive verb stems: stative predicates are thus a subtype of intransitive predicates. The same analysis is proposed for possessive predicates, which are thus seen as intransitive, not existential sentences.[17] For possessive predicates, a third analysis has been proposed by Vieira: transitive sentences with an abstract zero transitivizer morpheme which introduces a verb phrase with an empty verb node and a possessive phrase (2001: 83). Although some of the differences in the various analyses may reflect personal preference or theoretical orientation, it is also clear that different languages do seem to show some different properties. It would be very instructive to compare the languages of the Tupí-Guaraní sub-branch as to how similar or different their stative and possessive predicates are, using all the criteria mentioned in the various proposals.

For Mawé, Franceschini, as was mentioned in the introduction, describes stative stems as a subclass of verbs ('verbes d'état'); however, she did not mention any criteria that differentiate stative and possessive predicates. In view of the data considered in this paper, it seems better not to separate possessive and stative predicates: they are apparently better analyzed as the same kind of construction.

What kind of construction it is, however, is not entirely clear. The optional occurrence of the existential marker *toĩ*, mentioned in fn. 12, suggests an existential construction *à la* Rodrigues and Dietrich. Note, however, that only possessed nouns with an explicit person-marking prefix can occur in possessive predicates: 'Maria's medicine', as in (4), cannot be a possessive predicate. Likewise, a stative stem without a person-marking prefix cannot be a stative predicate, as is seen in (5). The predicate constituent in these sentences, therefore, is not simply an NP, not even a possessed NP: it must be a possessed NP with an explicit person-marking prefix on it. In addition, it cannot contain the optional 'dummy possessive' marker *wat* (cf. fn. 16). This suggests that possessive/stative predicates are not (maybe no longer) simply existential predicates, but have already acquired some properties of their own. Vieira (2001) claims also special properties for possessive predicates in Mbya Guaraní. It would be interesting to investigate this topic in other Tupí-Guaraní languages: for how many of them do possessive constructions have special properties not found in existential constructions? And which are these properties?

[17] Seki considers possessive sentences ('I have a house') to be also a type of stative (or 'descriptive') sentence. But she distinguishes (possessed) nouns from stative stems with the criteria listed in Table 2. Therefore, Seki's 'descriptive sentence type' can have two types of predicates: stative ('descriptive') stems, and possessed nouns.

From a comparative point of view, it is interesting that most branches of the Tupian family express possessive and stative predication differently. Possessive predicates are usually possessed nouns in existential or copular constructions (with an obligatory auxiliary, or with special marking, like the Munduruku reduplication). Only in Tupí-Guaraní, Mawé, and Awetí do we find possessive predicates expressed without an obligatory auxiliary or copula, and with some properties that deviate from those of existential constructions. This fact may constitute a syntactic innovation shared by these languages, thus lending further support to a 'Mawetí-Guaraní' sub-branch of the Tupian family.[18]

A final comment on the noun-verb distinction in Mawetí-Guaraní is in order. In most languages of this sub-branch, core nouns and verbs can be distinguished by virtue of taking overlapping but not entirely identical sets of person-marking prefixes. The stative stems, however, form a bridge between nouns and verbs. In some languages (e.g., Tupinambá), they are still better seen as nouns; in others (e.g., Kamayurá), a verbal analysis seems preferable. The crucial properties are usually few, even in the best cases: in Kamayurá, a nominalizing morpheme identifies the stative verbs, while case-marking suffixes (argumentative/nuclear, locative, etc.) identify the nouns. Apparently, nouns and stative stems are not very far apart in Mawetí-Guaraní languages. Diachronically, it would be easy for the two classes to merge: it would suffice to allow the case-marking suffixes to extend to stative words and the nominalizing particle or suffix to extend to (predicate) nouns. The opposite path is also not so difficult to imagine: case-marking suffixes and nominalizers/relativizers, originally compatible with stative and nominal predicates, might become restricted to only one of these groups, maybe on semantic grounds. One wonders, in fact, whether such extensions and/or restrictions in distribution were not frequent changes in the history of these languages.

The 'lack of sharpness' in the distinction between nouns and stative verbs also applies, to a lesser extent, to the noun-verb distinction itself. In

[18] Moore (p.c.) speculates whether the Gavião pattern, in which stative ('adjective') stems with prefixes are actually NPs, could not have been the original situation. From an original 'it-tall' with generic reference (= 'something tall') it does not seem so difficult to derive 'its tallness' (perhaps by making the adjective the head of the NP rather than the prefix?), and also 'it is tall' (perhaps by deleting the copula in constructions like 22c?). Moore further suggests that there may be other Tupian languages in which person-marked stative ('adjective') stems may actually be NPs with the person markers as their heads. This matter certainly deserves further investigation.

fact, if it were not for the existence of Set I prefixes and their restriction to verbs, one might well say that all lexical stems were capable of being used as arguments or as predicates (i.e., that they might all be heads of noun phrases and verb phrases). The main distinction in these languages would be predication vs. reference rather than nouns vs. verbs. It has already been suggested (Queixalós 2001:126) that, in a Tupian proto-language at some point in the past of the family, all lexical stems may have been inherently predicative (a state of 'omnipredicativity'; cf. Launey 1994), and that a morpheme *-a*, predecessor of the present-day argumentative/nuclear case marker, was used to derive referring expressions. This morpheme would thus originally mark a referring argument (a noun phrase), and its absence would mark a predicate, a pattern which Queixalós, citing Lemaréchal (1989, 1991), compares with the uses of the morpheme *ang* in Tagalog and other Austronesian languages. This interesting hypothesis is certainly worthy of further investigation.

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Verbs in Uchumataqu

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1 Introduction[1]

Uchumataqu is the by now almost extinct language of the Uru people of Iruitu, a community along the Desaguadero river, which runs from Lake Titicaca into the Bolivian *altiplano*, the high plateau stretching from La Paz to Oruro and beyond.[2] Together with its sister language Chipaya, it forms the small Uru or Uru-Chipaya language family. The language has never been described very well, and when Muysken visited the community in 2000 and 2001 it was too late: only knowledge of words and fixed phrases remains, except for one speaker, who learned the language from her grandmother and could speak it haltingly. That speaker passed away in 2004. From the archival sources and the published earlier materials it is clear that Iruitu was never a large community; speaker numbers may never have been higher than 100 or so.

Fortunately, there are some fragments of descriptions, word lists, and a few texts, collected over the past hundred years or so. An overview of the research carried out on Uchumataqu among the Urus of Iruitu is given in Table 1.

[1] The fieldwork for this research was funded through the NWO Spinoza Project on Lexicon and Syntax and the Center for Language Studies of the Radboud University Nijmegen. We are grateful to the Ibero-Amerikanisches Institut in Berlin and to Dr. Peter Masson for access to the Max Uhle archives, to Prof. Rodolfo Cerrón Palomino for sharing information about Chipaya, and to the anonymous reviewers and the editors for comments on an earlier version of this paper.

[2] A brief sketch of Uchumataqu is provided in Muysken (2001). An account of recent revitalization efforts is given in Muysken (2002), a first exploration of Aymara influence on Uchumataqu in Muysken (2000), and a detailed analysis of the process of language death in Muysken (in prep.). A compilation of all the data that could recently be elicited in Iruitu appears in Nacionalidad Indígena de Irohito (2005). An overview of all the recent work on the Uru-Chipaya languages is given in Dedenbach-Salazar (2002).

