Comparative Tupí-Guaraní Morphosyntax

Cheryl Jensen
Summer Institute of Linguistics

Appendix V Distinguishing properties of Tupí-Guaraní languages

0 Introduction

The Tupí-Guaraní language family is one of seven families (plus 3 isolated languages) in the Tupian stock, located in lowland South America. Whereas the peoples of the other Tupian language families have a history of being somewhat settled (being confined to the Brazilian states of Rondônia, Amazônia, and western Pará), the Tupí-Guaraní peoples have been highly migratory. Members of the Tupí-Guaraní language family are located in 5 countries of South America: Brazil, Paraguay, Bolivia, Peru, and French Guiana.[1] Even so, they show a high degree of consistency in their basic morphology. Compare, for example, three languages from the geographical extremities of the language family: Mbyá Guaraní (southern Brazil), Wayampi (Jari dialect spoken in northern Brazil), and Guarayu (Bolivia), together with the reconstructed Proto-Tupí-Guaraní forms:[2]

	P-T-G	GiM	WaJ	Gu
corn	*abatí	avaxí	awási	aváči
jaguar	*jawár	jawá	jáwa	jáwar
sun	*kwaracý	kwaraý	kwaraý	áry
monkey	*ka'í	ka'í	ká'i	ká'i
rock	*itá	itá	takúru	íta

The differentiation in these descendant languages is the result of (1) neutralization of *ɓ and *w (WaJ); (2) loss of final consonant (GiM,Wa); (3) stress change from final to penultimate syllable (Gu,Wa); (4) loss of *c (GiM,Wa); (5) palatalization and weakening of *t preceding a high front vowel (Gu,GiM,Wa); (6) modification of stem (Wa); (7) loss of cognate (Gu). These lexical items are easily recognizable as cognates in spite of the great geographical distance separating the three languages.

    The main objective of this paper is to give an overview of the morphology and, to a lesser degree, the syntax of the Tupí-Guaraní language family. Both phonological (Lemle 1971) and morphological (C. Jensen 1989) reconstructions of Proto-Tupí-Guaraní have been published and provide a good framework for a comparison of the descendant languages. In this paper I present the grammatical structures as they were reconstructed for Proto-Tupí-Guaraní, followed by examples of these structures in various descendant languages. I then describe changes that have taken place in other languages which deviate from the reconstructed forms. Since phonological change has a major influence on morphological and syntactic changes, I have included Appendices II to IV to serve as references for the reader. Reconstructed morphemes with supporting data appear in Appendix I. Rodrigues' (1984/85) criteria for distinguishing Tupí-Guaraní languages by subgroups appear in Appendix V.

    Since my principal interest is in the area of reconstruction and change, I have concentrated my studies on those Tupí-Guaraní languages which to a large degree still represent the Proto-Tupí-Guaraní system. A few languages in the family show alternation significant enough to justify the hypothesis that they are spoken by

Approximate locations of Tupí-Guaraní language groups

peoples who were originally non-Tupí (Rodrigues 1984/1985:42–43). I have chosen not to include them in this paper except for a brief discussion in sect. 0.3.[3]

0.1 Overview

1. There are four sets of person markers (sect. 1) reconstructed for Proto-Tupí-Guaraní which occur with verbs, nouns, and postpositions. Set 1 markers (sect. 5.1) refer to the grammatical subject and occur in the independent clause with agentive intransitive verbs and with transitive verbs when the object is third person. Set 2 markers refer to the object of transitive verbs (sect. 5.2), the subject of intransitive verbs (agentive and non-agentive) (sects. 5.4; 6.1–3), the possessor of nouns (sect. 3.1), and the object of postpositions (sect. 4.1) when these are not coreferential with the subject of the independent verb. They are used in dependent verb constructions (sects. 6.1–3; 9.1–2) as well as with independent transitive verbs when the object is hierarchically superior to the subject. Set 3 markers refer to the subject of dependent serial intransitive verbs (agentive and non-agentive) (sect. 6.3), the possessor of nouns (sect. 3.2) and the object of postpositions (sect. 4.2) when these are coreferential with the subject of the independent verb. Set 4 markers (sect. 5.3) occur with independent transitive verbs when the subject is first person and the object is second person.

2. There are two classes of inflectible stems, based on their combination or not with a linking morpheme r- (sect. 2). There is an additional class of noninflectible stems.

3. Many nouns are obligatorily possessed, among them body parts (sect. 3.1).

4. Proto-Tupí-Guaraní nouns are suffixed by a nominal case marker whenever they function syntactically as nouns (sect. 3.3). Unsuffixed, a noun may also serve syntactically as a verb.

5. Various modificational suffixes occur with nouns, including augmentative and diminutive, devolved and anticipatory, genuine and imitative suffixes (sect. 3.4).

6. Complex nouns are formed by combinations of Noun-Noun and Noun-Verb (sect. 3.5).

7. Noun phrases are fairly simple, and consist of three types: Genitive-Noun, Noun-Appositive, Specifier-Noun (sect. 3.6).

8. The object of a postposition is indicated by a noun, a person marker of Set 2, or a person marker of Set 3, the latter indicating coreferentiality with the subject of the independent verb (sect. 4).

9. When the object of an independent transitive verb is third person, the verb is prefixed with Set 1(A) person markers, which are also used to prefix agentive intransitive verbs. When the object of the independent transitive verb is hierarchically superior to the subject, the verb is cross-referenced with Set 2(P) person markers, which are also used to cross-reference non-agentive intransitive (that is,

stative) verbs. In the remaining cases (where the subject is first person and the object is second person) the independent transitive verb is cross-referenced by Set 4 person markers (sect. 5).

10. In languages which retain the system reconstructed for Proto-Tupí-Guaraní, all dependent verb forms are cross-referenced with person markers from Set 2, unless their referent is coreferential with the subject of the independent verb. In this case they take markers from Set 3 (sect. 6).

11. Dependent verb forms include oblique-topicalized, subordinate, and dependent serial verbs (sect. 6).

12. Valence-changing devices include three types of causative and four techniques for detransitivizing a transitive verb (sect. 7).

13. Verbal aspects include future, desiderative, completive, consecutive, frequentive, frustrative, and intensive (sect. 8).

14. Nominalizations refer to the action itself, or to the agent, circumstances, or patient of the action. These may co-occur with anticipatory and devolved morphemes (sect. 9).

15. Five separate negation markers occur (sect. 10).

16. Demonstratives function with reference to persons, objects, time or location, or to temporal, spatial, and other elements of the discourse (sect. 11).

17. Tupí-Guaraní languages are characterized by particles (sect. 12) and ideophones (sect. 13).

18. The numerical system is rudimentary (sect. 14).

19. Constituent order in absolutive-marked constructions tends to be verb-final. Independent clauses show somewhat free word order, but basic orders tend to be SOV or SVO (sect. 15).

20. Discussions of the significance of the linking prefix r- and of the development of the person hierarchy appear in sects. 16 and 17, respectively.

0.2 Classification. The total number of Tupí-Guaraní languages exceeds 40. Several of these languages have been extensively documented, including two extinct languages: Old Guaraní (documented principally by Antonio Ruiz de Montoya in 1639 and 1640) and Tupinambá (documented by Joseph de Anchieta in 1595). For certain other languages, only limited data are available. The Tupí-Guaraní languages are tentatively subdivided by Rodrigues (1984/85) into eight subgroups, which appear in Table 1. Priest's (1987) reference to the Guaraní linguistic family includes Bolivian languages from Rodrigues' subgroups I and II.

Table 1: Subgroups of Tupí-Guaraní Language Family

Subgroup:	Languages:
I	Old Guaraní, Mbyá Guaraní, Xetá, Ñandeva, Kaiwá, Paraguayan Guaraní, Guayakí, Tapieté, Chiriguano (Bolivian Guaraní), Izoceño [Southern Brazil, Paraguay, Bolivia]
II	Guarayu, Sirionó, Hora (Jora) [Bolivia]
III	Tupinambá [formerly along the Brazilian coast]; Língua Geral Paulista [state of São Paulo]; Língua Geral Amazônica (Nheengatu); Cocama, Cocamilla, Omagua [upper Amazon River and tributaries]
IV	Tocantins (or Trocará) Assuriní, Tapirapé, Ava (Canoeiro), Tocantins Suruí (Akewere), Parakanã, Guajajára, Tembé [Brazilian states of Maranhão and eastern Pará]
V	Kayabí, Xingu Assuriní, Araweté (?) [Western part of the state of Pará]
VI	Parintintín, Tupí-Kawahíb, Apiaká [Brazilian state of Rondônia]
VII	Kamaiurá [Xingu Park in southern Pará]
VIII	Takunyapé, Emerillon, Urubú-Kaapor, Wayampi, Amanayé, Anambé, Turiwara, Guajá [Brazilian states of Maranhão, Pará, and Amapá; and French Guiana]

Rodrigues' subgrouping is based on sets of phonological features, which are listed in Appendix IV. His lexical, morphological, and historical knowledge of the family is not applied in a rigorously formal way, but is used to establish the reliability of his subgrouping.[4] I have chosen to follow Rodrigues' subgrouping in this paper and have added to his list certain features which further characterize his subgroups.

Not all languages in a given subgroup are equally related. For example, Tembé and Guajajára are quite different from the other languages in subgroup IV, in that they do not neutralize *j (phonetically a [z] in Guajajára) with other sounds. Guajajára and Tembé do not have coreferential markers for first and second persons (sect. 3.2), which other languages in the subgroup have. All languages in this subgroup have undergone some degree of vowel shift, including total or partial loss of nazalization, but the degree of vowel shift is less in Guajajára and Tembé than in other languages of the subgroup.

Wolf Dietrich (1990b) has conducted a different type of study, by which he measures the degree of phonological and morphological conservatism of various languages. This is determined by the occurrence of characteristic phonological features, on one hand, and the occurrence of characteristic Tupí-Guaraní morphemes, on the other. His study includes a detailed comparison, feature by feature, and is a valuable reference guide. Numerical similarity between languages is determined by counting the features they share. The value of Dietrich's work is that it establishes a basis for evaluating the actual degree of phonological and morphological similarity of any two languages in their present state. His conclusion (1990b:116) is that "there are no actual classes, but groups of no more than 2 or 3 close cognate languages and groups of languages which share a number of phonetic and morphological characteristics." In this sense he

disagrees with Rodrigues' subgroupings. I do not think that they are necessarily inconsistent, since languages can be closely related historically, that is, members of the same subgroup, as Rodrigues proposes, and still be quite different from each other, because of subsequent individual changes, particularly if outside influences are involved.

One limitation of this type of study, as Dietrich mentions himself, is its dependence on sufficient data for each feature included. Some features listed as nonexistent in the Jari dialect of Wayampi, for example, do in fact occur (*oka*, from **ukár*, and *a'e*). Another feature suggested as regional, since it occurs in Wayampi and Emerillon, is the negation morpheme *rowã* (or *ruã*, as we now spell it), which actually has cognates in Tupinambá, Old Guaraní, Parintintín, and Kamaiurá (sect. 10.3). Insufficiency of data or inaccuracy in the reporting of features affects the numerical outcome in the comparison of languages.

The choice of features and the value assigned to each one also affect the numerical outcome in a comparison. I suggest that not all features should carry equal weight, and that differences have their greatest significance when they cause misunderstanding or misinterpretation from one language to another.[5]

As linguists studying the various Tupí-Guaraní languages cooperate with Dietrich by evaluating his results in relation to their particular language, by providing further input into the significance of specific phonological and morphological features as a basis for comparison, and by supplying missing data, he will be able to refine his system of evaluation. This will increase its effectiveness in showing how closely the individual Tupí-Guaraní languages are related to each other. I suggest also that he add to his phonological and morphological comparisons a measure of lexical comparison.

0.3 Atypical languages. A few languages show significant alteration, as described by Rodrigues (1984/1985:42–43): "Izoceño is a dialect of Chiriguano spoken by descendants of Chané Indians, who originally spoke a language of the Aruak family. The same is true of Tapieté, spoken by a people of the Chaca, probably of Matáko origin. Guayakí (Aché), more strongly altered in its grammatical structure, shares the diagnostic properties of [Subgroup I]."

Rodrigues writes that Sirionó is "strongly altered to the point of justifying the oft-proposed hypothesis that it is a language spoken by people who were originally non-Tupí, but who were 'Guaraní-ized.'"

About Cocama (Kokáma) he writes: "Although it is very different in its grammar, it is directly derived from forms like those of Tupinambá ... The fact that Kokáma has certain important properties which are non-Tupí gives the impression that we are dealing with one more case of a Tupí-Guaraní language adopted by a non-Tupí people. One of the most interesting facts about Kokáma in this regard is that it has different personal pronouns depending on the sex of the speaker, and in two cases the pronoun used by the men is non-Tupí while the pronoun used by the women corresponds to Proto-Tupí-Guaraní."

Língua Geral Amazônica (Nheengatu) developed during the colonial period, as Tupinambá entered a completely new social context through the mestizo children of Portuguese men who grew up speaking the language of their indigenous mothers. As the use of this language expanded in this nonindigenous context, the Tupinambá language underwent grammatical and phonological changes. For example, the high central vowel, unfamiliar to Portuguese speakers, was reinterpreted in individual words as either a front or a back vowel. This language is now spoken as the mother tongue of non-Indians in the Upper Amazon region.

According to Rodrigues (p.c.), Urubú-Kaapor appears to have been influenced by Língua Geral during the time that the latter was spoken along the lower Amazon River basin. Urubú-Kaapor demonstrates some grammatical simplification, particularly in its cross-referencing system (C. Jensen 1990). However, it is easily recognizable as a Proto-Tupí-Guaraní language and is often appropriate as a source of examples for this paper.

Dietrich (1990b) concurs that both Guayakí and Cocama are so atypical that they must have been taken over by people who originally spoke another language or were influenced by speakers of another language, and that Sirionó must also have been affected by outside influences. Phonologically he proposes two groups, the more stable (conservative) and the more innovatory. He considers both Urubú-Kaapor and Sirionó to be among the less conservative members of his group 1 (the more stable group) in phonological ranking. Morphologically, he proposes three groups. He places both Sirionó and Urubú-Kaapor in group 1, but outside the axis of morphological conservatism, with Guayakí and Cocama in group 2. Members of group 3 are Sateré-Mawé and Awetí, which are classified by Rodrigues as being outside the Tupí-Guaraní family, although closely related to it.

1 Proto-Tupí-Guaraní person markers

Four sets of person markers as well as a set of free pronouns have been reconstructed for Proto-Tupí-Guaraní, and appear in Table 2. The reconstructions were based on data from 14 languages, including at least one member of each of Rodrigues' subgroups.[6] The data upon which these morphemes have been reconstructed appear in Appendix I.

Table 2: Proto-Tupí-Guaraní person markers

	Set 1	Set 2	Set 3	Set 4 (with 1A)	Pronouns (Free)
1SG	a-	čé (r-)	wi-		ičé
1EX	oro-	oré (r-)	oro-		oré
1IN	ja-	jané (r-)	jere-		jané
2SG	ere-	né (r-)	e-	oro-	eré
2PL	pe-	pé (n-)	peje-	opo-	pe .. ẽ
3	o-	i-,c-,t-	o-		
	TV	TV	TV	TV	
	IV-ag	IV	IV		
		N	N		
		Post	Post		

(Note: The *r-* and *n-* occur obligatorily between the Set 2 person markers and morphemes of Class II, as indicated.)

The person markers from Sets 1 and 2, as well as the free pronouns, occur in all of the descendant languages on which the reconstruction was based. Set 1 markers occur exclusively with transitive and agentive intransitive verbs; they refer to A and S, respectively (see footnote 10 for abbreviations). Set 2 markers occur with transitive and intransitive (agentive and non-agentive) verbs, nouns, and postpositions; they refer to P and S. Set 3 markers occur in some languages with nouns, postpositions, and dependent verbs; in other languages the full set occurs only with intransitive serial verbs, only the third person prefix occurring with nouns, postpositions, and subordinate verbs. (In still other languages, the set has been eliminated completely, with the exception of the third person prefix *o-*.) They are agreement (coreferential) prefixes which replace Set 2 markers when the referent (P or S) is also the grammatical subject of the independent verb (or the verb which dominates a noun or postposition in a subordinate clause). Set 4 are portmanteau markers referring simultaneously to first person A and second person P in transitive verbs. The function of these sets of person markers will be discussed in greater detail under noun and verb morphology (sects. 3–6).

2 Word classes

Basic to the description of Tupí-Guaraní languages is the division of all inflectible stems into two word classes for which there is no semantic or clearly defined grammatical basis. Stems which are grammatically noninflectible, that is, obligatorily non-possessed, comprise a third class. Morphemes are classified as Class II if they combine with a special linking morpheme *r-* (sect. 2.2). Class I morphemes never take the *r-* prefix. These classes transect grammatical divisions of noun, verb, and postpositions, as

illustrated in Table 3. All members of Class II begin with a vowel; most, but not all, members of Class I begin with a consonant.

Table 3: Class I and Class II stems

	Class I (without r-)	Class II (with r-)
Nouns	*čý 'mother' *čé čý 'my mother' *kunumĩ čý 'boy's mother' *akáŋ 'head' *čé akáŋ 'my head' *kunumĩ akáŋ 'boy's head'	*úb 'father' *čé r-úb 'my father' *kunumĩ r-úb 'boy's father'
T. Verb	*pycýk 'grab' *čé pycýk 'grab me' *kunumĩ pycýk 'grab the boy' *apytĩ 'tie' *čé apytĩ 'tie me' *kunumĩ apytĩ 'tie the boy'	*ekár 'seek' *če r-ekár 'seek me' *kunumĩ r-ekár 'seek the boy'
I. Verb (agentive)	*kér 'to sleep' *čé kér-VmV 'when I sleep'	*ekó ~ ikó 'to be in motion' *čé r-ekó-rVmV 'when I am (in motion)'
I. Verb (non-agentive)	*katú 'be good' *čé katú 'I am good' *u'ú 'cough' *čé u'ú 'I cough'	*acý 'hurt' *če r-acý 'I hurt'
Postposition	*cupé 'for' *čé cupé 'for me' *kunumĩ cupé 'for the boy'	*ecé 'with respect to' *čé r-ecé 'with respect to me' *kunumĩ r-ecé 'with respect to the boy'

2.1 Subclasses. Word classes I and II both have subdivisions (Table 4) based on the combination of its members with certain allomorphs of the third person and the unspecified possessor prefixes. The unspecified possessor morpheme is used in cases where the possessor or referent is grammatically obligatory, but out of focus. In the following examples from Wayampi, 'medicine' is obligatorily possessed, either by the person for whom it is prescribed (1) or by the ailment which it treats (2).

(1) e-poã   'my medicine'
(2) karay poã   'fever medicine'
(3) moã   'medicine (unspecified possessor)'

Even when the type of medicine is unspecified, it always has a specific intent, and is therefore obligatorily possessed (3).

Table 4: Sub-classification of stems, Proto-Tupí-Guaraní

PREFIXES			
	3rd person	Linking	Unspecified Possessor
Ia	*i-	-	*∅
Ib	*i-	-	*nasalization of initial C
IIa	*c-	*r-	*t-
IIb	*t-	*r-	*t-
IIc	*c-	*r-	*∅
IId	*c-	*r-	*elimination of initial V
III	Cannot be inflected		

Note that in subclass IIb the third person and the unspecified forms are identical.

These subclasses apply to both noun and verb stems. However, the combination of these prefixes (third person, linking and unspecified possessor) with verb stems is restricted to specific syntactic structures which are described in sects. 5 and 6. The examples in Table 5 are given without reference to such syntactic structures.

Table 5: Subclasses with prefixing, Proto-Tupí-Guaraní

Ia	*i-kó 'his garden'	*i-kér 'he sleeps'
	*čé kó 'my garden'	*čé kér 'I sleep'
	*kó 'garden (unspecified)'	*kér 'sleep'(unspecified)'
Ib	*i-pocáŋ 'his medicine'	*i-poracéj 'he dances'
	*čé pocáŋ 'my medicine'	*čé poracéj 'I dance'
	*mocáŋ 'medicine (unspecified)'	*moracéj 'dance (unspecified)'
IIa	*c-ečá 'his eye'	*c-ekó 'he is (moving)'
	*čé r-ečá 'my eye'	*čé r-ekó 'I am'
	*t-ečá 'eye (unspecified)'	*t-ekó 'being (unspecified)'
IIb	*t-úb 'his father'	
	*čé r-úb 'my father'	
	*t-úb 'father (unspecified)'	
IIc	*c-ók 'his house'	
	*čé r-ók 'my house'	
	*ók 'house (unspecified)'	

IId *c-apé 'his path'
    *čé r-apé 'my path'
    *pé 'path (unspecified)'

    *c-ekúj 'his gourd'
    *čé r-ekúj 'my gourd'
    *kúj 'gourd (unspecified)'

III non-inflectible:
    *amán 'rain'

Although in most languages the members of subclass Ib all begin with /p/, there are examples in Wayampi in which the rule of nasalization is applied to stems beginning with /k/:

(4) *kér > ke 'sleep' >   kea   'hammock'
                            e-kea'ypa   'my sleeping shelter'
                            gea'ypa   'sleeping shelter (unspecified)'

(5) *kasí   'be strong' > e-kasi   'I am strong'
                             e-kasi-e'ỹ   'my lack of strength (hunger)'
                             gasi-e' ỹ   'hunger (unspecified)'

Sometimes a word which is in subclass IId in one language is in subclass IIa in another, so that instead of eliminating the initial vowel, a prefix *t-* precedes it. For example, *epoti* 'defecate' has the unspecified form *poti* in Tupinambá, but *teposi* in Wayampi. In Tupinambá *emi'ũ* 'food' has two unspecified forms: *temi'ũ* and *mi'ũ*. In Wayampi it has only the form *temi'õ*. In Parintintín the form is *mbi'u*.[7] It appears that in Mbyá Guaraní all members of what was originally subclass IId have been transferred to subclass IIa. For example, *tape* 'path (unspecified)', *tepoxi* 'feces', *tembi'u* 'food'.

2.2 The linking prefix *r-*. The linking morpheme, which co-occurs with stems of Class II, occurs under the following circumstances: 1) Noun preceded by the genitive, indicated by a noun or by a first or second person marker of Set 2 (sect. 3.1). 2) Postposition preceded by its object, indicated by a noun or by a first or second person marker of Set 2 (sect. 4). 3) Verb preceded by a noun or by a first or second person marker of Set 2, indicating absolutive cross-referencing (sects. 5.1–4). The linking prefix does not co-occur with person marker sets 1, 3, or 4 (sects. 3 and 5), nor does it co-occur with the third person prefixes of Set 2 (sect. 3.1): *t-* or *c-* (which occurs in various languages as *s-*, *h-*, or *∅*).

2.3 Allomorphs of *r-*. The allomorphs of the linking prefix are *r-* and *n-*, the latter following the second person plural marker *pe* in many languages (Tocantins Assuriní, Guajajára, Kamaiurá, Parintintín, Tapirapé, Wayampi). Considering that *pe* was derived from a longer nasalized free pronoun *pe . . . ẽ* it is not strange that *r-* would have

a nasalized allomorph. This allomorph also occurs in Guajajára with a third person plural morpheme, *wà*, which Harrison (1986) states to be historically nasalized as well.[8] Tupinambá does not have the *n-* allomorph. Mbyá Guaraní has replaced *pe* with *pene* and uses the *r-* allomorph.

2.4 Other interpretations of *r-*. The prefix *r-* is an inescapable subject of discussion by Tupí-Guaraní linguists. Nevertheless, there has been a lack of uniformity in the way it is described. It has been referred to as a linking prefix, a relational, an attributive, or simply as R-. As was pointed out by Payne (1994), there has also been a lack of uniformity in the allomorphs which are attributed to this morpheme, making it appear that there is a lot of morphological variation within the Tupí-Guaraní family.

Some linguists have included the allomorphs of the third person (Set 2) and unmarked prefixes as allomorphs of the linking prefix. Harrison (1986:418) lists *t-* and *h-* (from *c-*) as allomorphs of *r-*. However, since these two prefixes only occur within the context of third person, he proposes that they are preceded by a Ø third person morpheme.[9]

Other linguists have described these three morphemes (*r-*, *t-*, and *c-*) in such a way that they may be interpreted by readers as referring to a single morpheme. I will show in sect. 16 that this cannot be the case. Rodrigues (1990) glossed all three morphemes as REL, even though he treats them separately in his more detailed morphological work (1981). I suspect that he did not consider a complete explanation of these morphemes to be pertinent to the topic of his later paper. However, within the text he did list the allomorphs of the third person morpheme (which was relevant to his topic). Kakumasu (1986:369) states that the third person prefix "*h-* changes to *r-* when the possessor is first or second person or a free form nominal; it changes to *t-* when the possessor is unspecified." Although the expression "changes to" appears on first reading to refer to allomorphic variation, a careful reading of Kakumasu's explanation leaves no doubt that he is describing three separate morphemes, the third person morpheme, the *r-* (which he says occurs only with first and second person markers, meaning those of Set 2 in this paper, or with free form nominals), and the unspecified possessor morpheme. Dietrich (1990b:60) makes the same distinction between these three morphemes.