Table 1. Overview of the research carried out over the years on Iruitu and Uchumataqu

year	**researcher**	**language and place of publication**	**nature and size of the data**
1893	Max Uhle	German manuscript (Berlin)	word list, grammatical sketch
1901	José Toribio Polo	Spanish (Lima)	word list and phrases; numerals Uchumataqu-Spanish-Puquina; phonological and morphological sketch; ethnographic notes
1910	Zenón Bacarreza	Spanish (La Paz)	word list Chipaya-Spanish-Uchumataqu; phrases
1929	Walter Lehmann	German manuscript (Berlin)	word lists, comparative notes; grammatical sketches
1931	Arturo Posnansky	Spanish (La Paz)	a few words, ethnographic notes
1935	Alfred Métraux	French (Paris)	word and phrase list, ethnographic notes
1934 [1949]	Enrique Palavecino	Spanish (Buenos Aires)	ethnographic notes
1941	Weston LaBarre	English (U.S.)	ethnographic notes; phonological and morphological sketches; kinship terms; single words
1938-51	Jehan Vellard	French (Lima, Paris)	texts, word lists, grammar notes, ethnographic notes

Resi-dent; 1988	Lorenzo Inda	Spanish (La Paz), Aymara manuscript	word list, phrases, ethno-history
1978 [1990]	Nathan Wachtel	French (Paris)	ethno-history
1995	Colette Grinevald	Spanish typescript (La Paz)	word list, orthography
2001-2	Pieter Muysken	Spanish type-script (La Paz)	word list, phrases, grammar notes, orthography

Only a few sources contain enough information on verb morphology in Uchumataqu to be useful here. Since they date from around ca. 1893, ca. 1931, ca. 1948, and ca. 2000, they are rather neatly spaced in time and potentially allow us to answer five questions:

(a) Can we reconstruct the original system of Uchumataqu verb morphology?
(b) Is it possible to trace the change in verb morphology at the different stages of decay of the language?
(c) How distantly related are Uchumataqu and its sister language Chipaya?
(d) Can we reconstruct the verbal morphology of Uru-Chipaya as a whole?
(e) What is the typological profile of verb morphology in Uchumataqu, and more generally, Uru-Chipaya?

A further question (f): What light does Uchumataqu verbal morphology shed on the possible relations between Uru-Chipaya and other language families of South America?, is beyond the scope of this paper.

This paper is organized as follows. In §2 we provide information on the sources consulted, and in §3 we detail what can be gleaned from these about verbal morphology in Uchumataqu, to answer questions (a) and (b). §4 compares the Uchumataqu data to the much better preserved data on Chipaya, based on Rodolfo Cerrón Palomino (2001; 2006), to establish the genetic distance between the two languages (question (c)). Finally, §5 contains a first attempt to reconstruct the verbal morphology of the ancestor language to both Uchumataqu and Chipaya (question (d)), and briefly consider the typological profile of the former (question (e)).

Before we continue, we should give a word of caution. The older sources are not very consistent, even internally. The data presented suggest considerable variability, possibly characteristic of a decaying language, but also as a result of the way the data were collected and by whom. The data are currently being analyzed further, and hence the conclusions reached here will be preliminary.

2 The sources consulted here

The four main older data sets on Uchumataqu were not collected by professional linguists. Max Uhle (1856-1944) was a German archeologist and ethnographer, who researched the major Tiwanaku archeological site not too far from Iruitu, excavated the site of Pachacamac, near Lima, and collected enormous amounts of data on various Andean languages and cultures, including Aymara. Uhle had had linguistic training, and his early data on Uchumataqu have been meticulously transcribed. None of his work on this or other Andean languages was published; it is to be found in manuscript form in Berlin (1893), in the Max Uhle Nachlass at the Iberoamerikanisches Institut. The disorganized condition of the manuscripts and his handwriting, which is hard to decipher, cause the representation of his views on Uchumataqu given here to be somewhat preliminary.

Walter Lehmann (1878-1939), like Uhle, was a German ethnologist, who likewise travelled widely in South and Central America. His manuscripts, again like those of Uhle, are kept in Berlin (1929), where he worked for the Museum of Ethnology.

Alfred Métraux (1902-1963) was a Swiss-born French ethnographer, who published on a wide variety of languages and ethnic groups in South America, including the Tupí-Guaraní, the Uru-Chipaya, and the Matako. He is best known for his work on Easter Island and Haitian Voodoo. He visited both the Uru of Iruitu and the Chipaya, and his linguistic field notes are published conjointly with his ethnographic description of both groups (1935).

While Uhle, Lehmann, and Métraux were well-known scholars for whom Uchumataqu had been mostly a side-line, Jehan [or Jean] Vellard was less known, and his most famous work is in fact on the Urus. He was primarily a physical anthropologist. He became director of the Institut Français d'Études Andines in Lima in 1948, and died in Argentina in 1967. He visited the group a number of times, between 1939 and 1951, and published extensively on them (cited here are Vellard 1951, 1954). However, around the mid 20th century the language was already disappearing, and his data show that the language was also already becoming morpho-syntactically simpler by then, even though its lexicon was still intact.

3 Uchumataqu verbal morphology

We will now attempt to reconstruct the development of verb morphology of Uchumataqu as much as possible on the basis of what the different authors say about it. As far as data are available, we will try to treat four aspects: (a) tense/mood/aspect marking; (b) participant marking; (c) derivational morphology; (d) subordinating morphology.

3.1 Tense/mood/aspect

Uhle gives a schematic table with the different tenses, aspects, and moods, which is not fully interpretable but from which some basic information can be gleaned.

Table 2. Verb inflection as in Uhle (1893)[3]

	Praesens	Perfect	Futur
basic (Einfach)	*-(a)ča/* *-(a)tsa*	*-a(č)a/* *-atsa*	*-a-ki:-ča* *-la*
present durative (Durativ der Praesens)	*-u-ča*	*-t-u-ča*	*-(a)sta-ni/* *-(a)ča-ni*
perfect durative (Durativ der Perfects)	---	---	*-t-k-a-n(i)/* *-t-j-a-ni*
potential (Potential)	*-a:tsa-tsa*	*-t-a:tsa-tsa*	
optative (Optativ)	*-ača-j/* *-ača-k(i)*	*-t-u-ča-j*	
participle (Particip.)	*-ni*	*-ta*	
gerund (Gerundium)	*-ku*		
imperative (Imperativ)	*-a(i)*		
infinitive (Infinitiv)	*-s(ni)*		

[3] We interpret final *j* in these data as a velar fricative.

There appear to be some hypothetical basic aspectual, temporal, and modal elements that can be isolated in the forms given:

(1)	*-(a)ča/-(a)tsa-*	basic
	-t-	perfect
	-ki-	future
	-u-	durative
	-ni-	future durative
	-j-/-k-	present optative
	reduplication	present and perfect potential (cf. *-t-* perfect)
	-a(i)-	imperative

3.2 Participant marking

The second important type of information given by Uhle has to do with personal reference markers, which belong to five paradigms, as shown in Table 3. The data provided by Lehmann have been added for the sake of comparison.[4]

The data provided by Lehmann match those of Uhle to a considerable extent. The major exception is the 3rd person, which is given as identical to the 2nd person by Lehmann, but not by Uhle. The form mentioned by Uhle appears to be a deictic element. Most probably the 3SG forms presented by Lehmann represent an error either in the communication with his informant or in the transcription of his fieldnotes, since identity of 2nd and 3rd person pronouns is rare: none of the other sources support this, and in the 3PL the same root *ni-* appears as in Uhle's forms. The plural ending in Uhle's data is *-naka*, taken from Aymara, while the *-u'i:tš* ending in Lehmann so far is a mystery. It does not appear elsewhere in the Uchumataqu sources.

[4] The following abbreviations are used: ASS = associative, BEN = benefactive or purposive, CAU = causative, DEL = delimitative, DUR = durative, EX = (1st person) exclusive, FEM = feminine, FOC = focus, FUT = future, GER = gerund, HAB = (present) habitual, IMP = imperative, IN = (1st person) inclusive, IND = indicative, LNK = linking vowel, MASC = masculine, PERF = perfective, PL = plural, PRO = pronoun, RED = reduplication, SG = singular, SUB = subordination, and TOP = topicalizer.

Table 3. Personal reference markers in Uhle and Lehmann.