Seki (1990:374,378) does not associate the third person prefix *(i-, t-, h-)* with Set 2 person markers, because they are by nature different: they are not derived from free pronouns, and they do not co-occur with the linking morpheme *r-*. She says that Set 2 has no third person marker, and that the prefix *(i-, t-, h-)*, which she calls a relational prefix, supplies this absence. She has good reason for making this distinction. (I have nevertheless chosen to treat them as members of Set 2 because they function in a complementary way with the first and second person markers.) By calling the third person prefixes relational, she is making no claim that they are allomorphs of the linking prefix *r-*. She only states that "the stems which occur with allomorphs *t-* and *h-* belong to the r- class" (which I have referred to as Class II, following Rodrigues' precedent).

An in-depth discussion of the hypotheses about the *r-* prefix follows in sect. 16.

3 Nouns

3.1 Possession. Nouns in Tupí-Guaraní languages are either possessible (for example, body parts) or non-possessible (for example, 'rain'). If they are possessible, they are members of Class I or II. The linking prefix *r-* occurs with Class II when the noun is preceded by a genitive, expressed either by a person marker (Set 2) of first or second person or by a noun. This is illustrated in Table 6 with the morphemes *čý* 'mother' (Class I) and *úb* 'father' (Class II).[10]

Table 6: Possessive marking, by stem class

Class I		Class II	
čé čý	'my mother'[11]	*čé r-úb*	'my father'
oré čý	'our EX mother'	*oré r-úb*	'our EX father'
jané čý	'our IN mother'	*jané r-úb*	'our IN father'
né čý	'your SG mother'	*né r-úb*	'your SG father'
pé čý	'your PL mother'	*pé n-úb*	'your PL father'
kujã čý	'woman's mother'	*kujã r-úb*	'woman's father'

The first person singular morpheme is expressed in various languages, due to weakening processes, as *sjé* (Tb), *he* (Gj), *e* (Wa), and *je* (Km).[12]

(6)	sjé sý	sjé r-úb (Tb)
(7)	he-hy	he-r-u (Gj)
(8)	e-y	e-r-u (Wa)
(9)	je y	je r-up (Km)

Unlike the first and second person markers, the third person prefix (*i-*, *c-*, *t-*) attaches directly to the stem, with no linking prefix involved, as in (10).

(10)   *i-čý* 'his/her mother'   *t-úb* 'his/her father'

If a noun is obligatorily possessible, reference must be made to this fact even when the possessor is out of focus. In this case nouns take a special form (sect. 2.1). Nouns which are grammatically nonpossessible are automatically members of Class III. These are largely elements of the physical world, such as sun, sky, rain, jungle, and animals. If these objects need to be referred to in a possessed form, a more generic possessible morpheme is used, sometimes in apposition with the nonpossessible noun, as in (11) and (12).

(11)   s-emiar-a   tatu   (Tb)
        3-hunted.thing-NC   armadillo
        'his hunted thing, the armadillo'

(12)   mamaz r-eimaw zapukaz (GjP)
        mother LK-pet chicken
        'mother's pet, a chicken'

3.2 Coreferential possessive markers. When the possessor of a noun is coreferential with the grammatical subject of the clause, a special prefix is used. Some linguists refer to these as reflexive markers, but I have chosen in this paper to refer to them as coreferential markers to avoid confusion with the reflexive prefix *je-* in sect. 7.2. The use of the coreferential prefix, in contrast with the Set 2 prefix, is illustrated in (13) and (14).

(13)   *i-čý   o-c-epják
        3-mother 3A-3P-see
        'He saw his (someone else's) mother.'

(14)   *o-čý   o-c-epják
        3COREF-mother 3A-3P-see
        'He saw his (own) mother.'

Table 7 shows a complete paradigm of the coreferential markers.

Table 7: Coreferential markers

*wi-čý	'my own mother'
*oro-čý	'our EX own mother'
*jere-čý	'our IN own mother'
*e-čý	'your SG own mother'
*peje-čý	'your PL own mother'
*o-čý	'his, her own mother'

A complete set of prefixes occurs with nouns in Tocantins Assuriní (Nicholson 1977), Tapirapé (Leite 1989), Kayabí (Dobson 1988), and Parintintín (Betts 1981), although some forms in Parintintín have undergone replacement.

(15)   ã-ma-pen   we-pa   (Tp)
        1SG-CAUS-break 1SG.COREF-hand
        'I broke my hand.'

(16)   oroj-a'yr   'ar amũ kawĩpie apo-ù
        1EX.COREF-son fall when porridge make-OBTOP

        oro-jo-upe   (Kb)
        1EX.COREF-RECIP-for
        'When our children are born, we make a (special type of) porridge for each other (of us).'

In example 16 the unexpressed subject of the independent clause is *ore* 'we exclusive,' which triggers the use of the coreferential prefixes. Dobson (1988) observes about Kayabí: "Even when the subject of the main clause and another referent in the sentence are part of one group, the reflexive [coreferential] pronoun is used in relationship to the whole group." This is illustrated in (17).

(17)   ere   pokutug awi   jarej-aity-a
        2SG pierce   NEG 1IN.COREF-hammock-NC
        'You, don't make a hole in our hammock!'

She further states: "A reflexive [coreferential] form is also used to refer to one member (or some members) of a group, when the group is the subject of the main clause."

(18)   si-juka   ej-eymaw-a
        1IN-kill 2SG.COREF-pet-NC
        'Let us kill your pet.'

Most other Tupí-Guaraní languages have a coreferential prefix only for third person. When the possessor is first or second person, forms from Set 2 are used. In the following examples from Wayampi, the Set 2 form is used for first person (19) and the Set 3 coreferential form is used for third person (20).

(19)   e-y   a-esa   (Wa)
        1SG-mother 1SG.A-see
        'I saw my mother.'

(20)   o-y   o-esa   (Wa)
        3COREF-mother 3A-see
        'He saw his (own) mother.'

It is probable that the full set of prefixes occurred with nouns in Proto-Tupí-Guaraní, since it is unlikely that the set would be extended independently to occur in this context (with nouns) in languages from three different subgroups. The elimination of the first and second person forms in other languages can be explained by the fact that in third person the special form eliminates ambiguity, whereas in first and second person there is no ambiguity. The referent of 'my' in 'I saw my mother' can only refer to the subject.

3.3 Grammatical suffixes. Grammatical suffixes have been reconstructed for Proto-Tupí-Guaraní for (1) nominal case, (2) attributive case, and (3) three kinds of locative cases.

(1) Nominal case:

Whenever a noun is used syntactically as a noun within a sentence containing a verbal predicate in Proto-Tupí-Guaraní, the noun receives a special suffix: *-a (after a final consonant) ~ -∅ (after a final vowel).

(21)   *jararák 'jararaca snake' + -a 'NC' > *jararáka
(22)   *pirá 'fish' + ∅ 'NC' > *pirá

In (23) *kujã* 'woman' ends in a vowel, so it receives a ∅ suffix. The morpheme *memýr* 'child' ends in a consonant and receives the *-a* suffix.

(23) kujã   o-s-arõ   o-memýr-a   s-erekó-bo   (Tb)
woman 3A-3P-care.for 3COREF-child-NC 3P-keep.with-SER
'The woman cares for her child, keeping it with her.'

The suffix also appears in (24) and (25) from Kayabí. In (24) the use of the -a suffix has been extended to co-occur with a vowel-final stem.

(24) ere   pokutug awi   jarej-aity-a
2SG pierce   NEG 1IN.COREF-hammock-NC
'You, don't make a hole in our hammock!'

(25) si-juka   ej-eymaw-a
1IN-kill   2SG.COREF-pet-NC
'Let us kill your pet.'

There are occasions in which a noun does not function syntactically as a noun. Sometimes it has no syntactic context, as in a list of names or in a vocative. In (26) from Tupinambá, the vocative form occurs unsuffixed.

(26)   Morubisáb! 'Chief!' (Tb)

Furthermore, there are circumstances under which a noun occurs syntactically as the verb of a sentence and therefore is unsuffixed. In (27) and (28) the noun a'b 'clothes' is used as a verb, with the meaning 'to have clothes' (or 'to be clothed'). In (29) the noun memýr 'child (of a woman)' is used as a verb meaning 'to give birth'.

(27)   sjé aób   'I have clothes (I am clothed).' (Tb)
(28)   jané aób   'We have clothes (we are clothed).' (Tb)
(29)   sjé memýr   'I gave birth.' (Tb)

In some descendant languages of Tupí-Guaraní (the Guaraní languages and the Jari dialect of Wayampi) final consonants have been eliminated. Since the allomorph which occurs with V-final stems is a zero allomorph, these languages no longer have an environment in which the suffix is expressed. In (30) from the Jari dialect of Wayampi, a final r has been eliminated from *tapi'ír and *kwér (from *pwér), to which would have originally been added a nominal suffix *-a. In (31) from Kaiwá, the final k has been eliminated from *mani'ók, eliminating the environment for the suffix.

(30)   amẽ jawĩ   o-mimoĩ tapi'i r-o'o-kwe   (Wa)
then tortoise 3-cook   tapir LK-muscle-DEVOLV
'Then the tortoise boiled the tapir meat.'

(31)   o-gweru mani'o (Kw)
3-bring   manioc
'He/she brought manioc.'

In some cases the nominal case suffix has become permanently attached to certain stems, with the final consonant also retained. In Wayampi this happened with the

formerly monosyllabic stem *ók' 'house', apparently to prevent the formation of a homonym with *ób 'leaf':

(32)   *ók 'house' + -a > oka (Wa)

In Kaiwá and Mbyá Guaraní, many stems originally ending in r retained this consonant together with the -a suffix, which was changed to the high central vowel (y), as in (33).[13] The stress, which normally occurs on the final syllable of the stem in these languages, is penultimate in these words.

(33)   *jár 'owner' + -a járy (Kw)

In these two examples the former suffix has become part of the stem and is no longer separable from it.

However, it is not only vowel-final languages that have eliminated the nominal suffix, as can be seen by (34) from Guajajára. The nominal case suffix -a would occur on t-azyr and i-petym if it still existed in this language.

(34)   u-munyk t-azyr   i-petym   h-eraha[9] i-zupe a'e (GjG)
3A-lit   3-daughter 3-tobacco 3-take   3-to   3
'His daughter lit and took his cigar to him.'

Whereas in some languages the nominal case suffix has been eliminated, in others it has become permanently attached to the noun stem, even when the stem lacks a syntactic context. In (35), the final a is no longer separable.

(35)   ne-akyga 'your SG head' (As)

In Kamaiurá (Seki 1987) the -a suffix now occurs with all noun stems, even those which do not end with a consonant:

(36)   akwama'e-a i-katu (Km)
man-NC   3-good
'The man is good.'

(2) Attributive case:

The suffix *-ramo ~ -amo indicates the role or function of a noun (37, 38, and 40), the end product of a process (41), or a change of state (42). The *-ramo allomorph follows vowel-final stems (37 and 42) and the *-amo allomorph follows consonant-final stems (38, 40, and 41).

(37)   *pajé-ramo 'as shaman'
(38)   *jawár-amo 'as a jaguar'
(39)   hekuzar 'substitute' (GjP)
(40)   hekuzar-omo 'thing used as a substitute'

(41)   tukumã apea ka'mika kunumiakyra ku'afaaw amũ (Kb)
        tucum shell broken baby.boy   belt   AC
        'Tucum (palm nut) shells are broken to make baby belts.'

(42)   o-jinõ   so'o ramõ (WaJ)
        3-transform deer AC
        'He changed into a deer.'

In Mbyá Guaraní the morpheme corresponding to *ramo is rami 'according to, similar to'. (It must not be confused with the morpheme ramõ, which in this language is the temporal conjunction 'when'.)

(43)   jagua rami 'as a dog'

    (3) Locative cases:

Three locative suffixes occur in some Tupí-Guaraní languages: *-pe punctual locative case (44–46), *-bo diffuse locative case (47–48), and *-i partitive locative case (49–50). The most commonly occurring of these three is *-pe. When it follows a nasalized vowel, the initial consonant of the suffix is nasalized (Appendix III.1). When it follows a consonant, an epenthetical vowel occurs (Appendix III.3). *-bo also requires an epenthetical vowel.

(44)   *wýr 'underside' + -pe > wyrype 'underneath' (WaA)
(45)   *jũ 'field' + -pe > jũme 'in the field' (Tb)
(46)   kaninde 'Canindé (village)' + -pe > kaninde pe 'at Canindé' (Ur)
(47)   *'ár 'day' + -bo > 'arimo 'during the day' (As)
(48)   *'ár + -bo > 'aryvo 'during the day' (Wa)
(49)   *pýr 'near' + -i > pyri 'next to' (WaA, Gu)
(50)   *ku'á 'waist' + -i > ku'ái 'at the waist' (Tb)

Dobson (1988:73) specifies graphically that in Kayabí "wyrimũ [apparently derived from *wýr 'under' + *-bo] indicates an area under a point, whereas wyripe [*wýr + -pe] indicates a point under a point." These descriptions coincide with the distinctions of diffuse and punctual.

3.4 Modificational suffixes. There are at least three pairs of modificational suffixes: (1) augmentative and diminutive, (2) devolved and anticipatory, and (3) genuine and imitative.

    (1) Augmentative and diminutive suffixes:

Augmentative *-wačú ~ *-učú (51–62) and diminutive *-'i (63- 67) morphemes occur as suffixes on nouns. The augmentative morpheme has two allomorphs, occurring after V-final and C-final stems, respectively.

(51)   *paranã-wačú   'large large-river'
(52)   *jararák-učú   'large jararaca snake (species name)'

(53)   wyrá-wasú   'large bird' (Tb)
(54)   táb-usú   'large village' (Tb)
(55)   aman-uhu   'big rain' (Ur)

In languages in which the final consonant has been deleted, allomorphs derived from *-učú are sometimes retained in specific vocabulary items. In (56, 58), the stems are, and originally were, vowel final; they take the allomorph appropriate for vowel-final stems. In (57, 59), the stems originally ended in r and n, respectively; the final consonant was deleted in the unsuffixed stem, but reappears together with the allomorph appropriate for consonant-final stems. In (60), the stem was originally *ypáb. The final consonant b which was deleted from the stem reappears as a w in the suffixed form.

(56)   xe-kuã 'my finger'   xe-kuã guaxu 'my thumb' (GiM)
(57)   ei 'bee' (from *eír)   ei ruxu 'bee (species)' (GiM)
(58)   paranã 'large river'   paranã-wasu 'river-sea' (WaJ)
(59)   pytõ 'darkness' (from *pytún) pytõ-nusu 'deep darkness' (Wa)
(60)   yupa 'lake' (from *ypáb)   yupawusu 'large lake' (Gu)

The augmentative *-wačú has been incorporated into Brazilian Portuguese in the form -aço (even with consonant final stems). The fact that this is a productive form in Portuguese can be demonstrated in soccer vocabulary:

(61)   gol 'goal'   gol-aço 'a fantastic goal'

Both the augmentative suffix and the diminutive suffix *-'i occur frequently in names of biological species in Tupí-Guaraní languages (A. Jensen 1988), as in the following examples from Urubú- Kaapor (62–63) and Wayampi (64).

(62)   ju'i 'tree frog'   ju'i-hu 'frog (species)' (Ur)
(63)   parawa 'mealy parrot'   parawa-'i 'orange-winged parrot' (Ur)
(64)   kure 'mealy parrot'   kure-'i 'orange-winged parrot' (Wa)

When the diminutive suffix -'i attaches to a C-final stem, in many languages the glottal stop is eliminated, as in (65).

(65)   takwar 'bamboo (species)' + 'i 'DIM' > takwari (Wa)

In Parintintín and Kayabí the stop is retained but undergoes metathesis with the preceding consonant (Appendix III.5): -C + 'V > 'CV (Dobson 1988:133).

(66)   tig̃ 'white' + 'i 'DIM' > ti'g̃i 'very white' (Pt)
(67)   karupam 'deer' + 'i 'DIM' > karupa'mĩ 'small deer' (Kb)

Since it is generally the first consonant in a consonant cluster (produced at a morpheme juncture in Tupí-Guaraní languages) that is deleted (Appendix III.6), the metathesis rule gives us a good explanation for the loss of the glottal stop in examples like (65). After the metathesis, it becomes the first of two consonants and is therefore deleted.

(2) Devolved and anticipatory suffixes:

In Tupí-Guaraní languages a pair of morphemes occur with noun stems, one which means that the noun no longer serves its intended function (*-pwér ~ -wér) and one which means that it has not yet begun to serve its intended function (*-rám ~ -ám ~ -wám).

(68) *emirekó   'wife'
(69) *emirekó + *pwér > *emirekópwér 'widow'
(70) *emirekó + rám   > *emirekórám   'fiance'

Any body part, once it is removed, requires the suffix indicating that it no longer serves its intended function. A leaf, once it falls, no longer serves its intended function and becomes, in a sense, an ex-leaf.

(71) *pó 'hand' + *pwér > *pópwér 'ex-hand'
(72) *ób 'leaf' + *wér   > *owér   'ex-leaf'
(73) *ók 'house' + *wér > *ókwér   'ex-house'

The allomorphic distribution of the 'devolved' morpheme is *-pwér after a vowel-final stem and *-wér after a consonant-final stem. In some languages, such as Tupinambá, consonant clusters (consonant plus semivowel w) are acceptable, and forms such as *mén 'husband' + *-wér > ménwér occur. In most other languages (As, Gi, Gj, Gu, Km, Pt, Ur, Wa) the w is deleted after alveolar consonants:

(74) erekwar 'wife' + wer   > erekwarer 'widow' (WaA)
(75) men 'husband' + wer   > mener   'widower' (WaA)
(76) i-zuka-ar 'murderer' + wer > izukaarer 'his murderer' (GjP)

Where the preceding morpheme ended in b, the w is retained and the b eliminated, as in (72). In Wayampi the allomorph -wer (and not -kwer from *-pwér) continues to be used with the nominalization of circumstance (sect. 9.1) *-áb, even though the final consonant has been eliminated from the nominalization suffix.

(77) e-mo'e-a   e-mo'e-a-wer   (WaA)
      1SG-teach-NOM   1SG-teach-NOM-DEVOLV
      'the place where I   'the place where I was taught'
      am taught (my school)'

When the *-pwér allomorph follows a nasalized vowel, the initial consonant is nasalized (Appendix III.1).

(78) *jũ 'field' + *pwér > jũmwér 'former field' (Tb)

In most languages the sequence pw has neutralized with kw and become a labialized phoneme /kʷ/. In Kayabí and Kamaiurá the descendants of *pw are retained as separate from *kw, but *pw has changed to f (79) and to hw or h, in the respective languages (Rodrigues 1984/1985).

(79) *-akypwér-a   > akyfer-a (Kb)
      part.behind-NC   tracks, footprints-NC

The anticipatory suffix had three morphemes: *-rám following vowels, *-wám following labial and velar consonants, and *-ám following alveolar consonants.

(80) kunha-ruam   'girl who will be a woman' (Pt)
(81) xe-r-o-rã   'my future house' (GiM)
(82) ók-wám   'future house (under construction)' (Tb)
(83) i-mojáŋ-ár-ám-a   'the one who will make it' (Tb)

When following a nasalized vowel, *-rám may have had a variant -nám, as in Tupinambá (Appendix III.9).

(84) jũ 'field' + -rám > jũnám 'future field' (Tb)

The anticipatory and devolved suffixes can be combined to signify that the noun failed to fulfill its intended purpose: *-rám + -wér > -ramet (Kb), -rámwér (Tb), -rãgwe (Gi).

(85) i- + mén   + -ám   + -wér   > iménámwér (Tb)
      3   husband ANTIC   DEVOLV
      'the one who was to become her husband, but didn't; her ex-fiancé'

When a noun suffixed by either of these morphemes occurs syntactically as a noun (as in sect. 3.2), the suffix, being consonant final, is followed by the nominal suffix *-a, as in (86) and (83).

(86) ók-wér-a 'former house' (Tb)

(3) Genuine and imitative suffixes:

Another pair of suffixes which occur with nouns signify 'genuine' *-eté and 'imitation' *-rán.

(87) ze'eg 'speech' + ete 'genuine' > ze'eg-ete (GjP)
      'true speech; that is, the Guajajára language'

The *-rán morpheme is especially frequent in biological names.

(88) arapuha 'deer'   arapuha-rán 'goat' (GjP)
(89) parawa   'mealy parrot' parawa-ran 'mealy-parrot-like parrot' (Ur)
(90) urukuku 'bushmaster snake' urukuku-ran 'bushmaster-like snake' (WaA)

3.5 Noun composition. There are various patterns for complex noun formation:

(1) *N-N in which the first noun modifies the second.

This pattern is similar to the pattern for genitives in noun phrases (sects. 3.1, 3.6), but certain features indicate that the combination is a compound word. For example, when the second stem is a member of Class II, the *r*- linking morpheme attaches to it in noun phrases but not in compound words.

(91)   *akáŋ 'head' + *acý 'pain'   > *akáŋacý 'headache'
(92)   *wyrá 'bird' + *á 'down'   > wyraa 'bird down' (Wa)
(93)   *ka'í 'monkey' + *a'ýr 'child'   > ka'i-a'yr 'young monkey' (Lit.:
                                            'monkey child') (Gj)

If (91–93) were separate words instead of compound words, they would be *akáŋ-a r-acý, wyra ra*, and *ka'i ra'yr*. The nominal case suffix occurs with *akáŋ* when it is a separate word, but not when it is the first part of a compound word.

Stems which combine to form a complex word are subject to the application of morphophonemic rules (Appendix III.1,2,5,6).

(94)   mén 'husband' + sý 'mother' > méný 'husband's mother, mother-
                                        in-law' (Tb)

If (94) were a phrase, it would be *mén-a sý*.

(2) *N-N in which the second noun indicates some distinguishing feature of the first noun.

(95)   *pirá 'fish' + *ãj 'tooth'   > *pirãj 'fish known for its teeth (piranha)'
(96)   *arár 'macaw' + *akáŋ 'head' > *ararakáŋ 'macaw known for its head
                                          (Red-and-green Macaw)'
(97)   *pira + *ãj   > pirãi 'piranha' (WaJ)
(98)   *abá 'person' + *obá 'face'   > abáobá 'person who has an unusual
                                          face' (Tb)
(99)   *arár + *akáŋ   > *ararakáŋ 'macaw known for its head'

(3) *N-V in which the verb is a stative or intransitive verb. In composition the verb acts as an adjective modifying the noun.

(100) *wyrá 'bird' + *picún 'black'   > *wyrápicún 'species of black bird'
(101) wainumby 'hummingbird' + pihun 'black' > wainumby pihun
        'black hummingbird (Black -throated Mango)' (Ur)
(102) pirá 'fish' + bebé '(to) fly'   > pirábebé 'flying fish' (Tb)

(103) from Wayampi is a combination of the second and third types of complex noun formation: N + (N + V).

(103) pekõ 'woodpecker' + akãg 'head' + pirã 'red' > pekõakãmirã
        'red-headed woodpecker (Yellow-throated Woodpecker)' (WaA)

3.6 Noun phrases. Noun phrases are quite simple in structure, since much of the modificational load is handled on the morphological rather than the syntactic level. Three types of noun phrases have been described for Tupí-Guaraní languages:

(1) Genitive Noun:

(104)   *i-čý akáŋ   'his mother's head'

(105)   tahyw   kwar (GjP)
        ant(species) hole
        'ant hill'

(106)   'u'ywa r-a'ỹj   (Kb)
        arrow LK-seed
        'gunshot'

In the genitive construction, if the possessed noun is Class II, it requires the *r*-morpheme, as in (106). Guajajára has deviated from this, allowing the use of the third person prefix *h*- instead of *r*-, as in (107):

(107)   apyaw h-er   (GjP)
        man   3-name
        'the man's name'

(2) Noun Appositive:

(108)   Tupã t-a'yr-a   (Tb)
        God UNSP-son-NC
        'God the Son'[14]

(109)   e-momirĩ   t-eke'yr   (WaA)
        1SG-younger.brother UNSP-elder.brother
        'the eldest of my younger brothers'

(110)   s-emiar-a   tatu   (Tb)
        3-hunted.thing-NC armadillo
        'his hunted thing, the armadillo'

(111)   mamaz r-eimaw zapukaz (GjP)
        mother LK-pet chicken
        'mother's pet, a chicken'

(3) Specifier Noun:

(112)   mokoz ka'i-a'yr   (GjP)
        two   monkey-child
        'two young monkeys'

(113)   amote   hatya   (As)
        other   woman
        'another woman'

(114)   ã   kwima'e   (WaJ)
        this man
        'this man'

4 Postpositions

Several postpositions have been reconstructed for Proto-Tupí- Guaraní (Table 8):

Table 8: Postpositions, by stem class

Class I		Class II	
*cupé	'to, for (DATIVE)'	*ecé	'with respect to'
*cuwí	'from'	*ecebé	'with'
*kotý	'to, toward (LOC)'	*obaké	'in front of'
*pabẽ	'with (company)'	*enoné	'ahead of'
*pé	'to, for'	*upí	'by means of, within an area,
*pocé	'lying with'		according to'
*pypé	'in'		

Other words give the impression of being postpositions and are reported as such by various linguists. Rodrigues (p.c.) analyzes these as being nouns followed by one of the locative suffixes (-pe, -bo, -i) from sect. 3.3. There is justification for this analysis, since a comparative examination of these words shows them to consist of two parts, the latter part varying from language to language. The epenthetical rules by which y or i is inserted are listed in Appendix III.3,16.