	I	Lehmann pronouns	II	III	IV	Lehmann possession	V
1SG	*wiril*	*ʻuiʳsh*	*wej*	*wirki*	*wet*	*ʻuiʳsht*	*-l*
2SG	*a:m*	*a:m*	*am*	*amki*	*m*	*amp*	*-m*
3SG	*ni:*	*ʻamXá*	*ni(s)*	*ni:ki*	*ni:s*	*amp*	*-s*
1IN	*učum*	*u:tšu:mi*	*(u)čum*	*učumki*	*učuma*	*u:tšu:ma*	*-čum*
1EX	*(wejnaka)*	---	*wejnak/ nik*	*wejnakâki*	*wejnaka*	---	*-l*
2PL	*amčukčuk*	*á:mtšu:kuʼ*	*amčuk*	*amčukki*	*amčuka*	*ámtšuka*	*-čuk*
3PL	*ninaka*	*ní:uʼi:tš*	*ninaka*	*ni:nâkâki*	*ninaka*	*n:ʼui:tš*	*-s*

Explanations:
I [none given]
II simple form with the verb (Einfache Form beim Verbum)
III derivation with *-ki* (Ableitung mit *-ki*)
IV possessives (Possessiva)
V verb-introducing consonants (Verbum einleitende consonanten)

The crucial element in Table 3 is column V, verb-introducing elements. The explanation suggests that there was a full set of verbal proclitic person markers. This same set of elements also appears as enclitics in Uhle's description, when attached to the negation and reflexive elements, as shown in Table 4. With reflexives, it is possible that Uchumataqu parallels the Quechua emphatic reflexive *kiki-X* 'own/self-X', which is obligatorily inflected for person. For negation, it may well be the case that the person marker is a true clitic attached to the negation element, although syntactically independent from it. The possessive elements are suggested to be proclitic in nature by Uhle. Lehmann's data only provide analytical negation forms here: /uíʳsh á:na tšá:i/ '1SG not be' and /á:na tšá:i/ 'not 3SG'.

Table 4. Non-verbal pronominal elements in Uhle's data.

	Negation		Reflexives		Possessives
1SG	*werki*	*ana-l*	*wej/werel*	*panaka-l*	*wet-*
2SG	*amki*	*ana-m*	*am*	*panaka-m*	*am-*
3SG	*niki/nis*	*ana-s*	*ni*	*panaka-s*	*nis-*
1IN	*učumki*	*ana-čum*			*učum-*
1EX			*wejnik*	*panaka-l*	
2PL	*amčuk(ki)*	*ana-čuk*	*amčuk*	*panaka-čuk*	*amčuk-*
3PL	*ninaka(ki)*	*ana-s*	*ninaka*	*panaka-s*	*ninakš-*

Notice that there are discrepancies between the precise forms presented in Tables 3 and 4.

Clearly an important area for further research concerns the actual distribution of the person markers. Are they proclitic or enclitic, and with which categories are they used as such? Are they obligatory, and if so, with which categories? Uhle gives examples which he refers to as "Pronominale Pleonasmen", where the enclitic is attached to a lexical pronominal form. Thus the question arises, more generally, how many participant markers can co-occur in a clause.

(2) *were**-l*** PRO.1SG-1SG
*učum**-čum*** PRO.1IN-1IN
*ami**-m*** PRO.2SG-2SG
*amčuk**-čuk*** PRO.2PL-2PL
*ni:**-š*** PRO.3SG-3SG

However, no examples have been found in Uhle's manuscript so far illustrating the use of the proclitic or enclitic elements in texts.

There is no information readily available about derivational morphology either.

3.3 Subordinating morphology

With respect to subordinating morphology, Uhle suggests that the suffixes in Table 2 play a role:

(3) *-ni-* present participle
-ta- perfect participle (cf. *-t-* perfect)
-ku- gerund
-s(ni)- infinitive

In Métraux (1935), the next source to be discussed, only a few verbal paradigms are given, from which possible grammatical characteristics can be discovered.

3.4 Tense/mood/aspect

Future tense is marked with *-ki-*:

(4) a. *haka* *wens* *ok^{x}-u-ki-čai*
tomorrow PRO.1SG go-1SG-FUT-IND
'I will go tomorrow.'
b. *haka* *pukul-tan* *šoñi* *ok^{x}-a - ki-<j>a*
tomorrow two-ASS man go-LNK-FUT-IND
'Tomorrow the two men will go.'

There is a suffix *-la(y)-*, which may have a durative meaning, although in other examples this is not apparent.

(5) a. *pisk* *nonxi* *ok^{x}-lay-u-<j>a* *inači*
two day go-DUR-1SG-IND in.vain
'I went during two days in vain.'
b. *ok^{x}-lai-čai*
go-DUR-IND
'I am going.'

It is unclear from Métraux's data how perfective is expressed; several suffixes are used, and it is not clear what the relation is between them:

(6) a. *wirili* *niwiči-tani* *ok^{x}-as-u-čai*
PRO.1SG PRO.3PL-with go-PERF-1SG-IND
'I have gone with them.'
b. *xoraturč-ki* *ok^{x}-tka-la-ča*
hilacata-TOP go-PERF-DUR-IND
'The hilacata (chief) has gone.'

There is an imperative form of the verb ending in *-a*:

(7) a. *lul-a*
eat-IMP
'Eat!'

b. *čuks* *ok^{x}-a*
you.PL go-IMP
'You all go away!'

3.5 Participant marking

A first feature of participant marking is that *-u-* is limited to first person:

(8) a. *wiril* *ok^{x}-u-(čai)*
PRO.1SG go-1SG-IND
'I go.'
b. *wiri* *lul-u-(čai)*
PRO.1SG eat-1SG-IND
'I eat.'

In other persons *-u-* is absent:

(9) a. *owiša* *lux-ča*
sheep eat-IND
'The sheep eats.'
b. *amin* *pi-ča*
PRO.2SG come-IND
'You come.'

Furthermore, the proclitic mentioned by Uhle only occurs with third persons, singular and plural:

(10) a. *ni* *š-pi-ča*
PRO.3SG 3-come-IND
'He comes.'
b. *niwiči* *š-pi-ča*
PRO.3PL 3-come-IND
'They come.'

There are no examples with other persons.

Métraux does not provide information about derivational morphology or about subordination.

The richest data on Uchumataqu by far are those of Vellard. He published word lists, some stories, a number of complete sentences, and also gave an extensive ethnographic description.

3.6 Tense/mood/aspect

Vellard (1954: 101-2) mentions the following endings for the Uchumataqu verb (spelling adjusted):

(11)	*-i-čay*	present
	-a-čay or *-a-ki-čay*	future
	-u-čay	recent past
	-ak-u-čay	remote past
	reduplicating the verb root and adding *-iki-čay*	very remote past
	-ačačay	habitual
	ke-verb root	repetitive

3.7 Participant marking

As to participant marking, Vellard's data contain the distinction between first and second person future forms:

(12) a. *okw-a-čay*
go-FUT-IND
'I will go.'
b. *okw-aki-čay*
go-FUT.2SG-IND
'You will go.' (V 67 I 6)

However, this not consistent in his data.

There are a number of instances of proclitic elements:

(13) a. *wis-ki* *tom* *wis-ka-čai*
PRO.1SG-TOP net 1SG-take-IND
'I take the net.' (V 49, III, 16)
b. *wirs-ki* *čuñi* *surti* *wis-nu-čai*
PRO.1SG-TOP good luck 1SG-dream-IND
'I dreamt of good luck.' (V 51 1025)

(14) a. *ču-tsiq'-i*
1PL.IN-talk-IMP
'Let us talk.' (V 51 838)
b. *ču-ki* *šiš-ki*
1PL.IN-TOP take-IMP
'Let us take.'
(V 51 894)

c. *ačumi* *ču-pax-ki*
PRO.1PL.IN 1PL.IN-unite-IMP
'Let us all get together.' (V 51 913)

d. *ču* *čarta-ki-čai*
(PRO?).1PL.IN dance-IMP-IND
'Let us dance.'