(115)   *pýr 'near'   pyr (Gj)
                        pyri (As,Gu,Kb,Pt,Tb,WaA), pyi (WaJ)
                        pyryvo (WaA), pyryo (Gj), pywo (As)

(116)   *ár 'above'   ar (Pt, WaA), aa (WaJ), ary (Gi)
                        arimo (As), arimũ (Kb), aryvo (WaA)

(117)   *wýr 'below'   wyr (Pt,WaA), wy (Gi,WaJ)
                        wyrimũ (Kb), wyrimo (As)
                        wyripe (Kb), wyrype (WaA), wype (WaJ)

It is possible that these forms, which were not originally postpositions, have become so in some languages, since certain suffixes (especially -i and -bo) do not seem to be productive in various languages.

4.1 Normal markers. Postpositions in Tupí-Guaraní languages are inflected in the same way as nouns. That is, they are preceded by person markers of Set 2 or by nouns, as in Table 9. Postpositions are members of Class I or Class IIa (sect. 2).

Table 9: Postposition paradigms, by stem class

Class I		Class IIa	
*čé cupé	'for me'	*čé r-ecé	'about me'
*oré cupé	'for us EX'	*oré r-ecé	'about us EX'
*jané cupé	'for us IN'	*jané r-ecé	'about us IN'
*né cupé	'for you SG'	*né r-ecé	'about you SG'
*pé cupé	'for you PL'	*pé n-ecé	'about you PL'
*i-cupé	'for him'	*c-ecé	'about him'
*i-čý cupé	'for his mother'	*i-čý r-ecé	'about his mother'

Since the reflex of *c would be a zero morpheme in Kayabí, it has been largely replaced by morphemes specific for gender which co-occur with the r- morpheme before Class 2 stems. However, Weiss (1972) reports ee as an indirect object. This same form occurs in Wayampi, where it is analyzed as Ø-ee < *c-ecé. In Guarayu the reflex of *cupé is upe when its object is a noun. When it is prefixed by a 1st or 2nd person marker, it is reduced to u, as in neu 'to you (SG)'.

4.2 Coreferential markers. In Kayabí, Tocantins Assurini, and Tapirapé, postpositions receive prefixes from Set 3 when the object of the postposition is coreferential with the subject of the independent verb. This is the same set of person markers which indicates coreferential possessive markers on nouns (sect. 3.2). On postpositions the coreferential person marker is followed by the reflexive prefix *je- (118) or the reciprocal prefix *jo- (119). I believe this system to be reconstructible for Proto-Tupí-Guaraní, since all languages have at least the form for third person.

(118)   o-je'eg̃ 'g̃a   o-je-upe   (Kb)
        3-speak 3masc.SG 3-REFL-for
        'He spoke to himself.'

(119)   oroj-a'yr   'ar amũ kawĩpie apo-ú
        1EX.COREF-son fall when porridge make-OBTOP

        oro-jo-upe   (Kb)
        1EX.COREF-RECIP-for
        'When our children are born, we make a (special type of) porridge for each other (of us).'

Normal and coreferential paradigms from Tocantins Assurini are listed in Table 10:

Table 10: Assuriní normal and coreferential paradigms

NORMAL		COREFERENTIAL	
se-ope	'for me'	we-se-ope	'for myself'
ne-ope	'for you SG'	e-se-ope	'for yourself'
sene-ope	'for us IN'	sere-so-ope	'for ourselves'[15]
ore-ope	'for us EX'	oro-so-ope	'for ourselves'
pe-ope	'for you PL'	pese-so-ope	'for yourselves'
i-sope	'for him'	o-se-ope	'for himself'
se-r-ehe	'about me'	we-se-he	'about myself'
ne-r-ehe	'about you SG'	e-se-he	'about yourself'
sene-r-ehe	'about us IN'	sere-se-he	'about ourselves'
ore-r-ehe	'about us EX'	oro-se-he	'about ourselves'
pe-n-ehe	'about you PL'	pese-se-he	'about yourselves'
h-ehe	'about him'	o-se-he	'about himself'

Languages such as Guarayu (Newton 1978), which do not use Set 3 prefixes other than for third person, use the Set 2 markers plus the reflexive *je- prefix for first or second person. For both first and second person, there is no ambiguity. If the subject of the independent verb in (120) is first person inclusive ja- and the object of the postposition is first person inclusive jande-, they must be coreferential. There is no need for a special set of markers (Set 3) to make this clear.

(120)   ja-s-eka   rãnẽ yvyra jande-je-upe   (Gu)
         1IN-3P-seek first wood 1IN-REFL-for
         'First we search for wood for ourselves.'

Languages which do not have the full set of coreferential prefixes retain the third person form; for example: o-je-upe (GiM, Tb). Urubú-Kaapor does not use the third person prefix on polysyllabic words, so it has the form ju-pe instead of o-ju-pe. This language has neutralized the reflexive *je- and reciprocal *jo- forms, retaining the original *jo-. These two forms have been merged in some environments in Wayampi as well, retaining only the *je- reflexive form. The word o-je-upe has been reinterpreted as reciprocal in Wayampi, with the reflexive form being o-upe. The plural reflexive form is o-upe kõ 'for themselves'.

5 Cross-referencing on independent verbs

The Proto-Tupí-Guaraní cross-referencing system on verbs has been described in depth in C. Jensen (1990). All four sets of person markers (Table 2, sect. 1) are used to cross-reference Proto-Tupí-Guaraní verbs. These sets operate under two basic systems:

In all but independent verbs, cross-referencing is absolutive (Sets 2 and 3).
Person markers refer to the P of transitive verbs, S of intransitive agentive

verbs, and S of intransitive non-agentive verbs (also referred to as stative verbs). This is an ergative-absolutive system.

In independent verbs the S of intransitive agentive verbs is cross-referenced in the same way as the A of transitive verbs (Set 1), and the S of intransitive non-agentive verbs is cross-referenced in the same way as the P of transitive verbs (Set 2). This is an active-inactive system. Cross-referencing on transitive verbs is governed by the relative position of A and P on a person hierarchy, 1 > 2 > 3, in ways which will be defined in the following subsections. In this hierarchy, Sets 1, 2, and 4 are employed.

5.1 Cross-referencing on independent verbs: A and S markers.
In Proto-Tupí-Guaraní, as in its descendant languages, the independent intransitive agentive verbs are conjugated by Set 1 prefixes, as in Table 11:

Table 11: Independent agentive intransitive verbs

S				
1 SG	*a-'ár	*a-kér	*a-manõ	*a-poracéj
1 EX	*oro-'ár	*oro-kér	*oro-manõ	*oro-poracéj
1 IN	*ja-'ár	*ja-kér	*ja-manõ	*ja-poracéj
2 SG	*ere-'ár	*ere-kér	*ere-manõ	*ere-poracéj
2 PL	*pe-'ár	*pe-kér	*pe-manõ	*pe-poracéj
3	*o-'ár	*o-kér	*o-manõ	*o-poracéj
	'fall'	'sleep'	'die'	'dance'

This system is intact in the descendant languages. Reconstructed forms of the morphemes under discussion are given in Appendix I.

The same set of prefixes occurs with independent transitive verbs as well, but only when P is third person. In Proto-Tupí-Guaraní the Set 1 prefix, referencing A, is obligatorily followed by a third person P prefix from Set 2, as in Table 12. The combination of the final vowel of the A prefix with the *i- results in a diphthong (Appendix III.17).

Table 12: Independent transitive verbs with third person P, with polysyllabic stems

A-P	Class I	Class II
1SG-3	*a-i-potár	*a-c-epják
1EX-3	*oro-i-potár	*oro-c-epják
1IN-3	*ja-i-potár	*ja-c-epják
2SG-3	*ere-i-potár	*ere-c-epják
2PL-3	*pe-i-potár	*pe-c-epják
3–3	*o-i-potár	*o-c-epják
	'like'	'see'

Special allomorphs of the third person P prefix, *jo- (Class I) and *joc- (Class II), occur with monosyllabic stems, as in Table 13.

Table 13: Independent transitive verbs with third person P, with monosyllabic stems

A-P	Class I	Class II
1SG-3	*a-jo-pín	*a-joc-éj
1EX-3	*oro-jo-pín	*oro-joc-éj
1IN-3	*ja-jo-pín	*ja-joc-éj
2SG-3	*ere-jo-pín	*ere-joc-éj
2PL-3	*pe-jo-pín	*pe-joc-éj
3–3	*o-jo-pín	*o-joc-éj
	'plane'	'wash'

The inclusion of the P prefix was obligatory in Proto-Tupí-Guaraní, as it is in various descendant languages. The third person P prefix occurs in transitive verbs in Mbyá Guaraní, Kaiwá, Chiriguano, Guarayu, and Tupinambá.

(121) *ja-c-ekár > ja-s-eka 'we seek it' (Gu)
(122) *ere-i-potár > ere-i-pota 'you like it' (GiM)
(123) *o-joc-éj > o-jos-éj 'he washed it' (Tb)

In both Mbyá and Paraguayan Guaraní, the allomorph for Class II stems *c- has a zero morpheme as a result of phonological changes (Appendix IV). As a result, the P prefix only appears with Class I verbs. In Paraguayan Guaraní (Payne 1994), this prefix has become associated with the A prefix (124) and occurs even in cases where the P prefix did not originally occur, that is, with Set 4 markers (example 125).

(124) *ere-i-nupã > rej-nupã 'you SG hit him' (GiP)
(125) *oro-nupã > roj-nupã 'I hit you'

The P prefix has been eliminated in Wayampi, Urubú-Kaapor, Guajajára, Assuriní, Tapirapé, Kamaiurá, Parintintín, and Kayabí. Its elimination does not appear to have any connection with other cross-referencing changes (since these have occurred in the Guaranian languages and Wayampi and Urubú-Kaapor).

(126) *a-i-potár > a-putar 'I want it' (Gj)
(127) *a-i-potár > a-pota 'I want it' (Wa)
(128) *o-i-me'éŋ > o-me'eŋ 'he gave it' (Km)

In some languages in which the P prefix was deleted, remnants still appear in certain words (C. Jensen 1987). In (129) and (130) from Guajajára and Urubú-Kaapor, the P prefix was reassociated with the stem, producing consonant-initial stems. In (131) and (132) from Wayampi, the attachment of the prefix to the stem produced bisyllabic stems; monosyllabic stems are somewhat undesirable in this language.

(129) *a-i-apó > a-j-apó > a-z-apó > a-zapo 'I make it' (Gj)
(130) *a-c-enúb > a-hendu 'I hear it' (Ur)
(131) *a-jo-pín > a-opĩ 'I plane it' (Wa)
(132) *a-jo-'ók > a-jo'o 'I dig it up' (Wa)

Not all descendant languages of Proto-Tupí-Guaraní use the first person inclusive prefix *ja- with transitive verbs. Five languages use a prefix which could be reconstructed as *ti-: ti- (Pt), či- (Tp), si- (Kb, Gj, Wa). This has been shown to be derived from a combination of *ja- and two other morphemes: *t- 'purpose' + *ja- '1IN.A' + *i- '3P' (C. Jensen 1987). All of the languages in which this prefix occurs are ones in which the P prefix no longer co-occurs with the A prefix.

(133) ti-apo 'we IN made it' (Pt)
(134) si-juka 'we killed it' (Wa)
(135) si-etũ 'we smelled it' (Kb)

Although it does not appear that this fused prefix (*ti-) should be reconstructed for the entire Tupí-Guaraní protolanguage, we must not overlook the fact that Aweti (a closely related Tupian language, though not Tupí-Guaranian) also has a first person inclusive prefix ti- for transitive verbs (Monserrat 1976). It has a separate prefix, kaj-, for intransitive verbs.

A parallel morpheme for intransitive verbs, sa-, occurs in Kayabí as the independent intransitive verb prefix. It also occurs in the Jari dialect of Wayampi in purpose constructions. The latter provides strong evidence for its derivation from *t- + *ja-.

Rodrigues (1990) describes occurrences of the o- and ja- prefixes with transitive verbs in Tupinambá, in which the basic distinction is focus rather than person. Some occurrences of o-, as in (139), are best translated as '1, 2, and 3 in focus'. Some occurrences of ja-, as in (137), can be translated as '3, out of focus, or generic'.

(136) pirá ja-i-pysýk[16]
       fish 1IN-3-catch
       'We caught fish.'

(137) mój-a kujã   ja-i-su'ú
snake woman 1IN?-3-bite
'A snake bit the woman.'

(138) kunumĩ pirá o-i-pysýk
boy   fish 3-3-catch
'The boy caught fish.'

(139) asé   pirá o-i-pysýk
we.all fish 3?-3-catch
'We all caught fish.'

The only other Tupí-Guaraní language for which a similar construction has been described is Wayampi. Some occurrences of *ja-* in this language indicate that A is generic or out of focus. These occurrences are easily recognized in Wayampi transitive verbs, since the prefix *ja-* (141) can only mean 'generic or out-of-focus A', in contrast with the prefix *si-* (140), which means 'first person inclusive'.

(140) si-juka 'we (IN) killed' (Wa)
(141) ja-juka 'we (GENERIC) kill' or 'people kill(ed)'

In Wayampi intransitive verbs, the prefix *ja-* may mean either 'first person inclusive' or 'generic or out-of-focus S'. The meaning can only be derived contextually.

(142) ja-ke 'we (IN) sleep/slept'
'we (GENERIC) sleep' or 'people sleep'

In Urubú-Kaapor there has been an elimination of the distinction between inclusive and exclusive in first person plural. Only the *ja-* prefix occurs. The third person Set 1 prefix is only expressed with monosyllabic stems; in polysyllabic stems it has a Ø marker, as in (143).

(143) Ø-pykũi 'he digs' (Ur)

5.2 Cross-referencing on independent verbs: P markers.

When the P of an independent transitive verb is hierarchically superior to the A, person markers from Set 2 are employed to reference P, as in Table 14.

Table 14: Independent transitive verbs with hierarchically superior P

P			
1 SG	*čé potár	*čé r-epják	'want(s) me, saw me'
1 EX	*oré potár	*oré r-epják	'want(s) us EX, saw us EX'
1 IN	*jané potár	*jané r-epják	'want(s) us IN, saw us IN'
2 SG	*né potár	*né r-epják	'wants you SG, saw you SG'
2 PL	*pé potár	*pé n-epják	'wants you PL, saw you PL'

This cross-referencing corresponds to that which is employed in dependent verb forms (sect. 6). It is likely that the original (Pre-Proto-Tupí-Guaraní) system was entirely absolutive. A proposal for the mechanism by which this change took place is discussed in sect. 17. The use of Set 2 person markers referring to P occurs in all of the typical Tupí-Guaraní languages, except for Urubú-Kaapor.

(144) he-r-esak   '2A or 3A saw me' (Gj)
(145) ne-r-esak   '3A saw you SG'
(146) zane-r-esak '3A saw us IN'
(147) ure-r-esak '2A or 3A saw us EX'
(148) pe-n-esak   '3A saw you PL'

In Urubú-Kaapor P is indicated by a free pronoun, and the prefixing on the verb always refers to A.

(149) ihẽ ke   a'e u-sak (Ur)
1SG EMPH 3   3-see
'He saw me.'

(150) ihẽ ke   nde ere-sak
1SG EMPH 2SG 2SG-see
'You SG saw me.'

When P is first person and A is second person, a separate morpheme is used in various languages to indicate A. This eliminates any possible interpretation that A is third person. The exact form of the two morphemes, referring to second person singular and plural, have not been reconstructed for Proto-Tupí-Guaraní because of insufficient data. However, based on the data available to me I would tentatively reconstruct them as *jepe* with second person singular A and *pejepe* with second person plural.[17]

(151) sjé r-epják jepé   'you SG see me' (Tb)
(152) sjé r-epják pejepé 'you PL see me'
(153) je-r-eroo ape   'you SG take me' (Kb)
(154) je-r-eroo pejepe   'you PL take me'

The equivalent forms in Guarayu are *eve* and *peje*. In Tapirapé (Leite 1987), where the phoneme *j* has merged with the reflexes of the other phonemes as *x* [č], the free morpheme *xepe* (155) is becoming associated with the first person singular P morpheme *xe-* instead of the A (observation by Rodrigues, p.c.). An additional free form *arepe* (156) has been added to harmonize with the prefix *are-* 'first person exclusive P'.

(155) xe-r-exãk xepe   'you (SG) see me' (Tp)
(156) are-r-exãk arepe 'you (SG or PL) see us'
(157) xe-r-exãk pexepe 'you (PL) see me'

The development of the new morpheme *arepe* when P is plural, indicates that this morpheme is being associated with the P prefix *are-* and not with A. This no doubt happened

by analogy after reinterpreting *xepe* as referring to P *(xe-)*. At this point in time, *pexepe* (157) is still used when the A is second person plural. This indicates that the free morphemes have not gone all the way in referring primarily to P.

5.3 Cross-referencing on independent verbs: Portmanteau A-P prefixes.

To review briefly the cross-referencing systems used with independent transitive verbs, the Set 2 person markers are used whenever P is hierarchically superior to A on the person hierarchy, where 1 > 2 > 3. These conditions are met when P is first person and A is second or third person or when P is second person and A is third person. The prefixes of Set 1, referencing A, occur when the P is third person. This leaves undefined the case in which A is first person and P is second person. In this situation, special portmanteau prefixes (Set 4) are used. They attach directly to the stem, without any intermediary linking prefix, as in Table 15.

Table 15: Portmanteau prefixes for 1st person A + 2nd person P

*oro-potár	'I/we like/want you SG'
*opo-potár	'I/we like/want you PL'
*oro-epják	'I/we saw you SG'
*opo-epják	'I/we saw you PL'

Portmanteau prefixes occur in most of the typical Tupí-Guaraní languages, the notable exceptions being Urubú-Kaapor and Kayabí. When the second-person P is singular, the *oro-* prefix or its reflex occurs in all other languages.

(158)	oro-juka-ra	'I/we will kill you SG' (Gu)
(159)	oro-ecak	'I/we see you SG' (Km)
(160)	oro-epják	'I/we see you SG' (Tb)

When the second person P is plural, however, there is a certain amount of variation. Old Guaraní, Guarayu, Kamaiurá, Parintintín, and Tupinambá retain the *opo-* prefix.

(161)	opo-ecak	'I/we see you PL' (Km)
(162)	opo-epják	'I/we see you PL' (Tb)

Some languages (Tocantins Assuriní and Mbyá Guaraní) have extended the use of the *oro-* prefix to refer to all second person P's and have eliminated the *opo-* form.

(163)	oro-mo'e	'I/we teach you (SG or PL)' (GiM)

Wayampi has replaced *opo-* with *poro-*, which might possibly be derived from the *oro-* form as well.

(164)	poro-esa	'I/we met you PL' (Wa)

Guajajára (Pindaré dialect) has two forms based on *opo-:*

(165)	apu-esak	'I saw you PL' (GjP)
(166)	urupu-esak	'we saw you PL'

Kaiwá and Tapirapé have similar forms. It appears that the *po* was at some point reinterpreted as a P prefix, to which was added a prefix from Set 1, by analogy to the forms which contained third person prefixes, as in Table 16.

Table 16: Analogical reinterpretation of forms with *po* in Kaiwá and Tapirapé

*a-i-	'1SG A acting on 3 (Class I) P'
*a-c-	'1SG A acting on 3 (Class II) P'
a-po-	'1SG A acting on 2P'
*oro-i-	'1EX.A acting on 3 (Class I) P'
*oro-c-	'1EX.A acting on 3 (Class II) P'
oro-po-	'1EX.A acting on 2P'

This type of development could have occurred independently in different languages, such as Guajajára and Kaiwá. Portmanteau forms do not exist in Kayabí or Urubú-Kaapor. In these languages the verb is prefixed by Set 1 A prefixes and the object is expressed by a free pronoun, as in (167–170) from Kayabí.

(167)	a-nupã ene	'I hit you SG' (Kb)
(168)	a-nupã pẽẽ	'I hit you PL'
(169)	oro-nupã ene	'we hit you SG'
(170)	oro-nupã pẽẽ	'we hit you PL'

To summarize the cross-referencing system used in independent transitive verbs:

Whenever P is third person, the verb cross-references A (and P) using Sets 1 (and 2).

Whenever P is hierarchically superior to A, the verb cross-references P using Set 2.

Whenever P is second person and is hierarchically inferior to A (that is, A is first person), portmanteau prefixes from Set 4 are used in most languages.

This cross-referencing system is summarized in Table 17. Where A and P are identical, a reflexive situation occurs and the verb is detransitivized by the reflexive prefix *je-*. This explains the gaps in the table. Since first person inclusive includes second person, it is reflexive in relation to either first or second person.

Table 17: Cross-referencing in P-T-G independent transitive verbs

AGENT	PATIENT 1SG	1EX	1IN	2SG	2PL	3
1SG				oro-	opo-	a-i- a-c-
1EX				oro-	opo-	oro-i- oro-c-
1IN						ja-i- ja-c-
.				SET 4		
2SG	čé (r-)	oré (r-)				ere-i- ere-c-
2PL	čé (r-)	oré (r-)				pe-i- pe-c-
3	čé (r-)	oré (r-)	jané (r-)	né(r-)	pe(n-)	o-i- o-c-
	SET 2					SETS 1+2

A hypothesis for the development of the cross-referencing system which occurs in independent transitive verbs is presented in sect. 17.

5.4 Cross-referencing on independent intransitive non-agentive verbs. Non-agentive verbs are cross-referenced by the Set 2 person markers, as in Table 18.

Table 18: Nonagentive intransitive verbs

1SG	*čé katú	*čé r-orýb	'I am good, happy'
1EX	*oré katú	*oré r-orýb	'we EX are good, happy'
1IN	*jané katú	*jané r-orýb	'we IN are good, happy'
2SG	*né katú	*né r-orýb	'you SG are good, happy'
2PL	*pé katú	*pé n-orýb	'you PL are good, happy'
3	*i-katú	*c-orýb	'he/she is good, happy'

Examples in descendant languages:

(171)	e-katu	e-r-ory (Wa)	'I am good, I am happy'
(172)	i-katu	Ø-ory	'he/she is good, is happy'
(173)	je katu[12]	je r-oryp (Km)	'I am good, am happy'
(174)	i-katu	h-oryp	'he/she is good, is happy'

A noun may also function syntactically like a nonagentive intransitive verb, using Set 2 person markers. The referent, which normally would be the possessor, functions as the subject of the sentence. This construction means that the referent is characterized in some way by the noun. Sometimes this is most easily translated in English using the verb 'have' although there is definitely no transitive meaning

intended in the indigenous language. In (175) and (176), *sjé* and *e-* are reflexes of the first person singular **čé* and function as the subject of the sentence. The noun stems are *aób* 'clothes' and *paje* 'shaman'.

(175)	sjé aób	'I have clothes' or 'I am clothed' (Tb)
(176)	e-paje	'I have shamanistic manifestations' (Wa)

There are no denominalizers in Tupí-Guaraní languages. In those languages which retain the nominal suffix **-a*, its absence results in a verb (sect. 3.3), as in (178) from Tapirapé.

(177)	ne-r-ã'yr-a	'your son' (Tp)
(178)	ne-r-ã'yt	'you have a son'

The alternation between /r/ and /t/ in the preceding two examples corresponds to a rule which probably occurred in Proto-Tupí-Guaraní, which devoiced final non-nasal consonants (**b* and **r*) (Appendix III.19).

To summarize the cross-referencing system which occurs with independent verbs:

> The Tupí-Guaraní languages use A (Set 1) markers for agentive intransitive verbs and P (Set 2) markers for nonagentive intransitive verbs (including nouns functioning syntactically as verbs).

> The cross-referencing system used with transitive verbs calls for A (and P) markers when P is third person, P markers when P is hierarchically superior to A, and portmanteau forms (Set 4) when A is superior to non-third P.

This system remains essentially intact in all typical Tupí-Guaraní languages except for Urubú-Kaapor. Urubú-Kaapor has eliminated all absolutive cross-referencing on transitive verbs (that is, all use of Set 2 and Set 4 person markers). Several languages no longer use the third person P prefix when Set 1 prefixes are used. Kayabí has eliminated the use of Set 4 person markers, replacing these with Set 1 A prefixes with free pronouns to refer to the second person P.