It is not absolutely clear how to interpret the forms in (14), given the topic marker in (14b), but in exhortatives we tend to find a shortened form of the subject pronoun preceding the verb.

Personal markers on verbs do no appear to be obligatory, at least when clitics are present. The question remains how personal reference is expressed when no clitics appear. Clitics appear with or without topic markers; prefixes marking personal reference on the verb are not always directly related to the clitics.

3.8 Derivational morphology

Vellard (1954: 103) mentions the derivational ending for causative *-ačučay*, but in the examples a number of forms occur. In Vellard's notes, published in 1967 (p. 35), the causative is indicated as *-haručay*, and in Vellard (1951: 893, 909, 910, 911) other causative forms are presented, namely *-ta-/-ča/-a-*:

(15) a. *ska-ta-čay* 'send'
bring-CAU-IND

b. *tana-ča-čay* 'cause to drink'
drink- CAU-IND

c. *la-hi-čay* 'fly'
la-ha-čay 'cause to fly'

d. *šaxk'i-čay* 'run'
šaxk'a-čay 'cause to run'

There are a number of intriguing cases of verbal compounds in Vellard's data. The volitive future in (16b) is relatively productive:

(16) a. *tuk'-okw-a*
be.silent-go-IMP
'Go with your mouth shut.' (V 51 839)

b. *hana pek'-ketsi-niki-čay*
not want-fight-FUT-IND
'We do not want to fight.' (V 51 941)

There is also considerable (partial) reduplication in Uchumataqu, both with verbs indicating inherent repetition, and to indicate strong action. In most examples, initial CVC is reduplicated:

(17) a. *tar-tars-ki*
RED-shake-TOP
'I shake (something).' (V 51 930)
b. *k'aw-k'awa-čai*
RED-cry-IND
'to cry very loudly' (V 51 847)

3.9 Subordination marking

As to subordination marking, Vellard lists a few gerund-like forms ending in *-u-*:

(18) a. *uxk'-u*
go-GER
'going' (V 51 877)
b. *okw-u*
leave-GER
'leaving' (V 51 878)

There are a few examples with a benefactive or purposive:

(19) *liki-č-črapay*
drink-INF-BEN
'in order to drink' (V 67 II 1)

There are subordinate adverbial forms with *-ka*:

(20) *xoxa* *ako-čay* *čiča-ka*
throat dry-IND talk-SUB
'My throat is dry from talking.' (V III 33)

To complete this survey, at present there is no evidence of productive morphology any more. All speakers use frozen forms, often third and first persons, and in the present tense.

4 Verbal morphology in Chipaya

Having presented what we can reconstruct from the three main grammatical sources on Uchumataqu, we now turn to the description of the most recent and complete description of Chipaya, the one given by Cerrón Palomino (2001; 2006).

4.1 Tense/mood/aspect

For tense/mood/aspect, Cerrón Palomino mentions the following suffixes, leaving open their precise semantic nature but suggesting that they are aspectual rather than temporal:

(21) a. *-iñ-/-ñi-/-ñ-* present (habitual)
b. *-chin-/-chi-* past (completive)
c. *a-(ki)-* future (incompletive)

4.2 Participant marking

With respect to participant marking, the picture sketched by Cerrón Palomino is quite complex. First of all, there are occasional instances of proclitic subject marking on the verb:

(22) a. *zh-lik-la*
1PL-drink-IMP
'Let us drink!'
b. *kezi-zh* *lik-a-tra-ni*
chicha-1PL drink-IMP-IND-?
'Let us drink chicha!'

According to the author, this pattern is marginal and hardly used any more. Moreover, in his view, it is derived from object deletion and recliticization of the stranded person marker. Olson (1966: 18) notes that the use of this form was already rare in the 1960s.

More common are cases where the person marker encliticizes onto any element that receives focus. The forms of the clitic do not make all distinctions:

(23) *l* 1SG, 3SG.FEM, 1PL.EX, 3PL.FEM (= FOC.1)
m 2SG (=FOC.2)
zh 3SG.MASC, 1PL.IN, 2PL, 3PL.MASC (=FOC.3)

One of the examples provided is:

(24) a. *wer sum alkanti-l khiy-a-tra*
I good alcalde-1SG be-FUT-IND
'I will be **a good alcalde**.'
b. *wer-il ana sum alkanti khiy-a-tra*
I-1SG NEG good alcalde be-FUT-IND
'**I** will not be a good alcalde.'

A third possibility for participant marking is to incorporate a reduced form of the pronoun into the inflected verb:

(25) a. *am-ki majña-m thaj-ñ-am-tra*
you-TOP early-2SG sleep-HAB-2SG-IND
'You sleep early.'
b. *utrum-nak-ki majña-zh thaj-chiñ-trum-tra*
1PL.IN-PL-TOP early-1PL.IN sleep-PERF-1PL.IN-IND
'We slept early.'

Notice that these reduced pronouns can co-occur with the clitics, and are not identical to them in form.

There are two further aspects of the verb morphology that differentiate for person: the durative marker *-u-* is limited to first person singular (26), and the future element *-ki-* does not occur with first person singular and plural exclusive (27):

(26) a. *zina-lla-l thaj-u-tra*
alone-DEL-1SG sleep-DUR-IND
'I am sleeping alone.'
b. *zina-lla-m thaj-tra*
alone-DEL-2SG sleep-IND
'You are sleeping alone.'

(27) a. *wer-nak-ki majña-l thaj-a-tra*
1-PL-TOP early-FOC.1 sleep-FUT-IND
'We (EX) will sleep early.'
b. *utrum-nak-ki majña-zh thaj-a-ki-tra*
we.IN-PL-TOP early-FOC.2 sleep-FUT+*ki*-IND
'We (IN) will sleep early.'

4.3 Derivational suffixes

Cerrón Palomino provides only limited data about derivational suffixes (28):

(28) *-ta-* passive

4.4 Subordinating markers

His account does contain some information about subordinating elements (29). The following are mentioned:

(29)	*-kan-*	simultaneous, same subject
	-nan-/-an-	simultaneous, different subject
	-ku-	preceding, same subject
	-tan-	preceding, different subject
	(*-nii-ki*	conditional)
	-i	immediate purposive
	-z-japa	more remote purposive

Having briefly surveyed the picture sketched in Cerrón Palomino's work, we are now in a position to do a preliminary comparison of the various data sets.

5 The original Uru-Chipaya system?

It is clear from the data that Uchumataqu and Chipaya are quite closely related. Allowing for the fact that the different sources come from different periods, were collected in different ways, and taking into account biases and interpretations of the different researchers, the number of similarities is still quite striking. Table 5 contains an overview.

In the tense system, the similarities are very slight, possibly *(a)ki* 'future'. However, in the personal reference system there are a number of correspondences: *l* '1SG', *m* '2SG', *s/zh* '3SG/3SG.MASC', *s/zh* '1PL.IN', *l* '1PL.EX', *s/zh* '3PL/3PL.MASC'. Finally, in the subordinator system there is *ku/u/ku* 'gerund', *s(ni)/č/z* 'infinitive', and *ta* perfect participle/preceding, different subject'.

There are also a number of clear differences, but this holds for the different sources of Uchumataqu as much as for the overall differences between the two languages. A striking difference is that the gender distinction mentioned by Cerrón for Chipaya is entirely absent in Uchumataqu. It is clear that Uchumataqu and Chipaya are not very distant genetically, although the sources are probably too fragmentary to allow for a full reconstruction of the proto-language at the present stage.

Table 5: Schematic representation of elements occurring in the verbal morphology in the different sources for Uchumataqu and Chipaya

	Uhle (1894)		Vellard (1950)		Cerrón (2003) (Chipaya)	
Tense Mood Aspect	*t* *k(i)* *u* *ačax* *tsatsa*	perfect future durative optative potential	*i* *u* *a(ki)* *ačačay*	present recent past FUT.HAB	*iñ, ñ, ñi* present *a(ki)* future *chin* past	
Personal reference	*l* *m* *s* *s* *l* *čuk* *s*	1SG 2SG 3SG 1IN 1EX 2PL 3PL	*wis* *ču* 	1SG 1IN 	*l* *m* *zh* *l* *zh* *l* *zh* *zh* *l*	1SG 2SG 3SG.MASC 3SG.FEM 1IN 1EX 2PL 3PL.MASC 3PL.FEM
Subordination	*ni* *ku* *ta* *s(ni)*	present participle gerund perfect participle infinitive	*ka* *u* *č*	SUB GER infinitive	*kan* *na/n* *ku* *ta* *z*	simu, same S simu, diff suf prec, same S prec, diff S infinitive

simu = simultaneous
prec = preceding
diff = different
S = subject

To turn to the last research question, the typological profile, (30) contains a first rough approximation of the maximal morphological template of the Uchumataqu verb:

(30) |subject| |**root**| |RED| |link| |derivat.| |tense| |person| |indicative|
clitic vowel suffix mood aspect

In no verb form do all these elements occur, and some of them (notably reduplication, the linking vowel, and derivational suffixes) may not be combinable. In contrast, some aspect and tense markers may perhaps be combined. This is a matter for further investigation. In any case, a system like the one in (30) shares certain features with other languages in the same area. Quechua and Aymara are suffixal, while some of the eastern slope languages, like Leko (cf. van de Kerke, this volume), have personal prefixes.

Work on Uchumataqu and Chipaya is still continuing, and the above is only a first sketch of some of the features of verb morphology in the Uru languages. When Hannss (in prep.) has been completed, and a more detailed picture of Chipaya becomes available through the continuing investigations on this language by the teams of Rodolfo Cerrón Palomino and Sabine Dedenbach-Salazar, it will be possible to draw up a more definitive picture.

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Evidentiality and epistemic mood in Lakondê

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1 Introduction

Lakondê represents one of the dialects of Northern Nambikwára, which itself belongs to the larger Nambikwára linguistic family. Already the earliest sources locate the Nambikwara groups in central western Brazil in an area near the Bolivian border, where they still live today. The Lakondê's first official contact with the non-indigenous society occurred during the first half of the twentieth century. Intertribal fighting with the enemy group Cinta-Larga (Tupí-Mondé Family) and with other Northern Nambikwára subgroups, as well as illnesses brought into the region by non-Indians since the second half of the 20th century progressively reduced the number of the Lakondê Indians and eroded their autonomy as a people.[1] Today, the remaining Lakondê total seven individuals; only one woman still has knowledge of her mother tongue.

The Nambikwára family is considered one of the "smaller families of the Southern Amazon" (Rodrigues 1986: 73) and consists of three languages that are mutually unintelligible: the Northern language, with five dialects/ languages (Lakondê, Latundê, Mamaindê, Nagarotê and Tawandê); the Southern language, with eleven dialects/languages; and Sabanê, which has no dialectal division. The extent of intelligibility among the dialects within a language group is variable. No accurate studies on the degree of distance/ proximity between them are available.

Until the first half of the 1990s, only two languages of the Nambikwára family had been studied systematically, by members of the Summer Institute of Linguistics (SIL): Kitãulhu, of the Southern Nambikwára group, was studied by the couple Barbara and Menno Kroeker as well as by Lowe (Barbara Kroeker 1972, 1982; Menno Kroeker 1963*a*, 1963*b*, 1963*c*, 2001; Lowe

[1] See Telles (1997-2001).

1999) and Mamaindê, of the Northern Nambikwára group, by Kingston and Eberhard (Kingston 1974, 1976, 1979; Eberhard 1995). Early proposals for the classification of the Nambikwára languages can be found in Roquette-Pinto (1935: 213-14); Lévi-Strauss (1948: 7-13); Rondon & de Faria (1948: 27-73); Loukotka (1968: 96-99); Price & Cook (1969); and Price (1978).

In 1998, a large-scale research program was started involving the phonological and grammatical description of the most severely endangered languages of the Nambikwára family: the Latundê and Lakondê dialects of the Northern Nambikwára branch (Telles, 2002), Katitãulhu (also known as Sararé) of the Southern Nambikwára group (Borella, in prep.), and the Sabanê language (Antunes 2004). The three studies form an integrated project, *The Nambikwára Indians, a description of their languages and of their cultural identity* (Wetzels 1999), which also includes a study of comparative and reconstructive (Proto-)Nambikwára (Costa & Wetzels 2005), and an anthropological study tracing the history of the peoples whose languages are studied in the project, with some discussion of the causes of language loss (Reesink 2005).

From the point of view of 'morphotactic' typology, Lakondê is a polysynthetic language, characterized by words that can take a large number of morphemes. The marking of the main participants is obligatory within the verb complex. Part of the verbal morphology is of the active-stative type. The verbal and nominal morphology are predominantly suffixal. The large number of different suffixes that can be attached to the verb often allows it to function as an integrated sentence, so that no other constituents, such as external arguments, adjuncts and complements, are necessary. The canonical order is SOV. There are four lexical classes, two of which are open (nouns and verbs), and the other two are closed (adverbs and interrogative pronouns). Among these word classes, the verb is morphologically by far the most complex.

Semantically, there are both inflectional and non-inflectional verbal affixes. The inflectional suffixes codify the causative functions, and those of person (subject/direct and indirect objects), evidentiality, aspect, tense, mood, and conjunctives. The grammatical affixes that codify the directional, agentive, benefactive/goal/source (applicative) and causative functions are derivational and occur closest to the verbal root.

Table 1. The structure of the verbal word in Lakondê.

(Directional)	**Derivational Prefixes**	**Theme**	**Verb**
(Agentive / Resultative)			
(Incorporation of body parts)			
ROOT			
(Benefactive - target-Source)	**Derivational Suffixes Incorporated roots**		
(Causative)			
(Root)			
(Incorporated Nominal Root/ Classifier)			
(Verbal Classifiers)			
Object	**Argument *Status***	**Suffixes**	
(Number)			
(Comitative)			
(Reflexive)			
(Locative)			
(Demonstrative)			
(Negation)	**Adverbial *Status***		
(Temporal)			
(Internal motivation)			
(Intensifier/Emphatic)			
(Suppositive)			
(Intensifier/emphatic)			
(Inclusive)			
(Veracity)			
(Desiderative)			
(Permissive)			
(Dubitative)			
(Iminentive)			
(Admonitive)			
(Exhortative)			
(Potential)			
(Completive)			
Future Tense	**Inflectional Suffixes**		
Subject			
Evidentials			
Aspect			
Past Tense			
Mood: Epistemic, Deontic			

Another category of affixes, which have more lexical content and are used optionally, is formed by the prefixes that denote parts of the body, by the incorporated verbal roots linked to the main verb functioning as aspect or negative clauses, and by the classifier suffixes. All of these morpheme classes operate in a productive manner to create the verbal word. Among the verbal affixes, there are still other suffixes that take on the function of verbal modifiers, and as locational, demonstrative, evidential, modal and aspect indicators. Among these, some are transcategorial, i.e. they can also serve as suffixes for the noun class. The structure of the verbal word is visualised in Table 1 above.

According to Aikhenvald (2003:1): "Every language has some way of making reference to the source of information; but not every language has grammatical evidentiality". With respect to this particular category, Aikhenvald considers that "evidentiality is a category in its own right, and not a subcategory of epistemic or some other modality, or of tense-aspect", and that "[a] number of grammatical categories, such as conditional mood or perfective aspect, can each acquire a secondary evidential-like meaning without directly relating to the source or information. Such extensions of grammatical categories to evidential-like meanings will be referred to as 'evidentiality strategies' " (p. 2).