5.5 Imperatives Proto-Tupí-Guaraní languages have singular and plural imperative prefixes: **e-* and **pe-*.

(179)	*e-kér	'Sleep! (2SG)'
(180)	*pe-kér	'Sleep! (2PL)'
(181)	e-ke	'Sleep! (2SG)' (Wa)
(182)	pe-ke	'Sleep! (2PL)'
(183)	*e-i-nupã	'Hit it! (2SG)'
(184)	*pe-i-nupã	'Hit it! (2PL)'
(185)	e-i-nupã	'Hit it! (2SG)' (Tb)
(186)	pe-i-nupã	'Hit it! (2PL)'

6 Cross-referencing of dependent verb forms

6.1 Oblique-topicalized verbs. In Tupí-Guaraní languages sometimes an adverbial (adverb, postpositional phrase, or temporal subordinate clause) is fronted to the initial position of the clause for discourse reasons. This mechanism requires a change in verb form, making the verb in an unusual sense dependent on the adverbial construction. A special oblique-topicalized (OBTOP) suffix is used (Harrison 1986:417). This construction is referred to as an "inverted sentence" by Bendor-Samuel (1972), "indicative II" in Rodrigues' earlier works (1953), and "circumstantial" in his later works (1981). The construction is characterized by absolutive cross-referencing (Set 2 markers or a noun (192) directly preceding the verb stem) and by the OBTOP suffix. The suffix has two allomorphs. When the stem to which the suffix attaches ends in a consonant, the suffix is *-i. There is some uncertainty about the protoform of the allomorph which attaches to a vowel-final stem, since various languages have -w, -n, or -j.

(187)   *kwecé   i-'ár-i
           yesterday 3-fall-OBTOP
           'Yesterday he fell.'

(188)   *a'e-pe c-ekó-n   (or, c-ekó-w or c-ekó-j)
           that-at 3-be-OBTOP
           'He was at that place.'

The equivalents of *i-'ár-i and *c-ekó-(w, n, or j) in independent verbs are *o-'ár and *o-ikó.

In Guajajára and Kamaiurá the OBTOP construction occurs only with third person subjects (189–190). In (190), the OBTOP form occurs because the A is third person, even though it is P that is prefixed on the verb. With first or second person subjects the independent verb form is used (with no OBTOP suffix).

(189)   a'e   pe h-eko-n   (GjG)[9]
           there at 3-be-OBTOP
           'He (she) is there.'

(190)   ka'a   pe ure-r-eraha-n   (GjG)
           jungle to 1EX.P-LK-take-OBTOP
           'He took us to the jungle.'

In Kayabí (191, 192 and 193) and Tupinambá (194), OBTOP constructions occur with both first and third person subjects.

(191)   oroj-a'yr   'ar amũ kawĩpie apo-ù
           1EX.COREF-son fall when porridge make-OBTOP

oro-jo-upe   (Kb)
1EX.COREF-RECIP-for
'When our children are born, we make a (special type of) porridge for each other (of us).'

(192)   ko   ·   pe kyna r-eko-i   ra'e   (Kb)
           garden at 3SG.F. LK-be-OBTOP PRESENT
           'She is at the garden.'

(193)   weweri'i je-je'eg̃-i   (Kb)
           slowly   1SG-speak-OBTOP
           'I speak slowly.'

(194)   kwesé   sjé r-a'ýr-a   sjé r-ajýr-a   s-epják-i   (Tb)
           yesterday 1SG LK-son-NC 1SG LK-daughter-NC 3P-saw-OBTOP
           'Yesterday my daughter saw my son.'

These examples also demonstrate that the adverbial construction which signals the OBTOP construction may be a word (193, 194), a phrase (192), or a subordinate clause (191).

The OBTOP construction no longer exists in the Guaranian languages, Wayampi, and Urubú-Kaapor (C. Jensen 1990:132). In these languages the independent verb forms occur even when an adverbial occurs in the initial position of the clause, as in (195) from Wayampi and (196) from Chiriguano (Dietrich 1986).

(195)   kwee   o-'a (Wa)
           yesterday 3-fall
           'Yesterday he fell.'

(196)   hókope o-mãno xe   ru   (Ch)
           there   3-die   1SG father
           'There my father died.'

A few remnant OBTOP forms nevertheless occur in all of these languages. Most common are forms based on verbs which have alternate stem forms, such as *jũb and *t-úb 'to be lying down', and *júr and *t-úr 'to come'. In these cases the first stem is used with independent verb forms, as in (197), and the second is used with the OBTOP construction, as in (198). The form tui in (198) is derived from *i-túb-i, and i-túry in (199) is from *i-túr-i.[13] The word i-hon in (200) is from *i-có-OBTOP.

(197)   a'e pe a-ju   (Wa)
           that at 1SG-be.located
           'I am living there.'

(198)   a'e pe tui   (Wa)
           that at 3.be.located
           'It is located there.'

(199) xe-a   katy i-tury   (GiM)
       1SG-place to   3-come
       'He came to my place.'

(200) nasu riki   ihẽ namo i-hon (Ur)
       Nasui EMPH 1SG with 3-go
       'Nasui went with me.'

The OBTOP construction has also been essentially eliminated in Guarayu. Remnant forms include *čīnī* (from *c-ín*-OBTOP) '3-sit' and *sekoi* (from *c-ekó*-OBTOP) '3-to be'.

6.2 Subordinate verbs. Subordinate clauses in Proto-Tupí-Guaraní have temporal or conditional meanings. All types of subordinate verbs (whether TV, or agentive or non-agentive IV) are absolute in their cross-referencing. S or P is referred to either by a Set 2 person marker or by a noun directly preceding the verb stem. The verb stem, which is the last constituent of the clause, is suffixed by *-V*m*V* ~ *-r*V*m*V* (vowels undetermined) 'when, if' or *-ire* ~ *-(ri)re* 'after'.

(201) *i-có-r*V*m*V   'when he goes/went'
(202) *čé 'ár-V*m*V   'when I fall/fell'

(203) sjé só-reme   (Tb)
       1SG go-if,when
       'if (when) I go'

(204) i-paw-amo   sa-ha   (As)
       3-finish-when 1IN-go
       'When it was finished, we went.'

(205) i-nopo-ramo (As)
       3-hit-when
       'when (someone) hit it/him/her'

(206) oroj-a'yr   'ar amũ (Kb)
       1EX.COREF-son fall when
       'when our children are born'

In Wayampi and Kaiwá the temporal morpheme may follow morphemes other than the verb.

(207) a-me'ẽ   i-jupe remẽ (Wa)
       1SG-give 3-to   when
       'when I gave it to him'

(208) o-kwera   porã i-jase'o-ramo, o-porahéi-ta (Kw)
       3-recuperate well 3-throat-when 3-sing-FUT
       'When his throat gets better, he will sing.'

The Guaranian languages, Wayampi, and Urubú-Kaapor have replaced the absolutive (Set 2) cross-referencing with the system characteristic of independent verbs. The equivalent of *-V*m*V* ~ *-r*V*m*V* in Guajajára is *mehe*.

(209) he-ker   mehe (GjG)
       1SG-sleep when
       'when I sleep'

Some languages use coreferential prefixes from Set 3 with verbs when the S or P of the subordinate clause is identical to that of the independent clause.

(210) o-ho re   u-zai'o (GjG)
       3-go after 3-cry
       'After he left, he (the same person) cried.'

(211) o-ywu re   u'yw-a   r-eru-a   Ø-eru-'a-a   (Kb)
       3-shoot after arrow-NC LK-bring-SER[18] 3-CC-fall-SER
       'After he₁ shot him₂, he₂ brought the arrow, falling with it as he came.'

Although Dobson does not report the zero prefix before *-eru-'a- a* (211), its occurrence in this context is consistent with the data in other languages (derived from *c-ero-'ár-a*). In such a construction, the transitive verb should be preceded by an object.

6.3 Dependent serial verbs. A serial verb construction in Tupí-Guaraní languages is one in which two or more verbs having the same subject (S or A) are used within a single clause and are perceived to be part of a single action. The dependent serial verb has been referred to as a gerund (Rodrigues 1953), an auxiliary verb (Harrison 1986), a serial verb (C. Jensen 1990), and the construction as a whole as a "double verb construction" (Dooley 1991). The cross-referencing on the dependent serial verb is absolutive, and the verb receives a dependent serial verb suffix, which has three basic allomorphs: *-a* after final consonants, *-ábo* after a final vowel, *-ta* after a final diphthong ending in *j*.[19]

Examples (212)-(214) illustrate the three basic allomorphs of the serial verb suffix. Since the dependent serial verbs in (212) and (213) are transitive, person markers from Set 2 are used, referring to the P. The dependent serial verb in (214) is an intransitive verb. Since its S is coreferential with the grammatical subject of the independent verb, it is indicated by a prefix from Set 3, which for third person is identical to the prefix from Set 1.

(212) *o-có i-mo'é-bo
       3S-go 3P-teach-SER
       'He went to teach him.'

(213) *o-có né   r-epják-a
       3S-go 2SG.P LK-see-SER
       'He went to see you.'

(214) *o-có   o-poracéj-ta
      3S-go 3-dance-SER
      'He went to dance.'

When the dependent serial verb is transitive, the P is cross-referenced by person markers from Set 2 or is indicated by a noun directly preceding the verb.

(215) o-úr   kunumí kuáp-a[20]   (Tb)
      3-come boy   know-SER
      'He came to meet the boy.'

(216) a-aká-nupã   i-juka (Wa)
      1SG.A-head-hit 3P-kill
      'I hit it on the head to kill it.'

The full set of forms occurring with transitive verbs appears in Table 19.

Table 19: Transitive serial verbs

P		
1SG	*o-có čé r-epják-a	'he went to see me'
1EX	*o-có oré r-epják-a	'he went to see us EX'
1IN	*o-có jané r-epják-a	'he went to see us IN'
2SG	*o-có né r-epják-a	'he went to see you SG'
2PL	*o-có pé n-epják-a	'he went to see you PL'
3	*o-có c-epják-a	'he went to see him/her/it'

When a dependent serial verb is an agentive intransitive verb, its referent (S) is identical with the subject of the independent verb. Therefore it is cross-referenced by the coreferential prefixes from Set 3, as in Table 20. (This is the same set which appears in Table 7.)[21]

Table 20: Intransitive serial verbs

S		
1SG	*a-có wi-poracéj-ta	'I went to dance'
1EX	*oro-có oro-poracéj-ta	'we EX went to dance'
1IN	*ja-có jere-poracéj-ta	'we IN went to dance'
2SG	*ere-có e-poracéj-ta	'you SG went to dance'
2PL	*pe-có peje-poracéj-ta	'you PL went to dance'
3	*o-có o-poracéj-ta	'he went to dance'

(217) ja-jot   jere-maraka-m (Km)
      1IN-come 1IN-sing-SER
      'We came to sing.'

(218) ã-xaok   we-yytãp-a   (Tp)
      1SG-bathe 1SG-swim-SER
      'I will bathe and swim.'

Particularly common as intransitive serial verbs are ones which indicate position, movement, and direction. These include *én ~ ín 'be seated', *úb ~ júb 'be lying down', *'ám 'be standing up', *ekó ~ ikó 'be in movement', *có 'go', and *úr ~ júr 'come'. (Transitive verbs based on *có and *úr (Table 21) are also common as serial verbs.) Kakumasu (1986:386) describes these verbs in Urubú-Kaapor as aspect auxiliaries:

(219) harõ u-ĩ
      3.wait 3-sit
      'He was waiting sitting down.'

(220) nino o-u
      3.lie 3-lie
      'He is lying down.'

(221) jixi'u u-'am
      3.cry 3-stand
      'He was crying standing.'

(222) harõ   ixo[22]
      3.wait 3-be.in.motion
      'He was waiting pacing around.'

The lack of a prefix on the independent verbs in (219–222) indicates third person, since no third-person prefix occurs in Urubú-Kaapor on polysyllabic verbs.

In Guarayu the coreferential prefix is retained only for first person singular. No serial verb suffix is used. For other persons, the set 1 person markers have replaced those of Set 3. For the reflex of *úr ~ *júr 'come', first and second person singular forms are vitu and ereju, respectively. By comparison the first person singular form with Set 1 markers would be aju.

In Wayampi the intransitive serial verbs (223, 224) take prefixes from Set 1, even though transitive serial verbs take Set 2 (216). The serial verb suffix has been eliminated in both constructions.

(223) a-jywy   a-jo   (WaJ)
      1SG.S-return 1SG.S-come
      'I returned, coming.'

(224) a-jywy   a-a
      1SG.S-return 1SG.S-go
      'I returned, going.'

Urubú-Kaapor and Chiriguano also use Set 1 prefixes for intransitive serial verbs and have eliminated the serial verb suffix. Kaiwá and Mbyá Guaraní also use Set 1

markers, but have retained some form of the serial suffix. (The most productive form of the suffix is -vy [ƀi], derived from the suffix *-áƀo.)[13]

(225) a-eka   a-iko-vy   (GiM)
       1SG.A-seek 1SG.S-be-SER
       'I went about looking for it.'

Non-agentive intransitive serial verbs are suffixed by *-ramo ~ -amo. In (226) from Kamaiurá (Seki 1989), and in Tocantins Assuriní (Nicholson 1977), the complete set of coreferential prefixes is used. In Tupinambá, the Set 3 prefix is used only for third person as in (227).

(226) a-jot   we-katu-ram   (Km)
       1SG-come 1SG-good-SER
       'I come to be good.'

(227) aƀá o-só o-orýƀ-amo   (Tb)
       man 3-go 3-happy-SER
       'The man went and was glad.'

For first and second person, Set 2 markers are used in Tupinambá; sjé katú-ramo 'being good', not wi-katú-ramo.

7 Valence-changing devices

Valence-changing devices include three types of causatives, reflexive and reciprocal morphemes, and object incorporation.

7.1 Causatives

(1) Simple causative

There are three types of causatives in Tupí-Guaraní languages. The prefix *mo- is a simple causative. It may create a transitive verb from an agentive (228, 232) or non-agentive (229, 233) intransitive verb, from a noun (230, 234), and, at least in some languages, from certain suffixes (231, 235). The new verb created by mo- is transitive. The mo- prefix cannot occur on transitive stems, since it is a transitivizer.

(228) *mo- + *có 'go'   > *monó 'cause to go, send'
(229) *mo- + *piráŋ 'be red' > *mopiráŋ or *momiráŋ 'make red, redden'
(230) *mo- + *kwár 'hole'   > *mokwár or *moŋwár 'make a hole'
(231) *mo- + *-'í 'small'   > *mo'í 'make into small pieces'
(232) mo-pok   'cause it to burst' (Gj)
(233) mbo-aku   'cause it to be hot' (GiM)
(234) mu-her   'give (him) a name' (Ur)
(235) mo-eté   'honor, make great' (Tb)

The suffixes in (231) and (235) are described in sect. 3.4.

In Tupinambá, the mo- prefix co-occurs with the third person object prefix i- following a subject prefix: a-i-mo-no (from mo- 'CAUS' + só 'go' 'he sent him/it'. In the Guaraní languages, mo- does not co-occur with the object prefix in this context.

In various languages, and probably in Proto-Tupí-Guaraní, the nasal consonant in this morpheme caused a nasalization of the initial voiceless consonant of the following morpheme (Appendix III.1). In Tupinambá, this rule had a restriction that there be no other nasals (consonant or vowel) in that morpheme, as can be illustrated by the word mo-pirán 'cause to be red'. This restriction does not hold in Kayabí, as can be seen by the cognate momirãg.

(2) Causative of transitive verbs

The morpheme *-ukár appears to have been derived from a transitive verb. It occurs after a transitive verb stem. In this construction the person commanding that the action be done is the A of the verb, the recipient of the action is the P, and the performer of the action, if stated, is the object of the postposition *cupé. In (237) from Tupinambá, the commander is first person, the recipient of the action is the jaguar, and the actual performer of the action is the brother. In (238) from Assuriní, the performer is not stated.

(236) *a-juká-ukár   'I caused it to be killed.'

(237) a-juká-ukár   jawár-eté   sjé r-ywýr-a   supé (Tb)
       1SG.A-kill-CAUS jaguar-genuine 1SG LK-brother-NC to
       'I made my brother kill the jaguar.'

(238) o-soka-okan (As)
       3-kill-CAUS
       'He caused it to be killed.'
       ('He made someone kill it.')

In (236) the verb *juká is irregular in that the object prefix i- never occurs between the A prefix and this stem.

(3) Comitative causative

The morpheme *ero- ~ ro- is a comitative causative. It indicates that A performs an action which affects P, and also affects himself. This morpheme combines with an intransitive morpheme to create a transitive verb.

(239) *a-ro-'ár   'I fell, causing it to fall also.'
(240) *o-ero-'ár   'He fell, causing it to fall also.'
(241) *jané r-ero-'ár   'It fell, causing us to fall also.'

The ro- allomorph occurs with 1SG, 1IN, 2SG, and 2PL A morphemes, as in (239). This morpheme is a member of Class II, taking the linking prefix r- when preceded by a morpheme indicating the P, as in (241). No object prefix occurs between the A prefix and this morpheme.

(242)   w-eru-'a   'He fell, causing it to fall also.' (Kb)
(243)   a-ro-ike   'I entered, causing him to enter with me.' (Ch)
(244)   w-eru-zan   'He ran, causing him to run also.' (Gj)

These three causatives are used in conjunction with the verbs *úr 'come' and *có 'go', as illustrated by the following examples from Wayampi (Amapari dialect) and Assuriní, in Table 21:

Table 21: Causative forms with *úr 'come' and *có 'go' in Wayampi and Assuriní

	Wayampi	Assuriní	
*o-úr >	uu	on	'he came'
*o-mo-úr >	omuu	omon	'he caused to come'
*o-mo-úr-ukár >	omuroka		'he had (someone) bring it'
*o-ero-úr >	oeru	oeron	'he brought it'
*o-có >	oo	aha	'he went'
*o-mo-có >	omono	omana	'he caused to go'
*o-mo-có-ukár >	omonoka	omanaokan	'he caused (him) to take it'
*o-ero-có >	oeraa	oeraha	'he took it'

The vowel change in the forms that derive from *o-ero-có is a consistent change in Tupí-Guaraní languages: w-eraha (Gj), o-erasó (Tb), o-gueraa (GiM).

7.2 Detransitivizers

(1) Reflexive

There are four basic ways of detransitivizing a transitive verb. If the reflexive prefix *je- occurs between the person marker and the stem, this indicates that the action is performed by the A upon himself, resulting in an intransitive verb.

(245)   *o-i-mo'é   'he teaches him'
(246)   *o-je-mo'é   'he teaches himself/he learns'
(247)   a-upi   'I lift (it, him, her)' (Wa)
(248)   a-ji-upi   'I lift myself/ I climb'
(249)   o-juká   'he killed it' (Tb)
(250)   o-je-juká   'he killed himself'
(251)   u-ze-zuka   'he killed himself' (Gj)

The reflexive morpheme may co-occur with causatives, as in (252) and (253) from Wayampi.

(252)   o-sĩ   'he is shy, embarrassed' (WaA)
(253)   o-ji-mo-sĩ-oka   'he is ashamed'

(2) Reciprocal

Reciprocal action is indicated by the prefix *jo-. This prefix occurs in the same position as the reflexive prefix, and the result is again an intransitive verb.

(254)   *o-jo-nupã   'they hit each other'
(255)   ja-jo-kutúk   'we pierced each other' (Tb)
(256)   o-so-soka   'they killed each other' (As)
(257)   ja-jo-gwéru   'we brought each other' (Ch)

In Wayampi and Guajajára only the reflexive prefix occurs. When the verb is plural, the interpretation may be either reflexive or reciprocal, as in (258). In Urubú-Kaapor (259) only the descendant form of the reciprocal suffix occurs, but with a reflexive meaning.

(258)   o-ji-nupã   kupa (WaA)
        3-REFL-hit   PL
        'They hit themselves' or 'They hit each other.'

(259)   ju-mu'e   'He learns.' (Ur)

(3) Object incorporation

Another way in which a transitive verb may be detransitivized is by the incorporation of a non-possessible object between the person marker and the verb stem.

(260)   *a-y-'ú
        1SG-water-consume
        'I drink water.'

(261)   a-pina-ety   (Kb)
        1SG-hook-drop
        'I fish.'

(262)   a-ywa-epia   (Gu)
        1SG-heaven-see
        'I look toward heaven.'

(263)   o-'y-asa   (Wa)
        3-water-cross
        'He crossed the river.'

If the incorporated object is a possessible noun, the verb remains transitive, as in (264, 266, 267). This may be made reflexive, as in (265).

(264)   a-po-kysi   'I cut his hand.' (Kb)
(265)   a-je-po-kysi   'I cut my own hand.'
(266)   oro-poã-nõ   'I gave you medicine.' (Wa)
        1 > 2SG-medicine-make
(267)   o-akãg-o[23]   'He decapitated it.' (Wa)

(4) Generic object incorporation

There are two generic morphemes which may be incorporated into the object position to create intransitive verbs: *ma'e 'thing' and *poro 'person'.

(268)	a-ma'e-kuáb	'I know things.' (Tb)
(269)	a-poro-nupã	'I hit (punish) people.' (Tb)
(270)	a-poro-mbóe	'I teach (people).' (Ch)
(271)	a-mbae-juka	'I hunt (kill things).' (Ch)
(272)	o-poro-'u	'It eats people.' (Kb)
(273)	u-puru-zuka	'He (it) kills people.' (Gj)

8 Verbal aspect

8.1 Future, desiderative, and completion. In many languages the verb *potár, or a reduction of it (tar or ta), is used to indicate future. The same morpheme is used at times to indicate a desiderative.

(274)	a-ha-putar	'I will go.' (Gj)
(275)	a-pyta-ta	'I will stay/ I want to stay.' (Wa)
(276)	a-ha-ta	'I will go.' (Ch)

Urubú-Kaapor (Kakumasu 1986:385) has two morphemes based on *potár: -tar to indicate desiderative, and -ta to indicate future.

| (277) | o-ho tar katu | 'He really wants to go.' (Ur) |
| (278) | o-ho ta tipe | 'He intended to go, but didn't.' |

Kaiwá (Taylor 1984b) has three morphemes to indicate future, depending on the degree of certainty (factual or hypothetical) and the distance into the future for the factual morphemes. The three morphemes are: ta 'immediate future, factual', va'erã 'distant future, factual', and arã 'hypothetical'.

(279) o-kwera   porã i-jase'o-ramo o-porahéi-ta
      3-recuperate well 3-throat-when 3-sing-FUT
      'When his throat gets better, he will sing.'

(280) xe a-menda-ramo   a-je-hogapo   va'erã
      I 1SG-marry-when 1SG-REFL-make.a.house FUT
      'If I marry her, I promise to build a house.'

In (279) and (280) we can see by the choice of future morpheme that the recuperation and consequent return to singing is expected to occur soon, whereas the marriage and housebuilding is expected to occur in the more distant future.

Future and desiderative morphemes are distinguishable in negated constructions in Wayampi, although they are indistinguishable in non-negated constructions. The negated future replaces the -ta morpheme with -'ã, as in (282).

| (281) | n-oo-tar-i | 'He doesn't want to go.' |
| (282) | n-oo-'ã-i | 'He will not go.' |

The choice of a different morpheme in (282) could well have a hypothetical or irrealis interpretation (similar to what Taylor describes for Kaiwá), since the negation indicates that the action will not be realized.

Past tense can be indicated by a time word (283), by a temporal particle (see sect. 11), or sometimes by a completive marker *-pab (284, 285).

(283) *kwecé   i-'ár-i
      yesterday 3-fall-OBTOP
      'Yesterday he fell.'

(284) *o-có-pab 'They all went.'
(285) *o-'ú-pab 'He/they ate it all.'

The suffix *-pab has an absolutive interpretation. In intransitive verbs (284, 286) it indicates that all possible subjects have performed the action. In transitive verbs (285, 287) it means that the action has been performed on all possible objects. Following nasalized morphemes the first consonant of the completive morpheme is nasalized (Appendix III.1), as in (286, 287).

| (286) | *o-manõ-mab | 'They all died.' |
| (287) | *o-i-nupã-mab | 'He/they hit them all.' |

(288) a-'u   pa   je   te-munuwi-a   (Kb)
      1SG.A-eat COMPL 1SG 1SG-peanut-NC
      'I have eaten up all my peanuts.'

| (289) | oro-jimi'u-pa | 'We finished eating (IV).' (WaA) |
| (290) | oro-'u-pa | 'We ate everything.' |

The completive suffix does not always indicate past, however. It may co-occur with the future suffix in Wayampi (291) to indicate that something will be completed in the future.

(291) a-'u-pa-ta 'I will eat it all.'

Urubú-Kaapor and Chiriguano have eliminated the completive suffix, which is consistent with the elimination of other absolutive-based constructions in these languages (C. Jensen 1990:148). They use a reflex of the intransitive verb *o-páb as an independent morpheme to communicate the aspect of completion.