As we will argue in the sections to follow, the evidentiality category in Lakondê presents differences in form and function and is divided into two distinct subsystems. The basic semantic distinction between the two subsystems corresponds to second-hand and first-hand information. The formal difference between these categories is expressed by the fact that they belong to different affixal classes: whereas the suffixes that express second-hand information are derivational in nature, occupying a slot close to the verb root, the ones that refer to first-hand information are inflectional, occurring at the end of the verbal complex. The first subsystem has an exclusively evidential function. The suffixes in this category are optional, and their realization is conditioned by the communicative intentions of the speaker. This subsystem therefore does not correspond with the requirement of obligatory occurrence proposed by Aikhenvald (2002) as a general property of evidential categories. The other subsystem in Lakondê is inflectional in nature and therefore obligatory. The inflectional evidential categories function as part of a series of cumulative morphs: single formatives that simultaneously mark evidentiality, tense/aspect and mood. By their nature, the suffixes that belong to this category should be classified as an 'evidentiality strategy', according to Aikhenvald (2003: 2).

2 The system of evidentiality in Lakondê

Of the two evidential (sub)systems of Lakondê, the first contains the suffixes that occupy a medial position within the word. Lakondê grammar does not require the use of any of the suffixes that belong to this class. The second subsystem is part of the inflectional morphology of the verb. Each well-formed sentence must contain one of the suffixes of this subsystem, which occur in word-final position.

From a semantic perspective, the first subsystem refers to information obtained by way of another person (hearsay). It contains two elements, which display the semantic values of 'auditory source (hearsay)' and 'quote'. The second subsystem specifies, for first-hand information, whether it is based on visual or non-visual (sensory) evidence, whether it results from sensorial inference, and whether it is considered reliable, possible or supposed on the part of the speaker. The two subsystems are described in subsections 2.1 and 2.2 below, together with a description of the relationship between the different evidential categories. Section 3 presents the conditions for the interaction of the two subsystems with the categories of tense/aspect and with different clause types.

2.1 Second-hand information

There are two suffixes with an evidential function, which are positioned inside the verbal complex: -ˡ*seʔ*- and -*setaw*-**.**

2.1.1 Auditory source (hearsay)

The suffix -ˡ*seʔ*- is used to let the listener know that the given information comes from an auditory source (second hand). The semantic value of this form corresponds to 'I have heard' or 'somebody said to me', without revealing the identity of the person from whom the information originated. The examples below contain constructions in which this evidential morpheme is used. In this type of construction, the evidential morpheme is relevant because it expresses how the speaker obtained the information he is expressing, without the source of the information being relevant within the communicative context.[2]

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[2] The following abbreviations are used in this paper: [a] (superscript) = high pitch, A = agentive, ANT = anterior, AN = animate, ASS = assertive, AUD = auditive, BEN = benefactive, CL = classifier, COM = comitative, CMPL = completive, CUR.EV = current evidentiality for both speaker and listener, D = dual number, DES = desiderative, DIR = directional, EMP = emphatic, EV = evidential, FUT = future, IMPF = imperfective, LOC = locative, M.EMP = mild emphatic, N.PROX = non-proximity to the referent, N.VIS =

(1) *ã-ˈpat-hoˈte-ˈten-ˈseʔ-Ø-ˈtãn-hi*
A-leave-for.sb-DES-EV:AUD-3S-IMPF-NEU
'She is going to leave it for me, I heard.'
(2) *ˈtu-ka-ˈhat-n-ˈten-ˈseʔ-Ø-ˈtãn-hi*
get-Sou-not.have-2O-DES-EV:AUD-3S-IMPF-NEU
'He doesn't want to get it from you, I heard.'
(3) *taˈnũh-Ø-ˈseʔ-Ø-ˈtãn*
give-3O-EV:AUD-3S-IMPF
'She gave it to him, I heard.'

2.1.2 Quotative subsystem

The other suffix, *-setaw-*, functions as a quote. When the quotative morpheme is used, the person from whom the speaker obtained the information can either be identified or not, depending on the communicative purposes of the speaker. When the source is identified, the quotative morpheme functions as a proform, and the source (or) subject of information can be recovered by the listener either through the linguistic or the situational context. In these cases, the semantic content of the clause corresponds with 'someone (identifiable) told me', as in the following example.

(4) *taˈwe̱n* *ˈteh-ˈnaw* *ta-ˈa̱jh-wi-setaw-ˈtãn*
woods path-LOC DIR-walk-1D-EV:QUO-IMPF
'Let's walk to the path in the woods, someone (identifiable) told me.'

When the person from whom the information originated is known, he/she can coincide with the subject of the clause when the subject is human, as in:

(5) *hoˈte* *ãn-Ø-Ø-setaw-ˈtãn*
monkey kill-3O-3S-EV:QUO-IMPF
'He said that he (himself) killed the monkey.'
(6) *ˈa̱jh* *ˈtu-ˈta̱-ˈho-Ø-setaw-ˈtãn*
go get-joint.action/associated-AN/COM-3S-EV:QUO-IMPF
'She is going to get (something) with you, she herself said.'

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non-visual, NEG = negative, NEU = neuter, O = object, PL = plural, POS = possibilitive, PRES = present, PST = past, QUO = quotative, REF = referential, nominal suffix, S = subject, Sou = source, SUP = suppositive, VIS = visual, Ø = zero morpheme and ˈ = primary accent (before the accented syllable). Singular number is left unmarked.

When there is no co-reference between the person from whom the information originated and the subject of the reported information, either the subject of the reported information cannot be human or the reporter and the subject of the reported information cannot be identical.

(7) *mãn-Ø-setaw-ˈtãn-hi*
burn-3S-EV:QUO-IMPF-NEU
'The house burned, someone (identifiable) told me.'

(8) *ˈa̱jh-ni-Ø-setaw-ˈtãn-hi*
walk-arrive-3S-EV:QUO-IMPF-NEU
'She arrived, someone (identifiable) told me.'

If the source subject of the information is undetermined, the quote will have a semantic correlation of the type: 'it is said (that) Noun Verb'. With this construction, the speaker avoids revealing the source subject of the information to the listener, intentionally or not. The examples in (9) and (10) below illustrate this type of construction.

(9) *ta̱-ˈsoh* *weˈli-ka-ˈjaw-Ø-setaw-ˈlen*
1-grandfather cure-BEN-be-3S-EV:QUO-IMPF
'My grandfather was cured.' (it is said)

(10) *wet-ˈnãw* *taˈwe̱n-ˈnaw* *loh* *sũn-Ø-Ø-setaw-ˈtãn*
child-PL woods-LOC lynx hit-3O-3S-EV:QUO-IMPF
'The children in the woods, the lynx attacked them.' (it is said)

2.1.3 Periphrastic quotative constructions:

Constructions using lexical means to specify the source of information are, in principle, possible in all of the world's languages. In Lakondê, too, the clauses that exhibit morphologized hearsay evidentiality have parallel constructions in which the information source is provided periphrastically, such as 'I heard/I didn't hear, he left' 'somebody told me that he left', etc. Below are examples of constructions with periphrastic evidentiality, in which an independent clause makes explicit that the information contained in the main proposition is reported. In a construction with a periphrastic quote, the part of the sentence that defines the given information as being quoted occurs after the main clause. In (11), the quotative construction has the same grammatical subject as the preceding clause. In (12), the subject of the quotative clause is undetermined, as in (10) above, in which the morphological quote does not provide the source of information. It should be pointed out that the semantic distinction between the quotative clauses in examples (11) and (12)

as it appears in the English glosses is derived from the non-linguistic context.

(11) *hejn-ka-Ø-ˈtãn* *hajn-Ø-ˈtãn*
wash-BEN-3S-IMPF say-3S-IMPF
'He washed (the clothes), he said.'

(12) *hejn-ka-Ø-ˈtãn* *g̰w-Ø-ˈtãn*
wash-BEN-3S-IMPF tell-3S-IMPF
'He washed, he told me.'

2.2 First-hand information: Visual evidence, non-visual evidence, sensory inference and reliability, possibility and supposition – first-hand information

The inflectional evidential subsystem can be semantically divided into 'visual evidence' (or eyewitness), 'non-visual (sensory) evidence', 'sensory inferred evidence', 'reliability', 'possibility' and 'supposition'. The 'visual evidence' category is divided into 'past visual' and 'present visual' and is expressed as part of a cumulative morpheme that also expresses tense/aspect and mood. The other categories are expressed by cumulative morphemes as well, which also express the mood category. The fact that this system is entirely grammaticalized, whereas the non-inflectional subsystem discussed above is not, suggests that it is older in the language than the non-inflectional subsystem. In our interpretation of the facts, the inflectional subsystem represents an independent system of evidentiality, because it is expressed through a different class of morphemes, located in a different slot in the verb complex. The flexional subsystem of evidentiality is treated here as part of the tense/aspect/mood system, with which it is paradigmatically fully integrated. Although part of the paradigm is represented by suffixes that do not express evidential meaning, these do not co-occur with the ones that do express evidential meaning. For example, the sentences in (13) and (14) below contain the mood suffix 'neuter' *-hi* and the 'evidential visual past' suffix *-ˈti,* respectively, which are mutually exclusive, because they belong to the same paradigm of epistemic mood suffixes.

(13) ˚*mãn-Ø-setaw-ˈtãn-hi*
burn-3S-EV:QUO-IMPF-NEU
'The house burned, someone (identifiable) told me.'

(14) ˚*mãn-Ø-*ˈ*tãn-*ˈ*ti*
burn-3S-IMPF-EV:PST.VIS
'The house burned.' (I saw it)

2.2.1 Visual evidence and sensorial inference and tense category

Visual evidence is expressed through the category of the 'recent past'. Its occurrence and function is discussed in the following subsection.

2.2.1.1 Visual evidence and the recent past

The tense system of Lakondê expresses the categories 'past', 'present' and 'future'. The present tense is not marked overtly: it is the absence of a tense marker that expresses the present. The language distinguishes three 'past tense' categories: the 'recent past', which is expressed by the imperfective aspect morpheme -ˈ*tãn-*; the 'anterior past' (or 'perfect past'), the form for which is *-ta-*, and the 'non-recent past', marked by the morpheme -ˈ*len-*. The 'recent past' generally refers to an event or action that took place on the same day as the speech act itself. The 'anterior past' is defined as "a past action with current relevance" (Bybee *et al.* 1994: 61). The occurrence of the 'anterior past' morpheme *-ta-*, combined with the imperfect aspect morpheme -ˈ*tãn-* (-ˈ*tãn-ta***)** results in a 'continuous anterior', "in which a past action continues into the present time" (Bybee *et al.* 1994: 62). The semantics of the 'continuous anterior' is therefore similar to that of 'state'. It is used in speech contexts in which the event or action referred to in the clause was eye-witnessed by both speaker and listener, thus codifying an evidential function.

The co-occurrence of the imperfective aspect morpheme with the anterior morpheme results in a construction in which the semantic aspect/ tense content of the sequence -ˈ*tãn-ta* aggregates a visual evidential value, referring to an event that has begun in the past and continues into the present, indicating that the progression of the action is projected onto the moment of speech.

(15) *pan* ˈ*ten-*ˈ*tãn-ta*
be.two be.there-IMPF-ANT
'The two have been there.' (I have seen it)

(16) *mũn-nah-*ˈ*tãn-ta*
be.beautiful -2S-IMPF-ANT
'You were beautiful.' (I have seen it)

(17) *mãn-ka*ˈ*loh* *hejɲ-Ø-*ˈ*tãn-ta*
clothes-CL.flat.surface/unidimens wash-3S-IMPF-ANT
'She has washed the clothes.' (I have seen it)

(18) *ɲen-*ˈ*naw* ˈ*ta-Ø-*ˈ*tãn-ta*
man-LOC horizontal position-3S-IMPF-ANT
'He has been lying down.' (I have seen it)

(19) *wɲi-*ˈ*jon-ka-Ø-*ˈ*tãn-ta*
eat-CMPL-3S-IMPF-ANT
'He has been eating with someone.' (I have seen it)

Except for the sequence ˈ*tãn-ta***,** there are analytic ways of using (visual and other) evidentiality in the past tense. We will briefly discuss these possibilities below.

2.2.1.2 Visual evidence and the present tense

The present tense is not expressed by any specific morpheme. In general, the clauses referring to events or actions that take place at the moment of the discourse contain the imperfective aspect morpheme -ˈ*tãn-*, which, as we have seen, also codifies the recent past tense. When the imperfect aspect morpheme is used to express the present tense, it does not express any evidential value. However, in constructions that report events or actions in the present tense and in the event of a source of evidentiality shared by both speaker and listener, the evidential morpheme *-na* is used, meaning 'current evidence shared by both speaker and listener'. The use of *-na* only occurs in clauses with a third person singular or plural subject, which are expressed by the absence of a person morpheme (indicated by 'Ø' in the examples below).

(20) *tɲ-Ø-nɲ*
fall-3S-CUR.EV
'He is falling.' (we – speaker and listener – can see it)

(21) ˈ*ɲjh-Ø-nɲ*
go-3S-CUR.EV
'He is going.' (we – speaker and listener – can see it)

(22) *wɲi-Ø-nɲ*
eat-3P-CUR.EV
'They are eating' (we – speaker and listener – can see it)

2.2.2 Visual evidence, non-visual evidence, sensorial inference, reliability, possibility and supposition vs. mood

2.2.2.1 The mood category

According to Palmer (1999: 229), "In its traditional sense, mood is a purely morphological category of the verb." The more general concept of 'modality', in turn, usually refers to the entire system a language exhibits for expressing the attitudes and opinions of the speaker, involving such concepts as subjectivity, acts of speech, non-factuality, possibility, and necessity expressed linguistically through modal verbs and particles. The notion of modality may therefore coincide with semantic values expressed in evidential forms, since both the morphemes that belong to the morphological mood system and the ones that belong to the system of evidentiality proper may indicate the degree of the speaker's commitment to the truth of the proposition. Traditionally, the modal markers that express the attitudes and opinions of the speaker are known as 'epistemic', occurring in declarative and interrogative clauses. On the other hand, the mood markers that express the illocutionary force of the imperative do not aggregate evidential content, since they bear no relation to the speaker's attitude on the **status** of truth of the proposition. Markers that do not reveal the degree of the speaker's commitment or his/her subjective posture regarding the status of the information transmitted are known as 'deontics' and are used in construct-ions that contain conditions of obligation or permission.

In Lakondê, the modal markers are inflectional morphemes realized in the final position of the sentence. Some of the epistemic modal morphemes that occur in declarative sentences also have an evidentiality function. Therefore, they are cumulative morphemes expressing the notions of sensorial inference, reliability or probability with regard to a given proposition. As modal suffixes, these evidentials reflect the attitude – or level of commitment – of the speaker and not the means through which the speaker obtained the information.

2.2.2.2 Epistemic modals with evidential function in declarative sentences

Constructions that formally and semantically are complementary to the ones that express 'interrogative' or 'imperative' content fall in the 'declarative' category. Constructions in which there are no modal markers are considered epistemically non-marked (Palmer 1986: 26-29). Among the morphemes of epistemic modality presented below, the ones that occur in (a-c) express clear evidential notions, whereas the forms that are described in (d-e) may be considered as typically modal. Since both categories are expressed by differ-

ent forms of the same paradigm and therefore cannot co-occur, we will discuss all the forms that belong to this paradigm, in order to obtain a complete view of this morpho-syntactic subsystem.

a) Past tense visual evidence:

-ˈ*ti*- is a cumulative morpheme, expressing at the same time 'visual evidence' and past tense'. It seems natural that evidence from a visual source is the result of a speaker's past experience. In any case, this morpheme does not occur in the present or future tenses. By using this morpheme the speaker provides the information that the transmitted information was acquired visually.