(292) wyrahu   upa   u-'u (Ur)
      king.hawk COMPL 3-eat
      'The king hawk ate it all.'

8.2 Monosyllabic reduplication. Reduplication of the last syllable of an intransitive verb indicates that an action has been performed by one subject after another. In transitive verbs it indicates that the action has been performed on one object after another. If there is a final consonant in the reduplicated stem, it only occurs at the end of the word (Everett and Seki 1986).

(293)   *o-i-mokó-kón
        3A-3P-swallow-REDUP
        'He swallowed them one after another.'

(294)   *o-pó-pór
        3S-jump-REDUP
        'They jumped, one after another.'

(295)   o-moko-kon   'He swallowed one after the other.' (As)
(296)   o-sé-sém   'One after another left.' (Tb)

This reduplication is not productive in the languages which have undergone cross-referencing changes. However, isolated examples occur.

(297)   o-mo-po-po   (Wa)
        3-CAUS-jump-REDUP
        'He threw them away, one after another.'

(298)   kwaraxi pe i-ho-hon   me'ẽ u-hyk   (Ur)
        Icoaraci at 3-go-REDUP NOM 3-arrive
        'The one who went repeatedly to Icoaraci arrived.'

8.3 Bisyllabic reduplication. This type of reduplication indicates that an action is performed frequently. Its interpretation is not absolutive. If the stem is monosyllabic, the final syllable of the preceding morpheme is included in the reduplication, as in (300) and (302).

(299)   *o-i-mokó-mokón   'He swallows them frequently.'
(300)   *oro-có-ro-có   'We go frequently.'
(301)   u-muku-mukun   'He swallows repeatedly.' (Gj)
(302)   a-po-a-pot   'I jump repeatedly.' (Km)
(303)   o-i-pete-pete   'He kept hitting it (with his hand).' (Kw)

8.4 Frustrative. Various languages have frustrative morphemes, indicating that the initiated action did not accomplish its intended result.

(304)   i-memy   tite   (Wa)
        3-give.birth FRUST
        'She had a miscarriage.'

(305)   juka ta   tipe   (Ur)
        3.kill FUT FRUST
        'He intended to kill it, but didn't.'

(306)   a-só-biã   (Tb)
        1SG-go-FRUST
        'I went, but didn't accomplish anything.'

(307)   o-ho-pa   jevy rei   (Kw)
        3-go-COMPL again FRUST
        'They all went off again to no purpose.'

Wayampi also has what appears to be a cognate to the Tupinambá frustrative *biã*. It is *mijã* 'previously, but not anymore', as in (308). With the future morpheme, *mijã* indicates that it was an intended but unfulfilled action, as in (309).

(308)   n-a-kua-i mijã   'I didn't know at that time.'
(309)   a-a-ta mijã   'I was going to go.'

The Guajajára particle *miamo*, which Bendor-Samuel translates as 'in vain' is likely a cognate as well. Another likely cognate is the Guarayu particle *víjã* 'unreal'. This language also has a frustrative particle *těí*.

8.5 Intensifiers. Three intensifiers can be reconstructed as suffixes for Proto-Tupí-Guaraní: *-katú, *-acý,* and *-eté.

(310)   o-i-potá-katú   'He wants it a lot.' (Tb)
(311)   a-'u-katu-katu   'I really eat.' (Kb)
(312)   i-katu-ahy   'It is very good.' (Gj)
(313)   o-se'eg-ahy   'He speaks a lot.' (As)
(314)   i-kato-ete   'It is very good.' (As)
(315)   w-apo-ay-etewe   'He works fast.' (Kb)
(316)   i-katu-ay-wete   'It is very very good.' (Wa)

9 Nominalizations

9.1 Nominalizations of Action, Agent, and Circumstance. Tupí-Guaraní languages have three closely related suffixes which are used to nominalize verbs: *-a, *-ár,* and *-áb. The nominalized forms created by these suffixes refer to the action, the agent, and its circumstances, respectively. The cross-referencing on these nominalizations is indicated by a Set 2 person marker, the unspecified possessor prefix, or a noun.

(1) Nominalization of action

The first suffix is actually identical with the nominal case suffix. Just as it indicates that a noun is acting syntactically as a noun, it indicates that the verb is

acting syntactically as a noun; that is, it refers to the action of the verb or, in the case of nonagentive intransitive verbs, to its abstract quality. It has two allomorphs: *-a, with consonant-final stems, and *-Ø, with vowel-final stems.

(317)	*c-epják-a	'his being seen'
(318)	*čé kér-a	'my sleep(ing)'
(319)	*né r-ekó-Ø	'his being (in motion)'
(320)	*i-katú-Ø	'his goodness'
(321)	s-ekár-a	'the search for him' (Tb)
(322)	bebé	'action of flying' (Tb)
(323)	t-oryv-a	'party (action of being happy)' (Pt)
(324)	kir-a	'sleep (action of sleeping)' (Pt)

In Kayabí (Dobson 1973), the -a suffix occurs with all stems, regardless of whether they end in a consonant or a vowel.

| (325) | pẽ-porowyky-a | 'your (PL) work' |
| (326) | kwasiar-a | 'drawing' |

(2) Nominalizer of agent

The agent nominalizer has three allomorphs: *-ár, *-cár, and *-tár, after consonant-final, vowel-final, and diphthong-final stems, respectively. It may have occurred only with transitive verbs.

(327)	*i-juká-cár	'his killer'
(328)	*oré r-epják-ár	'the one who sees us (EX)'
(329)	*i-pwáj-tár	'the one who orders it'
(330)	i-apo-har	'its maker' (Gj)
(331)	i-poz-tar	'the one who feeds it (him)' (Gj)
(332)	pinaaetyk-at	'the one who is fishing' (Kb)

(3) Nominalization of circumstance

The nominalizer of circumstance also has three allomorphs: *-áb, *-cáb, and *-táb. The circumstance may be the place, time, or instrument.

(333)	*i-juká-cáb	'his death place or circumstance'
(334)	*oré r-epják-áb	'the place or circumstances of our being seen'
(335)	*i-pwáj-táb	'the place or circumstance of his (its) being ordered'
(336)	i-zuka-haw	'the place where he/it is killed' (Gj)
(337)	Ø-eko-a	'the place where he lives' (Wa)
(338)	i-momyk-ap	'that which is used for sewing' (Kb)

In Kamaiurá and Assuriní the allomorphs beginning with -t, that is, -tat ~ -tar- (Km) and -tar (As) for the agent, and -tap ~ -taw- (Km) and -taw (As) for the circumstance, follow morphemes ending in a vowel. The Proto-Tupí-Guaraní allomorphs used in this

environment were consonant initial: *-cár and *-cáb. In Kamaiurá and Assuriní the phoneme *c was eliminated, making the reflexes of *-cár and *-cáb vowel initial (339, 340), identical with the allophones which follow a consonant-final stem. Rather than suffixing a vowel-initial allomorph to a vowel-final stem, speakers of these two languages extended the use of another pair of consonant-initial allomorphs, *-tár and *-táb, to occur with vowel-final stems (341, 342).

(339)	*i-apó-cár-a >	i-apó-ar-a
(340)	*i-apó-cáb-a >	i-apó-aw-a
(341)	i-apo-tara	'its maker' (As)
(342)	i-apo-tawa	'the instrument for making it' (As)

Some languages have extended the use of the nominalizer of circumstance to include the nominalization of action, replacing the nominal case suffix (see sect. 9.5). Among these are Wayampi (C. Jensen 1983) and Guajajára, as indicated in (343) and (344). If the nominal case suffix had been used in (343) the form in Wayampi would be e-mo-katu-Ø-kwer.

(343) *čé   mo-katú-cáb-wér   >
       1SG CAUS-good-CIRC-DEVOLV

       e-mo-katu-a-wer   (WaA)
       1SG-CAUS-good-NOM-DEVOLV
       'my healing (my being made good)'

(344) *i-juká-cáb > i-zuka-haw 'the killing of him' (Gj)

Four languages which have eliminated absolutive cross-referencing in verbs have also made changes in the cross-referencing system used with these nominalizations. Urubú-Kaapor (345, 346) uses only Set 1 markers for nominalizations. Mbyá Guaraní, Chiriguano, and Kaiwá use Set 1 prefixes for nominalizations of circumstance (347) and Set 2 person markers to cross-reference the P in nominalizations of agent (348).

(345)	a-kwa-ha	'my knowing of it' (Ur)
(346)	u-sak-iha	'the one seeing him' (Ur)
(347)	o-mbo'e-a	'the action (or place) of his being taught' (GiM)
(348)	i-mbo'e-a	'his teacher' (GiM)

9.2 Nominalizations of Patient. There are two Proto-Tupí-Guaraní nominalizations referring to P. The suffix *-pýr refers to P without any reference to A. When it follows a consonant-final stem, as in the Kayabí example (353), an epenthetical vowel occurs (Appendix III.15). The prefix *emi- refers to P in relation to A. Both occur only with transitive verbs.

(349)	*i-juká-pýr	'that which is dead (killed)'
(350)	*né r-emi-juká	'the one which you kill'
(351)	i-zuka-pyr	'that which is dead (killed)' (Gj)

(352) he-r-emi-'u   'that which I eat, my food' (Gj)
(353) i-powan-ipyt   'that which is woven' (Kb)

Like all nouns, if these constructions occur syntactically as a noun, they take a nominal case suffix -a after a final consonant, as in (354) and (355), if this suffix is retained in the language.

(354) s-emi-mclass.o-mojan-a 'that which he made, his handiwork' (Tb)
(355) i-juká-pýr-a   'that which is dead (killed)' (Tb)

The -pýr suffix has been eliminated by three of the languages which have also eliminated absolutive cross-referencing: Wayampi, Chiriguano, and Urubú-Kaapor. In Mbyá Guaraní this construction now uses Set 1 prefixes, even though the suffix still refers to P without reference to A (Dooley 1982:157).

(356) ita   o-mboaty py-re   (GiM)
       rock 3-piled   P.NOM-DEVOLV
       'the rocks which were piled up'

The *emi- prefix has been eliminated in Urubú-Kaapor, except for the frozen form h-imi-'u 'that which he eats, his food'. This is consistent with its elimination of all reference to P in verbs.

9.3 Clause nominalizer. The predicate of a clause may be nominalized by the suffix *-ba'é.

(357) *o-có-ba'é   'the one who goes'
(358) *i-katú-ba'é   'the one that is good'
(359) *o-jo-pwáj-ba'é   'the one that commands him/it'
(360) i-ro'y-wa'e   'the one that is sick' (As)
(361) o-i-su'ú-ba'é   'the one that bit him' (Tb)

In Tupinambá, when the nominalizer follows a consonant-final stem, there are two options: either the final consonant of the stem is deleted, or an epenthetical vowel y is inserted (362).

(362) o-sém + ba'é   > oseba'é 'the one that leaves' (Tb)
                        > osémyba'é

In some languages the nominalizer begins with a nasal consonant: ma'e. It is possible that there were originally two allomorphs, one which followed oral vowels, the other which followed nasal vowels. For example, *o-manõ-ba'é > o-manõ-ma'é 'the one who died'. The one which originally would have followed nasal vowels then became the generalized form in Guajajára, Kayabí, Kamaiurá, Tapirapé, Wayampi, and Urubú-Kaapor.

(363) o-ho-ma'e   'the one that goes' (Gj)
(364) i-ka-ma'e   'the one that is fat' (Kb)

In Wayampi this nominalizer may be used to refer to S of the intransitive clause (365), A or P of the transitive clause (366, 367; context determines interpretation, if A and P are both third person), possessor (368), or object of the postposition (369):

(365) o-pyta ma'ẽ (Wa)
       3-stay NOM
       'the one that stayed'

(366) e-nupã ma'ẽ (Wa)
       1SG-hit NOM
       'the one that hit me (with an instrument)'

(367) a-nupã ma'ẽ (Wa)
       1SG-hit NOM
       'the one that I hit'

(368) i-posi'a-tawa   ma'ẽ (Wa)
       3-breast-yellow NOM
       'the yellow-breasted one'

(369) a-me'ẽ   i-jupe ma'ẽ (Wa)
       1SG-give 3-to   NOM
       'the one to whom I gave it'

At the other extreme, languages such as Guajajára (Bendor-Samuel 1972:119) and Tapirapé (Almeida 1983:32) only allow this nominalizer with agentive and non-agentive intransitive verbs. In these languages the nominalizer serves a complementary function with the nominalizer -ár. These two nominalizers cannot be analyzed as true complements of each other, however, since their basic nature is different. All the other nominalizers which have been described involve a stem level nominalization. The verb stem is cross-referenced in the same way as nouns and dependent verbs, using person markers from Set 2. The nominalizer *-ba'é, on the other hand, nominalizes a complete verb construction, which includes the same type of cross-referencing as occurs on independent verbs (357, 359). When the stems of these two types of nominalizations are negated, they use different morphemes (sect. 10.1-2). The *-ba'é nominalization uses the negation morpheme appropriate to independent verbs (370), and the *-ár uses the morpheme appropriate to dependent verbs (371).

(370) n-oo-i   ma'ẽ (Wa)
       NEG-go-NEG NOM
       'the one that didn't go

(371) mojag-ar-e'em-a   (Kb)
       make-NOM-NEG-NC
       'one who doesn't make it'

9.4 Adverbial nominalizer. The suffix *-cwár* or *-nwár* indicates 'that which is characterized by the preceding circumstance (indicated by an adverb or a postpositional phrase)'.

(372)	kope-wat	'the ones from here' (Kb)
(373)	Cuiabá-pe-wat	'the ones from Cuiabá' (Kb)
(374)	karamoe-war	'one from long ago' (WaA)
(375)	pó-pe-swár-a	'that which is in the hand' (Tb)
(376)	jawa-re-wa	'one who works with regard to jaguars, jaguar hunter' (WaJ)

9.5 Anticipatory and devolved morphemes with nominalizations. All nominalizations, as other nouns, may receive the anticipatory (*-rám*) and devolved (*-pwér*) morphemes (sect. 3.4).

(377) i-mojáŋ-ár-ám-a   (Tb)
       3-make-NOM-FUT-NC
       'the one who will make it'

(378) i-mojáŋ-ár-wér-a   (Tb)
       3-make-NOM-DEVOLV-NC
       'the one who made it'

(379) he-r-emi-'u-kwer   (Gj)
       1SG-LK-NOM-eat-DEVOLV
       'that which I ate'

(380) e-r-emi-nõ-rã   (Wa)
       1SG-LK-NOM-make-FUT
       'that which I will make'

(381) i-juká-pýr-wér   (Tb)
       3-kill-NOM-DEVOLV
       'that which was killed'

(382) o-poregeta mae-kwer   (WaA)
       3-speak   NOM-DEVOLV
       'the one who spoke'

In the Jari dialect of Wayampi, which has lost final consonants, the nominalizations referring to agent and circumstance are homonymous in the present. But with the devolved morpheme, the final consonant of the nominalizers reappears, making the nominalizations different.

(383)	i-mo'e-a	'his teacher, the place where he is taught'
(384)	*i-mo'é-cár-ér >	i-mo'e-are 'his former teacher'
(385)	*i-mo'é-cáb-wér >	i-mo'e-awe 'the place where he was taught'

The same is true of Kaiwá, which has identical forms *-ha* in the present and distinguishable forms *-hare* and *-hawe* in the past (Taylor and Taylor 1966).

10 Negation

10.1 The negative morpheme *n- . . . -i*. The predicate of the independent clause in Tupí-Guaraní languages is negated by a split affix. The prefix *n-* precedes the person markers and has three allomorphs: *n-* before vowel-initial morphemes, *na-* before consonants, and *n-* or *ni-* before the semivowel *j*. When the *-i* suffix follows a vowel, the two phonemes form a diphthong (Appendix III.17).

(386)	a-maraka	'I sing.' (Km)
(387)	n-a-maraka-ite[24]	'I don't sing.'
(388)	sjé r-osáŋ	'I am patient.' (Tb)
(389)	na-sjé r-osáŋ-i	'I am not patient.'
(390)	ja-kua	'We (GENERIC) know.' (Wa)
(391)	ni-ja-kua-i	'We don't know' or 'Nobody knows.'

In Tupinambá, which allows the sequence *Cj* [Cy], the *ni-* allomorph does not occur. The *n-* allomorph attaches directly to the semivowel j.

(392) n-ja-kér-i   'We didn't sleep.' (Tb)

It is possible that this was also the case in Proto-Tupí-Guaraní, and that the *ni-* allomorph developed in languages where sequence restrictions made it necessary.

In Guarayu the *na-* allomorph co-occurs with the semivowel: *na-ja-mondo-i* 'we don't send it'.

When a noun occurs as the verb of the sentence, it is negated by this morpheme.

(393)	paje	'shaman' (Wa)
(394)	i-paje	'He has shamanistic qualities.'
(395)	n-i-paje-i	'He does not have shamanistic qualities.'

In Wayampi, where *si-* has replaced *ja-* as the first person inclusive A prefix in transitive verbs, the negative allomorph appropriate to *ja-* still occurs, as in (396).

(396) ni-si-'u-i   'We didn't eat it.'

Bendor-Samuel (1972:86) states for the Pindaré dialect of Guajajára that an allomorph *na'-* occurs with the third person prefix *i-*, as in (397).

(397) na'-i-kàg   'He is not strong.'

The negation prefix is often accompanied in Guajajára by one of two negative post-verbals, -z (from *j) or *kwaw*.

(398) n-a-enu-katu-z   (GjP)
       NEG-1SG-hear-well-NEG
       'I don't hear well.'

(399)   n-u-puner   a'i   kwaw (GjP)
        NEG-3-able little NEG
        'He was not able to.'

Betts (1981:19) gives a Parintintín example of -*i* in which it negates the verb independently of *n*-. This is in a negative imperative form of the verb. (See sect. 10.4 for the normal negative imperative suffix.)

(400)   t-ere-ho-i
        PERM-2SG-go-NEG
        'Don't go!'

Urubú-Kaapor (Kakumasu 1986:358) has lost this morpheme. However, one uninflected form has remained: *n-ixo-i* 'there is none', derived from the verb *ixo* (*ikó*) 'to be'.

10.2 The negative morpheme *e'ỹm*. The morpheme *e'ỹm* is used in many Tupí-Guaraní languages as a suffix on nouns to mean 'without' or 'lacking', as in (401). It also negates dependent verb forms (402, 403) and nominalizations (404, 405).

(401)   a'eramu te-yar-e'em-a-mu   (Kb)
        therefore 1SG-boat-NEG-NC-?
        'Then I was without a boat.'

(402)   o'iran   awiãwa r-ur-e'ỹm   amoã ere-jot
        tomorrow airplane LK-come-NEG if   2SG-come

        moneta je-nite-n   (Km)
        talk   1SG-with-FUT
        'If the airplane doesn't come tomorrow, are you coming to talk with me?'

(403)   o'ji-monyi   i-kua   e'ỹ   amẽ   (WaA)
        3-REFL-scare 3-know NEG CONSEQUENCE
        'So he was afraid because he didn't know (it).'

The relative order of the negation morpheme and the nominalizer is opposite in Kayabí (404) and Wayampi (405).

(404)   mojaĝ-ar-e'em-a   (Kb)
        make-NOM-NEG-NC
        'one who doesn't make it'

(405)   y   r-eko-e'ym-a   (Wa)
        water LK-be-NEG-NOM
        'a place lacking water'

According to Rodrigues (1953), both orders are possible in Tupinambá, as in the following cognates of (404):

mojáŋ-ár-e'ỹm-a (Tb)
mojáŋ-e'ỹm-ár-a

However, the first is more common.

In Wayampi this morpheme negates a purpose clause in which the subject of the proposed action is different from the subject of the main clause. This clause is introduced by the prefix *t*- and the negation suffix follows the verb stem.

(406)   o-mo-katu   ja'yr-er   t-o-posiko   e'ỹ   Ø-ee   (WaA)
        3-CAUS-good child-COLL PURP-3-mess NEG 3-with
        'He put it away so the children wouldn't mess with it

In Kamaiurá this morpheme is used to make a negative assertion.

(407)   kamajura e'ỹm a-ko²⁵   (Km)
        Kamaiurá NEG 1SG-be
        'I am not Kamaiurá.'

According to Seki (1978), this morpheme occurs in Kamaiurá with nouns, nominalizations, and dependent verbs.

In Urubú-Kaapor the negation system has been reduced to the point that the descendant form of *e'ỹm*, i.e., *ym*, is the only productive negation morpheme other than the free response form (sect. 10.5).

(408)   e-raho ym   'Don't take it.' (NEG with IMP) (Ur)
(409)   sawa'e ym   '(He is) not a man.' (NEG of noun)
(410)   paite ym   '(It is) not far.' (NEG of adverbial)
(411)   u-hyk we ym rĩ 'He hasn't arrived yet.' (NEG with independent V)
(412)   a'i ãkã ym   'the headless old woman' (NEG of noun)

10.3 The negative morpheme *ruã* or *ruĩ*. Examples of this morpheme were found in fewer languages than the other negation morphemes. However, the fact that it occurs in 5 of the 8 subgroups (Appendix IV) is a good indication that it can be reconstructed for Proto-Tupí-Guaraní. It negates adverbials (including postpositional phrases). In some languages it also negates verbs or nouns.

Ruiz de Montoya (1892) actually lists two separate negative morphemes for Old Guaraní: *ruã* (also referred to as *rugua* /ruwã/) and *ruguãj* /ruwãj/. It is possible that the second is actually a combination of *ruã* and the suffix -*i* (sect. 10.1). It co-occurs with *na*- (414, 416).

(413)   awyje   ruwã pã   (GiO)
        enough NEG INTER
        'Isn't it enough?'

(414)   na   če-ma'é   ruwãj
        NEG 1SG-thing NEG
        'It isn't mine.'

(415)   t-esa-ory   katu pype ruwãj
UNSP-eye-happy good with NEG
'not with good eyes'

(416)   na   če-r-emi-mbota   r-upi ruwãj
NEG 1SG-LK-NOM-want LK-by NEG
'It wasn't by my own will.'

According to Rodrigues (1953), *ruã* co-occurs with *n-* in Tupinambá as well. Weiss (1972:36) shows that in the negation of adverbial phrases in Kayabí, the morphemes *n-* (the *na-* allomorph) and *-rũⁱ* co-occur, as in (417) and (418).

(417)   na-'arimu-rũ^ĩ   'not by day' (Kb)
(418)   na-muku-rũ^ĩ   'not far'

In Wayampi the morpheme *ruã* is highly productive. It negates adverbials (419–421), nouns and pronouns (422). It does not co-occur with the *n-* prefix.

(419)   ike ruã   'not here (far away)'
(420)   moka pupe ruã   'not with a gun'

(421)   e-wari ruã   a-poregeta
1SG-lie NEG 1SG-speak
'I speak unlyingly.'

(422)   ene ruã   ere-inõ-ta
2SG NEG 2SG-make-FUT
'It isn't you that will make it.'

Example (423) in Kamaiurá is like Wayampi (422), except that the P is negated rather than the A.[25]

(423)   ije ruẽj je   r-ecak
1SG NEG 1SG LK-see
'It's not I that he sees.'

(424)   o-manõ ruã   sipoko   (WaJ)
3-die   NEG RHET.QU
'He died!' or 'Isn't it true that he died?'

Barbosa (1970) suggests a similar use in Tupinambá. He translates the sequence *ruã pe* 'NEG INTER' as: 'Could it be that . . .' or 'It must be that . . . '.

Dietrich (1990a:302) observes that Chiriguano does not have the negation morphemes common to Tupí-Guaraní languages. Instead it has a morpheme *-a* (425, 426). This morpheme draws the stress to the final syllable of the stem and, in one dialect, nasalizes the preceding vowel (425), although the suffix itself is oral. I suggest that if this morpheme is related to any Tupí-Guaraní negative morpheme at all, it might be a reduction of the **ruã* morpheme.

(425)   káwi 'good'   *kawĩ-a* 'not good, bad' (Ch)
(426)   týpy 'deep'   *typý-a* 'not deep, shallow'

10.4 The negative imperative morpheme **eme*. A special negation morpheme is used with imperatives, and occurs at the end of the clause. This is analyzed in some languages as a suffix. In some languages the normal imperative prefix *e-* co-occurs with the negative morpheme.

(427)   e-ra-só   'Take it!' (Tb)
(428)   e-ra-só-umé   'Don't take it!'
(429)   e-jae'o   'Cry!' (GiM)
(430)   e-jae'o eme   'Don't cry!'

In other languages the normal second person prefix replaces the imperative prefix, so that it is only the negative morpheme that indicates it is an imperative.

(431)   e-juka   'Kill it!' (Km and Wa)
(432)   ere-juka-em   'Don't kill it!' (Km)
(433)   ere-juka ne   'Don't kill it!' (WaJ)

10.5 The free response negative morpheme **ani*. The form used as a free response to a question in most Tupí-Guaraní languages is derived from **ani*.

(434)   anĩ, e-raho ym   'No, don't take (him).' (Ur)
(435)   ani, n-a-a-'ãi   'No, I won't go.' (Wa)

Mbyá Guaraní has two morphemes: *'ani*, a strong negative imperative, and *'any*, the free response.

11 Demonstratives

Demonstratives have a wide function in Tupí-Guaraní languages. The same morphemes may refer to persons, objects, time or location, or they may make reference to elements of a discourse. They may occur with other morphemes, such as the temporal subordinate morpheme, postpositions, the suffix **-'i* 'DIMINUTIVE', and the suffix **-eté* 'GENUINE'.

Rodrigues (1981) charts the basic demonstrative stems for Tupinambá using the parameters of visibility (visible versus invisible) and distance (near the speaker, near the hearer, or far from both). Nine of the Tupinambá morphemes have cognates in other languages. I shall list these, together with words from various languages which are based on these reconstructed morphemes, in order to show the flexibility of meaning. One other morpheme which was not documented for Tupinambá, **pé*, also appears in various languages. In the reconstructed forms I was able to use the parameters of visibility and distance, but was usually only able to make a two-way distinction (near/far) in the latter.

*kó 'here, near the speaker, visible'

ikó	'this one (visible)' (Tb)
(i)kóba'é	'this one (visible)' (Tb)
kóbó	'around here (visible)' (Tb)
akó	'this, that (demonstrative)' (Tb)
ko	'here' (Ur)
ko rupi	'along here' (Ur)
kotete	'nearby' (Ur)
kóa, kúa	'this one' (Ch)
ko'a-koty	'in this direction' (Kw)

*ké 'here, near the speaker'

ike	'here' (WaA)
kewe	'here' (WaJ)
ke'ĩ	'nearby' (Wa)
ke'ĩruã	'far' (Wa)
ke	'this (discourse, cataphoric reference)' (Wa)
iké	'here' (Tb)
ké-a, kí-a	'someone, some place (interrogative)' (Ch)
ki	'that one there' (Pt)
ki rupi	'around here' (Pt)
ki roki	'this one which' (Pt)

*kybõ 'around here, in relation to more remote areas (contrastive)'

kybõ	'around here in relation to more remote areas' (Tb)
kyvo kyty	'on this side (contrastive)' (WaA)
ky(w)õty	'on this side' (Ch)

*aipó 'anaphoric reference to citation or sound'

ajpo	'that which I spoke, thought, or felt' (Tb)
aepo	'that which was cited (anaphoric reference to citation)' (WaA)
aemo (?)	'with reference to', or 'with respect to' (Pt)
aipo	'that (sound)' (Gu)

*(')áŋ 'this one, now, here (visible or invisible)'

'ange'i	(GiM)
'áŋ	'this one, here, now (visible or invisible)' (Tb)
'áŋa	'this (visible or invisible)' (Tb)
'áŋyba'é	'this (visible or invisible)' (Tb)
'ãme	'there (visible)' (Tb)
i'áŋ	'this (visible or invisible)' (Tb)
ağa	'this one (demonstrative)' (Pt)
	'here (adverb)' (Pt)
'ã	'this one' (WaJ)
'ãg	'this one' (WaA)
ãme	'at this time (discourse, anaphoric reference)' (Wa)
agyvo	'like this, in this way' (WaA)

age'e	'right now, today' (Wa)
'àg	'this or that, low' (Gj)

*a'é 'he, that one there (visible or invisible)' [Lemle 1971]

a'é	'him, that (of which I spoke)' (Tb)
	'there (invisible)' (Tb)
a'e	'this (referring to action or object)' (Pt)
a'e	'that one (invisible)' (Wa)
	'that one (discourse, anaphoric)' (Wa)
a'evo	'like that (discourse)' (WaA)
a'eo	'like that (discourse)' (WaJ)
a'e remẽ	'at that time' (Wa)
a'e pe	'at that place, there' (Wa)
a'e	'third person referent' (Gu)
a'ese	'then' (Gu)
a'eve	'there' (Gu)
a'e ramo	'as a result of that (anaphoric ref.)' (As)

*wĩ or *wiŋ 'that one (visible), which may be far from the hearer also'

wĩ, wíŋ	'that one (visible)' (Tb)
wĩba'é	'this, that (visible)' (Tb)
wiíŋa	'this, that' (Tb)
wĩme, wiĩme	'there (visible)' (Tb)
wĩme	'there (far from speaker and hearer)' (Wa)
wyĩ	'that one, farther away' (Wa)
ãwĩ	'this one, closer' (Wa)
g̃wi	'that' (Pt)
g̃wino	'with that one' (Pt)

*mõ, *amõ 'there, another, some (invisible)' [Lemle 1971]

amõba'é	'something' (Tb)
amõme	'at times' (Tb)
amõamõme	'sometimes' (Tb)
amua'g̃a	'someone' (Pt)
amua	'some' (Pt)
mo	'group of things, some, many' (Pt)
mõ	'some, a(n)' (Wa)
amõ	'some, someone, something' (Wa)
amõ remẽ	'sometime' (Wa)
amõamõ remẽ	'once in a while' (Wa)
amõve	'sometimes' (Gu)
omo	'a certain' (GjP)

*pé 'that one'

pe	'there' (GiM)
peve	'there, that (place)' (Gu)

pe	'that one, there' (Pt)
péa	'that one there' (Ch)
pe	'there' (Gj)
upéa	'that' (Kw)

*wã 'they, those'

wã, awã	'they, those (invisible)' (Tb)
wã	'third person plural' (Kb)
wà	'third person plural' (Gj)

12 Particles

The Tupí-Guaraní languages are rich in particles. They occur at specific places in the clause. One especially common place for them to occur is post-initial, that is, immediately after the first element (word, phrase, or subordinate clause) of the sentence.

(436) ihẽ ke   a'e u-sak (Ur)
       1SG FOCUS 3   3-see
       'He saw me.'

(437) ore te   si   t-oro-posiko   (WaA)
       1EX EMPH EXCL PURP-1EX-work
       'We are the ones that ought to work!'

Another place where particles typically occur is at the end of a clause.

(438) naikoi   Ø-erekwar kõ ky'y   (WaA)
       NEG.EXISTENTIAL 3-wife   PL CHANGE.OF.STATE
       'None of their wives existed anymore.'

(439) u-zekwa wà zi'i   kury   (GjP)
       3-dawn PL PAST CHANGE.OF.STATE
       'Then it began to dawn for them.'

Bendor-Samuel (1972:146–157) describes particles for Guajajára in initial (440), post-initial (441), medial (442), and final (439) positions.

(440) aze   arapuha ur
       SUPPOSE deer   3.come
       'Suppose a deer comes.'

(441) u-àhem ze   o-ho pe   pe
       3-arrive THEY.SAY 3-go there to
       'They say that he arrived there.'

(442) u-'aw   u-pa   kwez pe   pe
       3-lie.down 3-prone.position PAST there at
       'He lay down over there just now.'

Bendor-Samuel says that the medial particle follows any verb phrase, subject, object, or auxiliary verb, but that it precedes any adjuncts. He describes nine positions of final particles. Particles in these positions can co-occur, as in (443).

(443) o-ho zaryz   a'e wà rihi no
       3-go grandmother 3   PL YET CHANGE.OF.TOPIC
       POSITION: 1 2 5   7
       'Granny and others went still.'

In Wayampi (A. Jensen 1993) it is not unusual for several particles to co-occur in post-initial position.

(444) awĩ te   ruã si po ko   e-mo-katu   (WaJ)
       he EMPH NEG EXCL INTER DETERM 1SG.P-CAUS-good
       'He was the one that healed me, wasn't he?'

The series of five particles in (444) indicates a rhetorical question in which the speaker believes that he is correct in his conclusion. The first particle, te, is often best translated with a cleft sentence in English. The negative particle ruã conveys the speaker's belief about his conclusion. The exclamation particle si conveys an emotional response. The po indicates a question. The ko indicates that he wants an answer to his question. The five particles together form a rhetorical question in Wayampi.

12.1 Particles indicating the speaker's feelings. Many of the post-initial particles convey to some degree the speaker's feelings. (Some of these same feelings are communicated in English through intonation.)

Among the particles which occur in this position in Wayampi are the following: ipe 'unrealized goal', ko 'deliberation', si 'surprise, exclamation', so 'disapproval', te 'emphasis', to 'anger' (only in Jari dialect), and kua 'resolve'.

Particles of this sort in Guajajára (Bendor-Samuel 1972:150) include the following: ete 'emphasis', kutu 'reaffirmation', mua'u 'mistake, deception', poko 'deliberation', ru'u 'uncertainty', tezyz 'frustration', tomo 'deliberation', and zepe 'incomplete success'.

Particles of this type in Mbyá Guaraní (Dooley 1982) include: ko 'opinion', po 'doubt', nda 'amusement', tavy 'discontent', tu 'discontent', katu 'lack of patience'.

Particles in Guarayu (Newton 1978) include: nĩ'ã 'certainly', revo 'perhaps,' and rute 'seeing but hard to believe'.

12.2 Temporal and verification particles. Bendor-Samuel (1972:150–151) reports various temporal particles in Guajajára: roko 'past action', kwehe 'distant past', raka-kwez 'past action, generally immediate past', ze 'speaker not eyewitness (past implied)', kwez 'immediate past, completion', nehe 'future', and tar 'future'. The first three of these occur in the post-initial position, kwez occurs medially, tar is post-verbal, and nehe occurs finally. Other final particles are also associated with the passage of

time: *rihi* 'still, yet (looking forward to change of state or action), *ri'i* 'action in the past', *ra'e* 'unfortunate or otherwise amusing action, often in the past', *zipi* 'habitual past action, often incompletely successful', and *kury* 'action or state at point of change'.

Taylor (1984b:66) reports four past markers for Kaiwá, based on distance into the past and whether the speaker witnessed the action. These are *kuri* 'recent past, attested', *va'ekwe* 'remote past, attested', *ra'e* 'recent past, unattested by speaker', and *araka'e* 'distant past, unattested by speaker'. The particle *araka'e* also occurs in Guarayu, meaning 'distant past.'

The same distinctions which are made in Kaiwá are also made in Tocantins Assuriní (Nicholson 1978:67). The particles in this language are *raka* 'recent past, attested by speaker', *rakokwehe* 'remote past, attested by speaker', *ra'e* 'recent past, attested by someone other than the speaker,' and *rakwehe* 'remote past, attested by someone other than the speaker'.

In Wayampi there are two verification particles which imply past action: *ipo* 'unattested by the speaker' and *jẽ* 'no longer verifiable (more distant past)'. These occur immediately after the first constituent of the clause.

Cognates of *ipo* and *jẽ* occur in various languages. The morpheme *ipo* is translated as 'maybe' in Tupinambá and 'uncertainty or doubt' in Tembé. Its cognate *aipo* in Guarayu is translated as 'hearsay'. Cognates of the morpheme *je* are translated as 'they say' or 'it is said that' in Tembé and Kamaiurá, and as a hearsay particle in Urubú-Kaapor.

12.3 Grammatical particles. Some particles indicate grammatical function. One of these is the interrogative particle, which is *pe* in Tupinambá, *po* in Wayampi and Kamaiurá, and *pa* in the Guaraní languages and Tocantins Assuriní. In Kamaiurá it occurs in initial position. In other languages it occurs post-initial.

Kaiwá (Taylor 1984a:147–150) has four contrastive particles related to questions. The particles *tipo* and *pa* expect an answer; *tipo* is the more specific of the two. A particle *po* is used when the speaker is wondering and doesn't necessarily expect an answer. Another particle *nipo* expresses that the speaker does not know and cannot answer.

Another type of grammatical particle is one which indicates a change of state or action, which contrasts with some state or action in the past. This particle, which occurs in final position, is *ky* in Urubú-Kaapor, *kury* in Guajajára (439), and *ky'y* in Wayampi (438). In Wayampi, *ky'y* contrasts with *mijã* 'previously'.

A more theoretical discussion of particles can be found in Dooley (1990).

13 Ideophones

Ideophones are a part of good storytelling in many Tupí-Guaraní languages. Sometimes sounds are employed in ideophones which are not part of the phonetic inventory of normal vocabulary. In Kayabí (Weiss 1989), these include voiceless and whispered vowels, front rounded whispered vowels, lengthened vowels, bilabial voiceless trills, and word-final glottal stops. The following are examples of ideophones.

puuUUU	'firing of gun' (Ur)
tũ tũ tũ	'thumping' (Ur)
tã tã tã tã	'banging' (Ur)
wãm wãm wãm	'whine of mosquitos, flapping their wings rapidly' (Kb)
ky: tykyty	'macaw flying flapping its wings' (Kb)
pyutik	'shooting (an arrow) once' (Kb)
uuuu tarã	'arrival and landing of a large bird' (Wa)
py' moro py' moro	'moving and stacking objects' (Wa)
py py py tiii	'object falling' (Wa)

14 Numbers

The numerical system of Proto-Tupí-Guaraní is very rudimentary. Only three numbers have been reconstructed (Lemle, 1971):

*ojepeteĩ	'one'
*mokõj	'two'
*mocapyr	'three'

Whereas the cognates for 'two' and 'three' are quite straightforward, the only part of the *ojepeteĩ construction that occurs in all languages is *pe*. This means that the form in various languages could actually be made up of the basic stem plus a combination of affixes, which have become a permanent part of the word.

(445)   pe 'one' + 'i 'DIMINUTIVE' > pe'ĩ 'one' (Wa)

Forms in other languages include *osepe* (As), *ojepe* (Tb), *pitei* (Gj), *ojipejĩ* (Pt), *ojepete* (Km), and *pete'ĩ* (Ur, Gi).

The concept of pairs seems to be important in Tupí-Guaraní languages. The word for 'pair', *irũ*, has resulted in forms like the following from Wayampi:

(446)	nirõi	'odd number' (Lit.: 'not a pair')
(447)	irõte	'four' (Lit.: 'true pair')
(448)	irõirõte	'multiple pairs,' that is, '6 or 8'

In languages of subgroup IV, the term for 'odd number' has been reinterpreted to mean 'three'. For example, in Assuriní, *nairoihi,* and in Guajajára *na'iruz.*

Urubú (Kakumasu and Kakumasu 1988:71) has developed a numerical system up to 20 using entirely indigenous vocabulary.

15 Constituent order

In all types of dependent constructions the verb usually occurs in the final position of the clause and the morpheme signaling the construction occurs as a suffix on the

verb. By way of review, examples of the oblique-topicalized construction (449, 450), the subordinate clause (451, 452), and the serial verb (453, 454) follow.

(449)   ka'a   pe ure-r-eraha-n   (GjG)
           jungle to 1EX.P-LK-take-OBTOP
           'He took us to the jungle.'

(450)   kwesé   sjé r-a'ýr-a   sjé r-ajýr-a   (Tb)
           yesterday 1SG LK-son-NC 1SG LK-daughter-NC

           s-epják-i
           3P-saw-OBTOP
           'Yesterday my daughter saw my son.'

(451)   ma'é-asý-bór-a   pajé   i-subán-eme   (Tb)
           thing-pain-NOM-NC shaman 3-suck-COND
           'if the shaman sucks (treats) the patient'

(452)   pajé   ma'é-asý-bór-a   subán-eme   (Tb)
           shaman thing-pain-NOM-NC suck-COND
           'if the shaman sucks (treats) the patient'

(453)   o-úr   kunumí kuáp-a   (Tb)
           3-come boy   know-SER
           'He came to meet the boy.'

(454)   sa-ropyta   yhara sere-sahok-a   ywyri (As)
           1IN-stayed.with boat 1IN-bathe-SER at.edge
           'We stayed with the boat, bathing at the edge.'

Examples (451) and (452) show that although the verb occurs in final position of a subordinate clause, the relative order of the subject and object is not fixed in Tupinambá. Example (454) shows that peripheral information may occur after the serial verb in Assuriní. In the serial verb construction the only element that will come between the independent verb and the dependent serial verb is the object (of one or both verbs, depending on the transitivity of the verbs).

In clauses which have a single independent verb, the word order is variable. Grimes (1996) lists the basic word order of various languages, as follows:

SOV   Guarayu, Wayampi
SVO   Mbyá Guaraní, Paraguayan Guaraní, Juma, Parintintín
OSV   Kayabí, OSV or SOV Urubú-Kaapor
OVS   Tocantins Assuriní
VSO   Guajajára

Kakumasu (1986) states that OSV was his earlier proposal as a basic word order for Urubú-Kaapor, but that he has changed his conclusions and considers SOV to be basic. In this language all six orders occur, in the following order of frequency:

SOV, OSV, VSO, VOS, OVS, SVO. (See also Derbyshire and Pullum 1986:17 for their comments on Urubú-Kaapor constituent order.)

Harrison (1986) reports that in 200 pages of text the following orders were found for Guajajára: VSO - 19, VOS - 4, SVO - 3, SOV - 2, OVS - 0, OSV - 0. His results demonstrate that it is very unusual to have all three constituents in a transitive sentence. Only 28 occurrences appeared in 200 pages of text. Nouns tend not to be repeated once they have been introduced into the discourse.

In Wayampi all six word order possibilities occur, although OSV is almost nonexistent. The word order is dependent on discourse factors, with new or definite information (as subject or object) occurring before the verb and old or indefinite information occurring after the verb (A. Jensen 1982, C. Jensen 1980). In most instances, logic will tell the hearer which noun is the subject and which is the object. When there is doubt, the hearer will ask.

The reported word orders (Grimes 1996 and Kakumasu 1986) would indicate that the basic word order for the family should be SOV or SVO. Considering that the basic word order for the family should be SOV or SVO. Considering that dependent constructions are usually verb final, I suggest that SOV was the original order for independent verbs as well. This area has not been sufficiently studied for us to say what degree of flexibility was allowed for independent verbs in Proto-Tupí-Guaraní or what would have been the motivating factors for such flexibility.

16 Hypotheses concerning the functions of *r-*

There are two types of hypotheses regarding the linking prefix: that it originally had an epenthetical value and has no function other than to signal word classes, or that it has a grammatical function of some sort.

16.1 That *r-* is epenthetical. According to the first hypothesis, the *r-* prefix was originally an epenthetical consonant. This is a reasonable suggestion from the standpoint that certain other morphemes have allomorphs beginning with *r* when preceded by a vowel-final morpheme (Appendix 1:23,24,40,44). The *r-* would keep the vowels of the two morphemes separate. It would be necessary to determine whether the epenthesis would operate at morpheme boundaries or between words.

Let us review what kinds of rules have already been described in this language family for vowel or consonant sequences on the morphological level (C. Jensen 1989 and Appendix III). There have been two rules proposed for the insertion of epenthetical vowels to separate consonants at morpheme boundaries where a stem combines with an affix (Appendix III.3,15). No rules have been proposed regarding epenthetical consonants. When two stems combine, creating a consonant sequence, the first consonant is eliminated in most languages of the family (Appendix III.6). Rodrigues demonstrates for Tupinambá that when a low vowel is followed by a low stressed vowel (in morphemes such as the serial verb suffix and certain nominalization suffixes), the second vowel takes on the quality of the first vowel, and the first vowel is deleted (Appendix III.7,10,12). These rules account for allophonic variations in Kayabí as well. In other rules he shows that in a sequence of two vowels

where one vowel is a high vowel, the high vowel becomes asyllabic (Appendix III.11,16). He has also proposed rules for the insertion of a semivowel: [y] when the first vowel is a high front vowel and [w] when the first vowel is a back vowel (Appendix III.14,18). A rule for epenthesis of r- on the morphological level would conflict with the other rules for handling vowel sequences. Furthermore, data demonstrate that many vowel sequences do exist at morpheme boundaries without any epenthesis taking place. Consider, for example, *o-apý > oapý (or owapý) 'it burns', *ere-y'ú > erey'ú 'you drink', *oro-epják > oroepják 'I see you SG'. In sum, r- is not epenthesized at the morphological level, and a rule of epenthesis would actually conflict with other phonological rules which operate at this level.

If the epenthesis operates on the word level, we are still faced with the fact that its occurrence is restricted to situations in which the first of the two words is either a noun or a person marker from Set 2. Syntactic rules in Proto-Tupí-Guaraní are such that any noun (functioning as such in a sentence) terminates with a vowel (sect. 3.3) and therefore automatically provides the right environment for the formation of a vowel sequence. However, a verb may also end in a vowel, but no r- is inserted between it and the following word. Furthermore, there are other sequences of words in which the first word is a noun but no epenthesis occurs. In (455) from Tupinambá, the word order is subject, independent verb, object, serial verb. Vowel sequences occur at the boundary of the subject and verb and at the boundary of the verb and object, yet in neither case is an epenthetical vowel inserted.

(455) kujã   o-s-arõ   o-memýr-a   s-erekó-bo   (Tb)
       woman 3A-3P-care.for 3COREF-child-NC 3P-keep.with-SER
       'The woman cares for her child, keeping it with her.'

If the insertion of r- were governed purely by phonological rules, no distinction should be made by grammatical role (noun, verb, postposition) or the relative order of grammatical constituents. The r- does in fact have a grammatical interpretation. The r- only occurs on a transitive verb if the verb is directly preceded by its object (which takes the form of a first or second person marker or a noun, when absolutive cross-referencing is employed). Examples (456) and (457), which have the r- preceding the verb stem, are variations of (455) put into a temporal subordinate clause. The first clause can only mean that the woman is the object of the caring and the second can only mean that the child is the object of the caring.

(456) kujã r-arõ-remé   'when (someone) cares for the woman'
(457) o-memýr-a r-arõ-remé 'when she cares for her child'

In sum, the r- cannot be an epenthetical consonant because its occurrence is defined on a grammatical basis. At the most, it could have originally been a phonologically conditioned morpheme, occurring before all vowel-initial stems under the appropriate grammatical conditions.

16.2 That r- is a grammatical element. This prefix shows a certain grammatical relationship between the stem to which it attaches and the preceding morpheme. It occurs under the following grammatical conditions: 1) Noun immediately preceded by the genitive, indicated by a noun, or by a first or second person marker of Set 2 (sect. 3.1). 2) Postposition immediately preceded by its object, indicated by a noun, or by a first or second person marker of Set 2 (sect. 4). 3) Verb immediately preceded by a noun or a first or second person marker of Set 2, indicating absolutive cross-referencing (sects. 5.1–4).

The fact that some linguists consider *c- an allomorph of *r- reflects the desire to explain why *r- co-occurs with the first and second person markers of Set 2, but not with the third person prefix. Rodrigues suggests (p.c.) that the r- only occurs when the preceding morpheme is a separate word (rather than part of a compound word). In other words, it is a phrase level phenomenon. In (458) and (459) from Tupinambá, the first is a compound word, with a very specific meaning. The second is a phrase. The r- only occurs in the phrase.

(458) itá 'rock' + ekóbé 'living' > itáekóbé 'mercury' (Tb)
(459)   > itá r-ekóbé 'living rock'

In line with this, Rodrigues claims for Tupinambá and for Proto-Tupí-Guaraní that first and second person markers are independent words, with independent stress, whereas the third person markers are prefixes, and unstressed. There is good reason for this analysis, as the first and second person markers are identical with, or reductions of, free pronouns (Appendix I.7–11). By contrast there are no free pronouns which correspond to the prefixes for third person. According to this analysis, r- does not co-occur with *c- because *c- is not a separate word from the stem it modifies.

16.3 That r- was originally a phonologically conditioned morpheme. There is still the possibility that the occurrence of r- was originally phonologically conditioned: that it occurred with vowel-initial stems, just as the nominal case suffix -a occurs with consonant-final nouns, and that it only occurs at word boundaries. To explain why some vowel-initial nouns are Class I (for example, *akáŋ 'head') and therefore do not co-occur with the r- prefix, I suggest that originally (in Pre-Proto-Tupí-Guaraní) all members of this class may have been consonant initial. At some time after the word classes became rigidly defined, some undetermined consonant *C was lost.

(460) *i- Cakáŋ > i- akáŋ 'his head'

If the classes were already fixed at the time of the loss, the lexical items which lost the undetermined consonant *C would not be transferred from Class I to Class II.[26]

16.4 The question of allomorphs. Payne (1994) points out that "all the constructions where [r-] occurs are P-oriented, or at least not A-oriented." This is the case when P and A are relevant categories (i.e., in verb constructions). Because *r- is P-oriented,

the *c- morpheme (which has weakened in various languages to s, h, or Ø) cannot be one of its allomorphs. In the proto-language, as in such descendant languages as Tupinambá, Guarayu, and Old Guaraní, the independent transitive verb is conjugated by an A prefix, followed by a third person P prefix (*c- or *i-).

(461) a-s-ekár   (Tb)
        1SG.A-3P-seek
        'I sought him.'

(462) a-i-potár   (Tb)
        1SG.A-3P-like
        'I like him.'

Since s-, the reflex of *c- in Tupinambá, is immediately preceded by a morpheme which refers to A (sect. 5.1), it cannot be an allomorph of *r-, since *r- is always preceded by P.