(23) *wĩ-ˈhat-Ø-ˈtãn-ˈti*
eat-not.have-3S-IMPF-EV:PST.VIS
'He did not eat.' (I saw it)

(24) *hejn-taˈlown-jãn-Ø-ˈtãn-ˈti*
wash-finish-EMP.M-3S-IMPF-EV:PST.VIS
'She washed everything.' (I saw it)

(25) ˈ*e-ˈlen*^{a}*-ˈti*
see/look-2S.PST-EV:PST.VIS
'You saw.' (I saw that you saw)

b) Sensory inference

The visual past tense suffix, -ˈ*ti*-, can co-occur with the verb *hi*- 'to have the impression', followed by the 'emphatic' suffix, *-jãn-***.** Only when the sentence simultaneously contains -ˈ*ti*- , the verb *hi*- , and the emphatic suffix *-jãn-***,** does the source of evidence expressed by -ˈ*ti*- change from 'visually observed' to 'deduced from evidence':

(26) ˈ*ɰ̃jh-hi-jãn-Ø-ˈtãn-ˈti*
go/walk-have.impression-M.EMP-3S-IMPF-EV:PST.VIS
ˈ*hat-ta-ta-ˈti*
not.have-NEG-ANT-EV:PST.VIS
'It seems that he went, no one is there.'

(27) *wi̯-hi-jãn-Ø-ˈtãn-ˈti*
eat-have.impression-M.EMP-3S-EV:PST.VIS
ˈpɾatu-ˈnaw *ˈji̯ẹn-kaˈloh*
dish-LOC be.dirty-CL.flat.surface/unidimens
ã-ˈpat-Ø-ˈtãn-ˈti
A-leave-3S-IMPF-EV:PST.VIS
'It seems that she ate, she left a dirty dish.'

c) Non-visual or possibilitive

-si- is a 'non-visual evidential' or 'possibilitive' marker. This suffix expresses two kinds of evidence for the source of information: the first is called a 'non-visual evidential', when the informational evidence originates from a non-visual sense, such as by way of smell or by the auditory senses (28). This morpheme, here called 'possibilitive', can also express the notion of simple possibility with respect to the information announced (29).

(28) *ˈwa̯ja* *hejn-ka-ta-ˈtãwn* *ˈpat-ˈtãn^{a}-si*
you.PL wash-BEN-1O-CMPL leave-2S.IMPF-POS
'It is possible that you.PL have washed (sth) for me (because I heard the sound coming from the river).'

(29) *hejn-ka-ˈjown* *ˈpat-ˈtãn^{a}-si*
wash-BEN-EMP leave-2S.IMPF-POS
'It is possible that you.PL have washed.'

d) Reliability

The suffix *-ˈkã̃* is a 'categorical assertive' marker by means of which the speaker attests that he/she is absolutely certain about what is being said. With the categorical assertive, the speaker conveys to the listener that the information being announced is certain and reliable. This suffix may co-occur with any verbal tenses.

(30) *wi̯-ˈjown-ni-ˈtã-ˈka̯*
eat-EMP-FUT-1S.IMPF-ASS
'I (certainly) am going to eat also.'

(31) *taˈnũh-Ø-ˈtãːn^{a}-ˈka̯*
give-3O-1S.IMPF-ASS
'I (certainly) gave (sth).'

(32) *ˈjãn* *te̯h-ka-ˈten-ni-ˈtã-ˈka̯*
soon cook-BEN-DES-FUT-1S.IMPF-ASS
'I (certainly) am going to cook soon.'

(33) *ta*ˈ*lown*-ˈ*hat-jãn-Ø*-ˈ*tãwn-ta*-ˈ*kɻ*
finish-not.have-M.EMP-3S-CMPL-ANT-ASS
'It (certainly) is not ready.'

e) Suppositive

-ˈ*sun* can be glossed as 'almost certain supposition': the speaker states that the content of the information is a supposition of which he/she is almost certain, though not based on concrete inference. This form is not generally used with reference to the first person. It is more commonly employed with regard to the speaker's supposition regarding some event or state which has yet to be realized by the listener or by a third party mentioned in the discourse. The occurrence of the suppositive morpheme is therefore used with the verb in the future tense.

(34) *tɻ-su*ˈ*niʔ*-ˈ*nãw* *sa*ˈ*nĩn-ka-ta*-ˈ*jown-Ø*-ˈ*tãn*-ˈ*sun*
1-grandchildren-PL be.happy-BEN-1O-EMP-3S-IMPF-SUP
'My grandchildren are going to be happy with me (on my return).'

(35) ˈ*bɔdi*-ˈ*ʂɻn* *wɻ̃*-ˈ*jown-Ø*-ˈ*tãn*-ˈ*sun*
goat-meat eat-EMP-3S-IMPF-SUP
'He is going to eat goat meat.'

(36) ˈ*wɻja* *wɻ̃*-ˈ*tãn*^{a}-ˈ*sun*
you eat-2S.IMPF-SUP
'You are going to eat.'

3.3 Evidentiality and nouns

There are a number of morphemes that frequently occur in nominal phrases. Since their use is optional, i.e. they may or may not be used in the same propositions under similar discourse conditions, it is not obvious that they can be considered suffixes, whether derivational or inflectional. The semantic content of these forms varies but is clearly lexical. Some of these suffixes can occur in other word classes. Two of these forms have a clear evidential meaning.

The first of these is *-te-*, which expresses the notion of 'visual evidence with respect to some distant entity' in relation to the participants of the conversation. This marker is the semantic opposite of *-ta-*, described below, which refers to the proximity of the entity referred to with regard to the speaker/listener.

(37) *ˈsih-te-ˈte*
house-N.PROX-REF
'house (which we see at a distance)'
(38) *wet-kiˈnĩn-te-ˈte*
child-CL.rounded/oblong/tridimens-N.PROX-REF
'child (who we see at a distance)'

The form *-ta-* 'visual evidential', is the second form. It functions as an evidential suffix for both nouns and verbs, and occurs when the referent mentioned was or is being seen by the speaker.

(39) *tɑ-ˈnãn-ta-ˈte*
1-larva-EV:VIS-REF
'my coró' (kind of edible larva)
(40) *ˈkɑn-kiˈnĩn-ˈnãw-ta-ˈtãn-ta*
pineapple-CL.rounded/oblong/tridimens-PL-EV:VIS-IMPF-ANT
'they are pineapples'

4 Conclusion

In many languages that have grammaticalized evidentiality, evidential meanings may be synthesized with other grammatical categories, so that they are expressed as cumulative morphemes or restricted to specific clause types (cf. also Aikhenvald 2002). In Lakondê, 'pure' evidentials and epistemic mood suffixes occur in affirmative or negative declarative sentences, and may be restricted in their occurrence, being allowed to co-occur with specific tense categories only. Considering both subsystems that express evidentiality in Lakondê, eight distinctions are found, whose distribution is summarized in the table below. Besides the category of verbal evidentiality, two suffixes occur in the noun class with evidential purposes. Syntactically, the nouns that receive evidentiality marks occur as nominal phrase in either active or stative constructions assuming the function of clausal arguments.

The complexity of the system of evidentiality in Lakondê corresponds to that observed in other languages of the Nambikwára family, namely in the Kitãulhu language (Southern Nambikwára) (Lowe 1999) and Mamaindê (Northern Nambikwára) (Kingston 1974). However, there are no strict parallels between any of these systems and that found in Lakondê.

	Subsystem 1 2nd Hand Non-Inflectional Suffixes		Subsystem 2 1st Hand Inflectional Suffixes					
	Auditory Source	Reported (quotative)	Visual	Non-Visual	Possibilitive	Inferred	Reliability (mood)	Suppositive (mood)
Declarative Sentence	Present - Recent Past – Remote Past	Present - Recent Past – Remote Past	Recent Past - Remote Past	Recent Past - Remote Past	Recent Past - Remote Past	Recent Past - Remote Past	Present - Recent Past - Remote Past - Future	Future

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