16.5 The Inverse hypothesis. Payne (1994) suggests that r- is the marker of an inverse system (in transitive verbs). I agree with this, but must emphasize that this is not the primary function of r-. As I will argue in sect. 17, the development of a direct/indirect system in independent verbs is relatively recent. Before its development, the r- morpheme was already alive and well, functioning in various contexts, where a noun or pronoun (first or second person) was tightly knit to the following word (verb, noun, or postposition).

Furthermore, as an inverse marker the r- is largely redundant and limited in scope. It is redundant in the sense that in most cases the person markers indicate clearly whether the cross-referencing is direct (for example, *a- 'first person singular A') or indirect (*čé 'first person singular P'). Even with the second person plural markers *pe- and *pé, marking A and P respectively, there would not have been ambiguity in Proto-Tupí-Guaraní. First of all, the P marker was stressed. Second, the A prefix was always followed by the third person P prefix as in (463).

(463) *pe-c-epják   'You PL saw him.'
(464) *pé n-epják   '(Someone) saw you PL.'

Thus, even without the *r- morpheme (n- in this context), there would be no ambiguity.

In some descendant languages, such as Wayampi (465, 466), where the P person marker is no longer stressed, and where the third person object prefix is no longer used, the *r- morpheme does eliminate ambiguity between A and P.

(465) pe-esa   'You PL saw him.'
(466) pe-n-esa   '(Someone) saw you PL.'

Even so, the r- is limited in scope as an inverse marker, as it eliminates the ambiguity only with Class II stems. With Class I stems the ambiguity still exists.

(467) pe-nupã   'You PL hit (someone) with an instrument'
                    or, '(Someone) hit you PL with an instrument.'

Furthermore, the direct/indirect contrast in cross-referencing is itself limited in scope in Proto-Tupí-Guaraní. It occurs only with independent verbs. Even then it does not exist when both A and P are third person.

In sum, although in independent transitive verbs the r- can be analyzed as an inverse marker, its function in this capacity has its limitations. It is important that any such discussion about r- not detract from an understanding of its overall function.

16.6 Other considerations. In the OBTOP and dependent verb constructions, where the cross-referencing system is ergative-absolutive, the r- has the function of clarifying in transitive sentences which of the two nouns is the A and which is the P. If the noun immediately preceding the transitive verb is P, the verb receives only the r- morpheme, as in the following example from Tupinambá.

(468) kwesé   sjé   r-a'ýr-a   sjé   r-ajýr-a   r-epják-i
        yesterday 1SG LK-son-NC   1SG LK-daughter-NC   LK-see-OBTOP
        'Yesterday my son saw my daughter.'

If the noun immediately preceding the transitive verb is the A, the cross-referencing on the verb is still absolutive, but this is marked by the third person prefix *c- or *i-, as in the following example from Tupinambá.

(469) kwesé   sjé   r-ajýr-a   sjé   r-a'ýr-a   s-epják-i
        yesterday 1SG LK-daughter-NC   1SG LK-son-NC   3-see-OBTOP
        'Yesterday my son saw my daughter.'

I suggest that the P in the first example is part of the verb phrase, while the P in the second example is an example of object raising, with the P still being marked in the verb phrase by s-. The r- should then be interpreted as a phrase indicator.

Another important consideration is the significance of the two marking systems for agentive intransitive verbs. In the following examples, the independent verb (470) takes the A-oriented (Set 1) prefix while the dependent verb (471) takes the P-oriented (Set 2) markers.

(470) *ere-ikó   'You (SG) are (in motion).'
(471) *ne-r-ekó-rVmV   'when you SG are (in motion)'

Harrison (1986) refers to this difference as one of control (in independent verbs) versus non-control (in dependent verbs). We might say that the independent verb is more verbal than the dependent verb, and that the independent subject is more agentive than the dependent subject. Payne (1994) suggests that the r- may have been a genitive marker in Pre-Proto-Tupí-Guaraní. Perhaps dependent verbs were at one time treated as nominals. There is certainly a resemblance between two of the serial verb suffixes and the nominalization suffixes of agent and circumstance

(Appendix I, morphemes 21, 30, and 31). There is also a similarity in some languages between the temporal/conditional morpheme and the attributive case morpheme which occurs with nouns (Appendix I, morphemes 23 and 44).

In sum, r- is a morpheme which operates on the phrase level to express a close relationship between two words, such as object-verb, genitive-noun, and object-postposition. Its use with verbs may have been an extension of a genitive marker in Pre-Proto-Tupí-Guaraní. Its significance in relation to verbs is probably best understood by its occurrence with agentive intransitive verbs. Whereas it may now be the marker of an inverse system in transitive verbs, the direct-inverse distinction is probably a later development, which accompanied the development of the person hierarchy in independent transitive verbs. The r- morpheme may originally have occurred with all vowel-initial stems; those Class I stems which in Proto-Tupí-Guaraní are vowel initial may have lost an initial consonant.

It would be good to know the reactions of native speakers of Tupí-Guaraní languages who have a sufficient degree of linguistic sophistication to discuss the structure of their language. Their impression as native speakers could be significant to our understanding of the r- morpheme.

17 A proposal for the development of the person hierarchy

It seems that linguists have devoted more of their efforts to explaining how a language might acquire an ergative-absolutive system, than to explaining how it might lose one. However, the Tupí-Guaraní languages are good examples of the latter. C. Jensen (1990) describes the progressive loss of ergativity in five Tupí-Guaraní languages: Wayampi, Mbyá Guaraní, Kaiwá, Chiriguano, and Urubú-Kaapor. Guarayu shows the same type of loss, though to a lesser degree. The mechanism for the loss of ergativity was, for the most part, the replacement of one cross-referencing system by another. (In one other language, Guajajára, a clause-final nominative-accusative cross-referencing system was superimposed with almost no alteration of the person markers used on the verbs.)[27]

As these changes progressed through successive structures, changes in agentive intransitive verbs preceded those in transitive verbs in Wayampi and the Guaranian languages. Examples (472) and (473) from Wayampi show that dependent serial intransitive verbs now take Set 1 prefixes referring to S. Transitive verbs take Set 2 markers referring to P.

Wayampi serial verbs
Intransitive

(472)   a-a   a-jau   'I went to bathe.'
       1SG-go   1SG-bathe
       Set 1   Set 1

Transitive

(473)   o-o   e-r-esa   'He went to see/meet me.'
       3-go   1SG-LK-see/meet
       Set 1   Set 2

Guaraní nominalizations of intransitive verbs (474) take Set 1 prefixes, as do nominalizations of action or circumstance in transitive verbs (475). Nominalizations of agent (476) retain Set 2 markers to cross-reference P.

Guaraní nominalizations
Intransitive

(474)   ere-o-a   'your going'
       2SG-go-NOM
       Set 1

Transitive

(475)   ere-mbo'e-a   'your teaching'
       2SG-teach-NOM
       Set 1

(476)   ne-mbo'e-a   'your teacher'
       2SG-teach-NOM
       Set 2

Table 22 is a list of the grammatical structures which underwent change by substituting Set 1 person markers and the languages in which the substitution appears. By comparing the extent of change in the various languages, we can see that the transition was progressive, beginning in the least dependent verb forms (OBTOP and temporal subordinate) and moving to the most dependent (nominalizations).

Table 22: Proposed ordering and grouping of changes

Oblique-topicalized	Gu, Wa, GiM, Kw, Ch, Ur
Temporal subordinate verbs	Gu (partial), Wa, GiM, Kw, Ch, Ur
IV Serial verbs	Gu (partial), Wa, GiM, Kw, Ch, Ur
IV Nominalizations	GiM,Kw,Ch,Ur
TV Nominalizations of action, circumstance	GiM,Kw,Ch,Ur
TV Serial verbs	Kw,Ch,Ur
TV Nominalizations of agent	Ur

Harrison (1986:427) proposes that the ergative-absolutive system which appears in dependent verbs is older than the person hierarchy which occurs in independent verbs. He suggests that originally the basic word order was SOV, and that the free pronoun closest to the verb eventually became more firmly attached to it: s-IV and o-TV. The result would be an absolutive cross-referencing system. Harrison describes this as

classical CB (Central Brazil) cross-referencing. From this system the person hierarchy developed in independent verbs, by a process which Harrison refers to as creeping accusativity.

When we propose that all cross-referencing in Pre-Proto-Tupí-Guaraní was absolutive, we hope to find evidence to support this claim. I suggest four types of evidence:

1) remnants of older constructions found in languages in which recent changes have eliminated or substantially modified those constructions,

2) a model which shows how this change might have come about,

3) evidence of cognate forms and cross-referencing system outside the Tupí-Guaraní family, in the Tupí stock,

4) unique characteristics of the Oblique-Topicalized construction.

We will examine each of these four possibilities.

17.1 Remnants of older constructions found in languages in which recent changes have eliminated or substantially modified those constructions. The progressive loss of ergativity in the cross-referencing systems in Wayampi, Urubú-Kaapor, and the Guaraní languages has been accompanied by other changes. These include virtual loss of the Oblique-Topicalized construction (see sect. 6:1) and major changes in the Serial Verb construction (see sect. 6.3 for details). There are still, however, remnants of the older systems in a few of the verb forms. These are shown in Table 23 (from C. Jensen 1990).

Table 23: Remnants from Proto-Tupí-Guaraní

Remnants of the OBTOP system in languages in which the system as such is no longer found:

Wayampi:	tui	from *t-úb-i	'to be lying down'.[28]
	ekoi	from *c-ekó-OBTOP	'to be in movement'
Mbyá Guaraní	itui	from *i-t-úb-i	'to be lying down'
and Kaiwá:	itury	from *i-t-úr-i	'to come'
Urubú-Kaapor:	tui	from *t-úb-i	'to be lying down'
	tur	from *t-úr-i	'to come'
	ihon	from *i-có-OBTOP	'to go'

Remnants of the Serial verb system in languages in which the system has been modified by (a) changing from Set 2 to Set 1 prefixes in intransitive verbs, or, in the case of Wayampi, elimination of prefixing, and (b) whole or partial loss of the serial verb suffix:

Wayampi:	kupa 'PLURAL'	from *kúb-a	'being together'
Mbyá Guaraní:	imondovy	from *i-mo-nó-ábo	'sending it away'
	imo'amy	from *i-mo'ám-a	'causing it to stand'
Urubú-Kaapor:	indo	from *i-mo-nó-ábo	'sending it away'

Such remnants support the hypothesis that it is these languages that have changed from the earlier more ergative-absolutive system that is still dominant in most of the Tupí-Guaraní languages, and not the contrary.

17.2 A model for the development of the person hierarchy. The cross-referencing system which occurs on independent transitive verbs can be derived from an absolutive system by 1) the addition of Set 1 prefixes preceding P prefixes when P is third person, 2) the redefinition of the extent of usage of first and second person P prefixes in a person hierarchy rule in which hierarchically superior P is marked, a rule which excluded the use of second person P person markers when P is hierarchically inferior, and 3) development of a set of portmanteau forms where the Set 2 prefixes were excluded.

17.2.1 Development of Set 1 A and S person markers

Stage 1. I suggest that Pre-Proto-Tupí-Guaraní independent verbs had absolutive cross-referencing.

1SG	*čé potár	'you/he/she/they like(s) me'
1EX	*oré potár	'you/he/she/they like(s) us EX'
1IN	*jané potár	'you/he/she/they like(s) us IN'
2SG	*né potár	'I/we/he/she/they like(s) you SG'
2PL	*pé potár	'I/we/he/she/they like(s) you PL'
3	*i-potár	'I/we/you/he/she/they like(s) him'

1SG	*čé r-epják	'you/he/she/they see(s) me'
1EX	*oré r-epják	'you/he/she/they see(s) us EX'
1IN	*jané r-epják	'you/he/she/they see(s) us IN'
2SG	*né r-epják	'I/we/he/she/they see(s) you SG'
2PL	*pé n-epják	'I/we/he/she/they see(s) you PL'
3	*c-epják	'I/we/you/he/she/they see(s) him'

1SG	*čé kér	'I sleep'
1EX	*oré kér	'we EX sleep'
1IN	*jané kér	'we IN sleep'
2SG	*né kér	'you SG sleep'
2PL	*pé kér	'you PL sleep'
3	*i-kér	'he/she/it/they sleep(s)'

1SG	*čé r-ekó	'I am (alive)'
1EX	*oré r-ekó	'we EX are (alive)'
1IN	*jané r-ekó	'we IN are (alive)'
2SG	*né r-ekó	'you SG are (alive)'
2PL	*pé n-ekó	'you PL are (alive)'
3	*c-ekó	'he/she/it is (alive)'

At this point the cross-referencing system used in transitive verbs would look like that in Table 24. This is the same system which occurs in dependent verbs in most of today's languages.

Table 24: Original system of cross-referencing on independent transitive verbs, Pre-Proto-Tupí-Guaraní

			Object		
1SG	1EX	1IN	2SG	2PL	3
čé	oré	jané	né	pé	i-/c-

In anticipation of the changes that later would affect independent transitive verbs, I expand Table 24 to show both A and P, even though only P is cross-referenced on the verb. The result is Table 25. Where x appears on the chart, reflexive prefixes are used, detransitivizing the verb, so no transitive forms appear. The A, not shown on the table, is indicated by a free pronoun.

Table 25: Old system of cross-referencing on independent transitive verbs, expanded from Table 24, Pre-Proto-Tupí-Guaraní

Subject	Object					
	1SG	1EX	1IN	2SG	2PL	3
1	x	x	x	né	pé	i-/c-
2	čé	oré	x	x	x	i-/c-
3	čé	oré	jané	né	pé	i-/c-

Stage 2. At some point agentive intransitive verbs developed a new prefixing system (Set 1 prefixes) which distinguished them in independent verbs from non-agentive intransitive verbs.

*a-kér	'I sleep'	*a-ikó	'I am (being)'
*oro-kér	'we EX sleep'	*oro-ikó	'we EX are'
*ja-kér	'we IN sleep'	*ja-ikó	'we IN are'
*ere-kér	'you SG sleep'	*ere-ikó	'you SG are'
*pe-kér	'you PL sleep'	*pe-ikó	'you PL are'
*o-kér	'he sleeps'	*o-ikó	'he is'

My justification for proposing that the occurrence of Set 1 prefixes in intransitive verbs preceded their occurrence in transitive verbs is based on the observation that more recent changes occurred first in intransitive verbs in descendant languages (sect. 17).

Stage 3. At the next stage of development, these Set 1 prefixes became attached by analogy to transitive verbs whenever the P was third person (indicated by *i- or *c-), without eliminating the P prefixes. The Set 1 prefixes referred to A. When P was first or second person, there was no change. This is illustrated in Table 26.

Table 26: Addition of Set 1 Prefixes to Transitive Verbs, by analogy with Intransitive Verbs, Pre-Proto-Tupí-Guaraní

	V. Class I	V. Class II
	*čé potár	*čé r-epják
	*oré potár	*oré r-epják
	*jané potár	*jané r-epják
	*né potár	*né r-epják
	*pé potár	*pé n-epják
A a- oro- ja- ere- pe- o- } *i-potár	A a- oro- ja- ere- pe- o- } *c-epják	

The addition of these A prefixes had a differential effect, making explicit which of the six possible interpretations of A was intended by the previously single forms *i-potár and *c-epják. The new system of cross-referencing is summarized in Table 27.

Table 27: Intermediary stage following the addition of A prefixes, Pre-Proto-Tupí-Guaraní

		Object			
1SG	1EX	1IN	2SG	2PL	3
		Cross-reference P			Cross-reference A + P

Once this system became established, the i- and c- became redundant, since the Set 1 prefixes only occurred when P was third person. Eventually the third person P prefixes were eliminated in several languages.

*aipotár > apotár

The languages which eliminated third person P prefixes in independent transitive verbs include Wayampi, Urubú-Kaapor, Guajajára, Tocantins Assuriní, Kamaiurá, Parintintín, and Kayabí. In some languages in which the P prefix was deleted, remnants still appear in certain words (sect. 5.1). The loss of the P prefix does not appear to have any connection with further cross-referencing changes, since languages from Subgroups I and VIII show cross-referencing changes, whereas languages from Subgroups IV through VIII have eliminated the P prefix.

Table 28 is a modification of Table 27 which reflects the elimination of the third person P prefix in some languages.

Table 28: Intermediary stage following the addition of A prefixes and elimination of P in some languages, Pre-Proto-Tupí-Guaraní
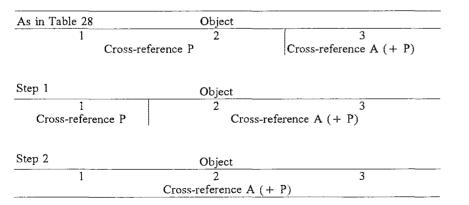
Object					
1SG	1EX	1IN	2SG	2PL	3
Cross-reference P					Cross-reference A (+ P)

17.2.2 The development of the person hierarchy

Stage 4. Let us consider some possibilities of what further changes might take place once the two competing systems of cross-referencing were in operation.
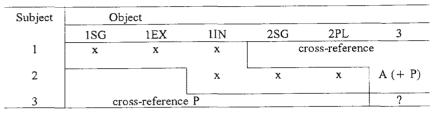
One possibility is that the Set 1 (A) prefixes which now occur whenever P is third person could be extended to occur with verbs when P is second person (Step 1) and then first person (Step 2), as in Table 29.

Table 29: Hypothetical extension of A prefixes to all independent transitive verb forms

As in Table 28	Object	
1	2	3
Cross-reference P		Cross-reference A (+ P)

Step 1	Object	
1	2	3
Cross-reference P	Cross-reference A (+ P)	

Step 2	Object	
1	2	3
Cross-reference A (+ P)		

Although this result did not happen in a direct way in any Tupí-Guaraní language, Step 2 illustrates Urubú-Kaapor, which only cross-references A.

Another possibility is the development of a person hierarchy from the scenario in Table 27 or 28. Let us consider first the development of a straightforward hierarchy rule "1 > 2 > 3". In this case the hierarchically superior nominal is marked on the verb, as illustrated in Table 30. Once again the x's in the table indicate that reflexive forms occur rather than transitive forms.

Table 30: Person hierarchy where "1 > 2 > 3"

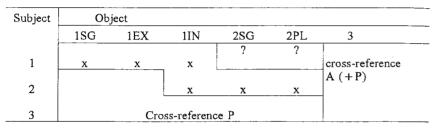| Subject	Object					
	1SG	1EX	1IN	2SG	2PL	3
1	x	x	x	cross-reference		
2			x	x	x	A (+ P)
3	cross-reference P					?

This hierarchy is a simplification of what actually takes place in Tupí-Guaraní languages in the cross-referencing of independent transitive verbs. It was used by Harrison (1986:420) to demonstrate for the first time the relevance of Silverstein's agency hierarchy to Tupí-Guaraní languages, and in doing so, it is natural that he would speak in general terms. Of the languages cited in this paper, the one whose cross-referencing system most closely fits the description of the "1>2>3" rule is Kayabi, which uses first person A prefixes when P is either second or third person. Within Tupí stock, Aweti also fits this description. (This is one of the two languages which are most closely related to the Tupí-Guaraní family.) This definition of the person hierarchy has two weaknesses in regard to Tupí-Guaraní languages: 1. It does not explain what happens when A and P are equal in number (that is, third person). In this environment, *o-i-potár and *o-c-epják occur. The forms *i-potár and *c-epják are not acceptable as independent verbs. 2. It ignores the special forms which occur in most languages when the A is first person and P is second person.

Let us consider a refinement of the above rule: hierarchically superior P is cross-referenced on the verb. We are assuming that the development is still in effect by which the A is marked by Set 1 prefixes whenever P is third person. Nothing is stated about what happens when A is hierarchically superior to a non-third person P (that is, a second-person P). Under the original ergative-absolutive cross-referencing system, the second-person prefixes *né and *pé could be used as the second person singular object markers regardless of whether the subject was first or third person, as in (477–480).

(477)	*né potár	'I/we like you SG.'
(478)		'He/she/they like(s) you SG.'
(479)	*pé potár	'I/we like you PL.'
(480)		'He/she/they like(s) you PL.'

However, under the refined person hierarchy rule, these prefixes can be employed only when the P (2nd person) is hierarchically superior to A, as in (478) and (480). This is only the case when A is third person. When a first person A acts on a second person P, as in (477) and (479), the cross-referencing is not governed by the person hierarchy rule, since P is hierarchically inferior to A. On the other hand, there is no indication that we should use A markers, since this set (1) is used only when P is third person. There is a gap, as indicated by the question marks in Table 31. (The x's in the table indicate that reflexive forms rather than transitive forms occur.)

Table 31: Person hierarchy where hierarchically superior objects are marked, Pre-Proto-Tupí-Guaraní

Subject	Object					
	1SG	1EX	1IN	2SG	2PL	3
1	x	x	x	?	?	cross-reference A (+P)
2			x	x	x	
3	Cross-reference P					

This is the intermediary stage following the introduction of the person hierarchy rule in Pre-Proto-Tupí-Guaraní.

17.2.3 Filling the gap. To summarize developments up to this point, the person hierarchy rule excluded the use of P markers *né and *pé when the A was first person, because in this case P is not hierarchically superior to A. However, the new A prefixes were employed only when the P was third person. Some arrangement had to be made to cover the cases where A is first person and P is second person.

Stage 5. To fill this gap, two portmanteau prefixes were developed:

> *oro- '1 A acting on 2SG P'
> *opo- '1 A acting on 2PL P'

This completes the system reconstructed for Proto-Tupí-Guaraní independent transitive verbs, summarized in Table 32.

Table 32: Person hierarchy as it exists in Proto-Tupí-Guaraní

Subject	Object					
	1SG	1EX	1IN	2SG	2PL	3
1	x	x	x	Cross-reference A-P Set 4		Cross-reference
2			x	x	x	A (+ P) Set 1 (+2)
3	Cross-reference P Set 2					

The two portmanteau prefixes seem to be a sort of compromise, not aligning themselves with either the original ergative-absolutive system which marks P (with Set 2 markers) or to the new system which marks A (with Set 1 markers). They are unlike Set 2 person markers in that they do not require the linking *r*- prefix between the stem and the prefix, as can be seen by comparative examples (481–484) of a Class II verb.

(481)   *čé r-epják   '(You/he/she/they) saw me.'
(482)   *né r-epják   '(He/she/they) saw you SG.'
(483)   *oro-epják   'I/we saw you SG.'
(484)   *opo-epják   'I/we saw you PL.'

On the other hand, the *oro- and *opo- prefixes are unlike the Set 1 person markers in that they refer simultaneously to A and P. The prefix *oro- is homonymous with the Set 1 prefix *oro- '1EX', but it has a different meaning. The Set 1 prefix refers only to first person exclusive A. The Set 4 prefix occurs when P is second person singular, and A is first person, either singular or plural. Those languages which have both A and P prefixes when the object is third person have a contrast, as in (485) and (486), but those languages that deleted the P prefix have one word with two different meanings, as in (487) from Wayampi.

(485)   *oro-i-potár   'We EX like him/her/it.'
(486)   *oro-potár   'I/we EX like you SG.'
(487)   oro-pota   'We EX like him/her/it' or (Set 1),
                    'I/we EX like you SG (Set 4).' (Wa)

The *oro- and *opo- prefixes are unique in themselves. Perhaps it is the fact that these two prefixes occur in a sort of buffer zone between two systems that allows the variants of *opo- to show greater diversity in individual Tupí-Guaraní languages than any other person prefix (Table 33). Variations in this zone do not undermine either of the two systems.

Table 33: Forms corresponding to *opo-

opo-	Old Guaraní, Guarayu, Tupinambá, Parintintín, Kamaiurá
po-	Chiriguano
ro-	Assuriní, Mbyá, Guaraní
poro-	Wayampi
apo-, apu-, apa- (with 1SG A)	Kaiwá, Guajajára, Tapirapé
oropo-, urupu-, ara- (with 1PL A)	Kaiwá, Guajajára, Tapirapé
NON-EXISTENT	Urubú-Kaapor, Kayabí

Both *opo- and *oro- have been eliminated in Urubú-Kaapor and Kayabí. Their deletion in Urubú-Kaapor is to be expected, since the entire person hierarchy has also been eliminated. A is always cross-referenced, and P never is. The probable pathway for their deletion in Kayabí is different. Kayabí is one of the languages in which the third person P prefix was eliminated when the A prefix occurred, presumably because of redundancy. For example, *a-i-potár > apotár. In time there probably occurred a reinterpretation of the context in which the Set 1 A prefixes could occur. Whereas *a-i- only occurred when a first person A acted on third person P, in Kayabí a- came to apply whenever the subject was first person, regardless of whether P was second or third person. The second-person P would be made explicit by a free pronoun, as in (488–491).

(488)	a-nupã ene	'I hit you SG.' (Kb)
(489)	a-nupã pẽẽ	'I hit you PL.'
(490)	oro-nupã ene	'We hit you SG.'
(491)	oro-nupã pẽẽ	'We hit you PL.'

Reinterpretation of the scope of a-potár in Kayabí, a language which retains the characteristic Tupí-Guaraní absolutive cross-referencing in dependent verbs, does not affect the person hierarchy, because the change occurred in the gap or buffer zone, which was not covered by the rule.

At some intermediary stage some languages (Kaiwá, Guajajára, Tapirapé) reinterpreted po- from *opo- as a separate prefix meaning '2PL P', presumably by analogy to *i- and *c- '3 P', as in Table 34. A first person A prefix was then added to this redefined P prefix.

Table 34: Reanalysis of po by analogy

a-i-	a-c-	a-po-
oro-i-	oro-c-	oro-po-
1A > 3P	1A > 3P	1A > 2PL.P

In this case, the reinterpretation of *opo- as po- analogous to *i- and *c- reflects a mental association of this prefix with the new system of conjugation. What remains unexplained is why similar variations did not develop for *oro- '1 A acting on 2SG P'.

In Guaraní, Assuriní, and some dialects of Guajajára and Kaiwá, *opo- has neutralized with *oro- into a single prefix, oro-, while Wayampi has substituted poro- for *opo-. All other languages retain *opo- or a direct phonetic consequence of it.

It can be seen that although nearly all Tupí-Guaraní languages have special prefixes when A is first person and P is second, there is a lot of variation in the forms. I suggest that this was permissible because of the uniqueness of these forms having been excluded from two wider-scope cross-referencing rules: one which called for the marking of hierarchically superior objects, and the other which called for the marking of subjects when the object was third person.

To summarize the cross-referencing system which developed for independent transitive verbs: When P is third person the verbs are marked for A (Set 1), followed in some languages by the prefix for third person P (Set 2). A person hierarchy rule requires that hierarchically superior P be marked by person markers from Set 2. When both P and A are third person, the first condition applies and the A prefix must be used. When hierarchically superior A acts on a non-third person P (that is, first acts on second), neither of the above conditions apply; this gap was resolved by the development of a unique system of portmanteau markers (occurring in all languages but Kayabí and Urubú-Kaapor). This complex cross-referencing system has been extended to all syntactic structures which have undergone change in Wayampi and the Guaranian languages. Urubú-Kaapor has eliminated the person hierarchy rule as well as the set of portmanteau markers, so that all transitive verbs cross-reference A.

The model of superimposing Set 1 prefixes on forms already prefixed for third person P, as in Table 26, explains how transitive verbs might have begun to use A prefixes. Table 31 shows what the system would be like if a rule developed which required that hierarchically superior objects be cross-referenced. The gap, illustrated by question marks, shows the scenario which may have permitted the formation of the portmanteau prefixes. It also allows us to explain why the variety of forms in the different languages is permissible.

17.3 The search for cognates outside the Tupí-Guaraní family. If we look beyond the Tupí-Guaraní language family to the Tupian stock for some evidence of what the original cross-referencing system was like, we can only conclude that the development of the personal pronouns, as well as the person markers of Sets 1, 2, and 4 are much more recent than we might have expected.

In Sateré-Mawé (Graham, Graham, and Harrison 1984), the Tupian language probably most closely related to the Tupí-Guaraní family, there is a comparable system with a person hierarchy. Possible correspondences of person markers from Set 1 are the following: a- SM, *a- P-T-G '1SG'; wa- SM, *ja- P-T-G '1IN'; uru-

SM, *oro- P-T-G '1EX'; to- SM, *o- P-T-G '3'. From Set 2, the third person P forms i- and h-, comparable to *i- and *c-, co-occur with the Set 1 markers. In Sateré-Mawé they occur in other situations as well, where they are not called for in the Proto-Tupí-Guaraní languages. The Sateré-Mawé prefixes for second person, e- '2SG' and ewe- '2PL', have some similarity to the Set 1 P-T-G prefixes *ere- and *pe-, but they are a more likely match with the Set 3 prefixes *e- and *peje-, especially since occurrences of w in Sateré-Mawé correspond to j in Proto-Tupí-Guaraní (Rodrigues, 1984/1985). Sateré-Mawé also has a prefix aro- which corresponds to the Proto-Tupí-Guaraní prefix *oro- '1 A acting on 2SG P' from Set 4. The person hierarchy in Sateré-Mawé is similar to that in Proto-Tupí-Guaraní, except that it has been extended to subordinate clauses as well.

If we compare the Tupí-Guaraní cross-referencing system with Aweti, we find that Aweti has one set of prefixes for intransitive verbs, and another for transitive verbs. There is partial overlap between the two. The transitive verbs have a person hierarchy that fits the definition: "1 > 2 > 3". Intransitive prefixes which may correspond to those in Proto-Tupí-Guaraní are a- '1SG', ozo- '1EX', e- '2SG', o- '3'. Prefixes in transitive verbs include those referring to A: a- '1SG', ozo- '1EX', e- '2SG', and perhaps ti- '1IN' (see sect. 5.1); and those referring to P: e- '2SG', and ozo- '1EX'. Once again e- is more like the Proto-Tupí-Guaraní prefix from Set 3 *e- than the one from Set 1 *ere-. The free pronouns 'én '2SG' and e'ipé '2PL' could correspond to *ene and *pe . . . ẽ.

Going beyond these two languages, the possible cognates with the Tupí-Guaraní language family are limited. The prefix e- '2SG' occurs in Karo, Munduruku, Gavião, Surui, and Shipaya. There are also cognates of the second person singular pronoun *ene: en in Karo, eet in Gavião, en in Munduruku, een and eende in Surui, and ena in Shipaya. It is also possible that the third person coreferential in Gavião, a-, corresponds to *o- (Set 3). Gabas (1994) summarizes that Karo is ergative, Surui is at least in part ergative, and Gavião and Munduruku are nominative-accusative.

Rodrigues (1985:380) has shown the cognates set out in Table 35. I have added the Proto-Tupí-Guaraní forms.

Table 35: Cognates in Tupian languages

	Tupí-Guaraní		Tupí, non T-G	
	P-T-G	Tupinambá	Tuparí	Munduruku
1SG	*wi-	wi-	w-, o-	we-, o-
2SG	*e-	e-	e-	e-
3	*i-	i-	i-	i-

Tuparí and Munduruku are both of Tupian stock, but are not Tupí-Guaraní. The first and second person prefixes correspond to the coreferential set (Set 3) in the Tupí-Guaraní system and the third person prefixes to those in Set 2. This shows also that perhaps Set 3 prefixes originally had a broader scope (indicating more than coreferentiality) and that i- and t- may have been part of this set, being associated only later with the personal pronouns and their reductions (Set 2). Rodrigues has shown that

these prefixes are cognates not only of Tupian languages, but also of Cariban languages.

In sum, the languages of the Tupian stock are of little help to us in discovering the original cross-referencing system for Pre-Proto-Tupí-Guaraní except to say that personal pronouns, their reductions in Set 2, and the person markers from Sets 1 and 4 apparently developed after the time that Pre-Proto-Tupí-Guaraní separated from most of the other Tupian languages. The development of the person hierarchy was limited to the Tupí-Guaraní languages, Aweti, and Sateré-Mawé. It is of interest, however, to consider that (previous to Pre-Proto-Tupí-Guaraní) the *i- and *t-, prefixes which later indicated normal (not coreferential) third person, might have originally been part of a set which included what later became coreferential markers in Tupí-Guaraní languages: *wi- and *e-.

17.4 Unique characteristics of the Oblique-Topicalized construction. If, as Rodrigues has suggested (p.c.), Proto-Tupí-Guaraní is as much as 2000 years old, we might wonder whether it is even possible to find a construction in its descendant languages that would give clues as to what preceded the reconstructed system for independent verbs. I suggest that there may indeed be such a construction, and that it is the Oblique-Topicalized construction. There are various things about this construction that make it unusual in comparison with the other verbal constructions. The first of these is that we feel forced to consider it some type of dependent structure, due to its absolutive cross-referencing, even though it does not fit any traditional description of dependency. However, if we consider it to be essentially identical with the former absolutive cross-referencing system on independent verbs, there is no need to explain it away as a dependent form.

This construction is also unusual because of its word order constraints. Usually in independent clauses the word order is somewhat free (based on discourse level constraints or other factors). A more rigid verb-final word order could have been characteristic of an older system.

Another unusual feature of the OBTOP construction is that the paradigm is incomplete. There is a limitation as to what person (of subject) it may apply to. In some languages it occurs only with third person subjects and in others it occurs with first and third. It apparently does not occur with second person subjects in any language. A paradigm designed to include all persons now ends up being a combination of OBTOP and independent verb forms. The incompleteness of the OBTOP system may indicate that even during the time of Proto-Tupí-Guaraní the OBTOP system was in the process of being replaced by the new system, which had by then been developed for normal independent verbs (as described in sect. 5). Rather than being completely replaced, the OBTOP system was then emerging as distinct, though incomplete, from the newly developed independent verb system.

Another unusual feature of the OBTOP system has to do with its suffix. The exact form of the allomorph which occurs with vowel-final stems is problematic. In some languages it is -n and in others it is -w or -j. If the final form were -w, we could say

that one semivowel *(j)* replaced another *(w)* in some languages by analogy with the -*i* allomorph, which occurs with consonant-final stems. However, it is more difficult to account for the discrepancy between the -*n* in some languages and -*w* in others. I suggest that the discrepancy is evidence of the OBTOP construction being an older form, and that the -*w* and the -*n* might even have come from different sources, both of which were in the process of being eliminated.

Finally, this construction was eliminated in all of the languages described in C. Jensen (1990) as having undergone cross-referencing changes: Mbyá Guaraní, Kaiwá, Chiriguano, Wayampi, and Urubú-Kaapor. As a result, except for a few remnants, no independent verbs in these languages have absolutive cross-referencing, except as part of the person hierarchy.

In sum, the unusual features of the OBTOP construction could be evidences that it was in the process of being replaced, even at the time of Proto-Tupí-Guaraní. Where grammatical constraints do not require its use, the normal independent verb forms occur. The OBTOP may well be a remnant of the original Pre-Proto-Tupí-Guaraní system for independent verbs. If this is the case, cross-referencing for independent verbs was absolutive, as it is in dependent verbs, and there may have been an independent verb suffix. The development of a person hierarchy in independent verbs was a move away from absolutive cross-referencing, which is consistent with further cross-referencing changes in Mbyá Guaraní, Kaiwá, Chiriguano, Wayampi, and Urubú-Kaapor.

Except for the third person prefix of Set 2, the person markers from Sets 1, 2, and 4 appear to be relatively recent, having cognates only in Aweti and Sateré-Mawé. The second person singular pronoun **ene* has cognates in the Tupian stock. The source of other personal pronouns (on which Set 2 person markers are based) is not known.

NOTES

1   Tupí-Guaraní languages are situated in the range of 3° N to 26° S and at one time from 33° to 65° W. Tupian languages (non-Tupí-Guaraní) are located in the geographical range of 52° to 65° W and 3° to 13° S. Rodrigues' criteria for identifying members of the Tupí-Guaraní language family (and excluding others) appear in Appendix V.

2   An explanation of orthographical symbols, both their pronunciation, as well as the relationship of sounds (in various languages) to the protophonemes, is included in Appendix II. The languages from which data are cited in this paper are referred to by the following abbreviations: As Tocantins Assuriní, Ch Chiriguano, GiM Mbyá dialect of Guaraní, GiO Old Guaraní, GiP Paraguayan Guaraní, Gj Guajajára, GjG Grajaú dialect of Guajajára, GjP Pindaré dialect of Guajajára, Gu Guarayu, Kb Kayabí, Km Kamaiurá, Kw Kaiwá, Pt Parintintín, P-T-G Proto-Tupí-Guaraní, SM Sateré-Mawé, Tb Tupinambá, Tp Tapirapé, Ur Urubú-Kaapor, Wa Wayampi (all dialects), WaA Amapari dialect of Wayampi, WaJ Jari dialect of Wayampi.

3   I do not consider myself qualified to discuss changes in such languages as Guayakí, Sirionó, and Cocama, because I am not familiar with the outside influences which affected them. Hopefully, this paper will provide the framework from which specialists in these languages can describe and discuss the changes which have taken place.

4   Rodrigues (p.c.) recognizes the desirability of including lexical and grammatical features as criteria for subgrouping, but takes the view that documentation in these areas is not sufficient for all languages to apply such criteria systematically. Even for most of the better documented languages, it was not possible to find reference to each of the morphemes included in my morphological reconstruction (C. Jensen 1989). The fact that a morpheme is not documented does not necessarily mean that it does not exist.

5   To give an example, the reflex of **j* is a semivowel [y] in Wayampi and Urubú-Kaapor, [ñ] in Tupinambá, and [dž] in the Guaranian languages. Differences in pronunciation are probably not a difficulty, since they would not likely be confused with another phoneme. However, in Tocantins Assuriní, the reflex of **j* is *s*, which in Wayampi would be interpreted as the phoneme *s*. The /č/ phoneme in Assuriní has three sources: **j*, **pj*, and a former allophone of **t* (before a high front vowel). The last two are also sources of the /s/ phoneme in Wayampi, along with a few remnants of **č* and occurrences of *s* which appear in borrowed words; /j/ is a separate phoneme. The incomplete overlap of phonemes could be a major source of misunderstanding from one language to the other. Other phonological features which distance Wayampi from Assuriní are the loss of final consonants in Wayampi and the loss of nasalization and the vowel shifts in Assuriní. Each of these changes has potential for causing misunderstanding from one language to the other.

The loss of final consonants may not seem particularly significant, but it causes the elimination of certain allomorphs of suffixes which only occur with consonant-final stems, making these forms in other languages potentially unrecognizable to speakers of a language such as Wayampi that lacks them. The loss of nasalization could create difficulty for Wayampi hearers, because of the substitution of oral for nasal morphemes, especially when homonyms result from the loss. The anticipatory morpheme in Wayampi, *rã*, which has no other allomorphs, shows little superficial resemblance to the Assuriní allomorph *woma*.

6 No data analysis of a comparative nature can be done without extensive preliminary field work by many linguists in many languages. Work by Anchieta (1595) on Tupinambá, by Ruiz de Montoya (1639, 1640) on Old Guaraní, and by Hoeller (1932) on Guarayu were done many years ago; other works are relatively recent. A large variety of linguistic material has been written on Tupí-Guaraní languages: dictionaries, complete grammatical descriptions, linguistic papers on some particular aspect of a language, interlinear texts, etc. Each of these has contributed in some way to the reconstruction of Tupí-Guaraní morphology. Betts' (1981) meticulously prepared dictionary of Parintintín has provided much important information for the reconstruction of allomorphs, although the examples in context are few. The "Formulário Tupí," designed by Harrison in 1977 for a Tupí workshop and based on Rodrigues (1953), was filled out by linguists working with Tocantins Assuriní (Nicholson 1977), Guajajára (Harrison and Harrison 1977), Urubú-Kaapor (Kakumasu 1977), and Wayampi (C. Jensen 1981); the completeness of the paradigms in various syntactic contexts has been a valuable resource. (In that workshop Harrison planted the seeds of my passion for comparative Tupí-Guaraní work). Grammatical descriptions and interlinear texts have been the main sources for the examples contained in this paper. I wish to congratulate all my Tupí-Guaraní colleagues for their valuable contributions, and to thank them for the material which has made possible a morphological reconstruction. Special thanks are due to La Vera Betts, Wolf Dietrich, Rose Dobson, Carl Harrison, Jim Kakumasu, Yonne Leite, Dennis Newton, Aryon Rodrigues, Lucy Seki, and Helga Weiss, for data or for clarification of data furnished in personal communications; and to R. M. W Dixon, for his suggestions and encouragement. Special thanks is due to Des Derbyshire, whose skill as an editor I have come to highly respect. Fieldwork in Brazil is conducted with the permission of FUNAI (Fundação Nacional do Índio). A majority of the grammatical Proto-Tupí-Guaraní morphemes included in this paper were reconstructed as part of my master's thesis, completed at the UNICAMP (State University of Campinas) in 1984 under the orientation of Aryon Rodrigues. The Working Conference for Amazonian Languages, held at the University of Oregon in August, 1987, provided an environment for further interaction with other Tupí-Guaraní linguists and for acquisition and clarification of data, and provided stimulus for an expansion of my original study. This conference was funded by grants from NSF (BNS-8617854), NEH (RX-20870–87) and the University of Oregon Foundation.

7 Some linguists have chosen to write certain allomorphs separately in their practical orthographies, in order to facilitate the transition to reading in Portuguese. For example, *mb, nd,* and *ng* in oral morphemes and *m, n,* and *g* /ŋ/ in nasal morphemes; also, *nh* [ñ] in nasal morphemes and *j* in oral morphemes. In some languages the phoneme *w* is pronounced and written as *gw* or *gu*. As much as possible I have maintained the orthography used by the respective linguists, one exception being the orthography of Ruiz de Montoya, since his use of symbols would have created confusion of interpretation for comparative purposes. Although much reference is made to Rodrigues (1953), I have used the type of symbols and word breaks that he employs in his more recent works. I have also adapted the examples from Guarayu and Chiriguano to make them more consistent with the orthographic conventions used in Brazil. A more complete elaboration of orthographic symbols appears in Appendix II.

8 Kayabí and Tupinambá have cognates of this morpheme: *wã* 'third person plural'. See also sect. 11.

9 Harrison (1986) analyzes the word *heraha* as *Ø-h-eraha* '3-LK-take' (example 34). I have reanalyzed it as *h-eraha* in my paper to present a consistent analysis with data from other languages. Similarly, I have reanalyzed *Ø-h-eko-n* as *h-eko-n* (example 189). However, the more flexible use of *h-* in this language allows for his interpretation. See example (107).

10 A list of abbreviations follows these Notes.

11 Rodrigues analyzes the first and second person markers as separate words in Proto-Tupí-Guaraní and in Tupinambá. They are analyzed by some linguists for other languages as being prefixes. I have abided by the decision of the linguists whose data I cite.

12 In Wayampi, Kamaiurá and Kayabí the free pronoun *ičé* '1 SG' was reduced to *ie* by the elimination of the phoneme *č*. This was followed by the insertion of a transitional semivowel, resulting in *ije*. The Set 2 form includes the semivowel in Kamaiurá (example 9) and Kayabí (example 288).

13 The changes in the vowel of the nominal case (example 33), the oblique-topicalized (example 199), and the serial verb (example 225) suffixes in Kaiwá (33) and Mbyá Guaraní (199 and 225) can be explained by a diachronic rule which neutralized post-stressed vowels to a single high central vowel, written orthographically as *y*.

14 The word *Tupã* (example 108) was used by Catholic priests to refer to God, and this usage spread to many tribes which have had extensive influence from outside. Its original meaning, however, was 'thunder' or 'thunder-being'.

15 These paradigms appeared in Nicholson (1977) with no gloss to clarify whether the interpretation should be understood reciprocally or reflexively. However, explanations in Nicholson (1978:50–51) indicate that the plural examples with *so* in Table 10 should be interpreted reciprocally and the plural examples with *se* should be interpreted reflexively.

16 I have rewritten the gloss for the prefix *i-* (examples 136–139) as '3' to conform with other glosses in this paper. Rodrigues (1990) had glossed it as 'REL,' though he interprets it to refer to 'third person P'.

17 It is not certain that the tentative **jepe* and **pejepe* (examples 151–157) should be considered free pronouns. The comparable forms in Wayampi, though not direct cognates, coincide with serial verb forms. In this language it appears that a grammaticalized serial verb occurs for the purpose of marking the second person A, which cannot be marked on the independent verb. It is also possible that there is a correlation between these two forms and the comparable coreferential prefixes **e-* and **peje-*.

18 In example (211) from Kayabí, *Ø-eru-'a-a* is a serial verb (sect. 6.3) following the main verb 'bring'. Its form is directly descended from the Proto-Tupí-Guaraní serial verb form **c-ero-'ár-a*. Even though the final consonant of the stem was eliminated, the original allomorph of the suffix was retained. The old serial verb prefixes are used on the independent verb *r-eru-a* 'bring', which is a direct descendant of the Proto-Tupí-Guaraní serial verb **r-erúr-a*. This example shows that the circumstances under which the original serial verb construction is used are defined in Kayabí by other factors (on the discourse level) (Dobson 1988). The independent verb would have originally used the OBTOP construction (sect. 6.1) since it follows a subordinate clause.

19 Various morphophonemic rules (Appendix III.7,8,10,11,12) produce additional forms, including *-na* (from **-ta*) after a nasalized morpheme ending in a diphthong, *-amo* and *-mo* (from **-ábo*) after a nasalized morpheme (terminating in a high or a low vowel, respectively), and *-bo* (from **-ábo*) after a low vowel.

20 When a final **b*, in the stem is followed by a serial verb suffix or an agentive or circumstancial nominalizer, it becomes **p*.

21 These coreferential (Set 3) prefixes function on an absolutive basis at the verb level, referring to the S or P on the dependent verb on which they occur. They occur consistently in the same environments in which the Set 2 (absolutive) person markers occur and never in the same environment as the Set 1 prefixes. Furthermore, this set no longer occurs with serial verbs in those languages which have undergone changes making them less ergative-absolutive (C. Jensen 1990). This set has been eliminated (except for third person) in the Guaranian languages, Wayampi, and Urubú-Kaapor, which have in varying degrees replaced the absolutive system used in Proto-Tupí-Guaraní dependent verbs with the active/inactive system used in independent verbs. It has also been eliminated in Guajajára, which has added a nominative-accusative cross-referencing system in

the form of clause-final clitic pronouns (Harrison 1986). At the sentence level, these prefixes function on a nominative basis, since they are coreferential with the grammatical subject (A or S).

22 In Urubú-Kaapor the symbol *x* is used to refer to the phoneme /š/. This phoneme was produced diachronically, palatalization of the phoneme **k* when adjacent to a high front vowel.

23 Example (267) is from **akáŋ* 'head' + **'ók* 'remove'. This is the result of metathesis followed by the simplification of consonant clusters (Appendix III.5–6).

24. The Kamaiurá negation suffix *-ite* was probably formed by the combination of the suffix **-i* 'NEG' and the particle *te* which occurs in various languages and may be related to the morpheme *-eté* 'true, genuine'. Compare the free response negative morpheme *anite* (Appendix I.67) from **ani*. The fact that Seki (1978) recorded a vowel rather than a semivowel in such examples as (387) does not necessarily preclude the formation of a diphthong with the preceding vowel (Appendix III.16).

25 I do not understand why different negation morphemes are used in examples (407) and (423), unless *kamajura* in (407) has an adverbial function.

26 A change parallel to this hypothesis has occurred in Wayampi with the loss of the consonant **c*. A negative allomorph, *na-*, normally occurring only with C-initial morphemes, is still used where the third person prefix has become zero: **na-c-orýb-i* > *na-Ø-ory-i* 'he is not happy'. One consonant likely to have been eliminated at the beginning of stems would be the glottal stop, which is rare in that position in Tupí-Guaraní languages.

27 The system which occurs in independent clauses was referred to by Harrison (1986) as a nominative-accusative system with a control/non-control intransitive verb split and a person hierarchy split. In this paper I am describing it as an active/inactive system, because the prefixes of the agentive IV correspond with the A of the TV, while the prefixes of the nonagentive IV correspond with the P of the TV.

28 The *t* in *t-úb-i* and *t-úr-i* is a phonological irregularity of these two stems and does not have any meaning. The *i-* and *c-* prefixes given in the various protoforms are the third person prefixes from Set 2. The prefixes are not always preserved in the remnant forms.

ABBREVIATIONS

A	subject of transitive verb (sect 1.0)	LK	linking prefix (2.2)
		NC	nominal case (3.3)
AC	attributive case (3.3)	NEG	negation (10)
ANTIC	anticipatory (3.3)	NOM	nominalizer (9)
CAUS	causative (7.1)	OBTOP	oblique-topicalized (6.1)
CC	comitative causative (7.1)	P	object of transitive verb (1.0)
CIRC	nominalization of circumstance (9.1)	PERM	permissive
		PL	plural
COLL	collective	P.NOM	nominalizer of patient of a transitive verb (9.2)
COMPL	completive (8.1)		
COREF	coreferential (3.2, 4.2, 6.3)	PURP	purpose
DEVOLV	devolved (3.3)	RECIP	reciprocal (7.2)
DIM	diminutive (3.4)	REDUP	reduplication (8.2, 8.3)
EMPH	emphatic	REFL	reflexive (7.2)
EX	exclusive	S	subject of an intransitive verb (1.0)
EXCL	exclamation		
F	feminine	SER	dependent serial verb (6.3)
FRUST	frustrative (8.4)	SG	singular
FUT	future (8.1)	SOV	Subject, Object, Verb, relating to constituent orders (0.1)
IN	inclusive		
INTER	interrogative	TV	transitive verb (1.0)
IV	intransitive verb (1.0)	UNSP	unspecified possessor (2.1)
LC	locative case (3.3)	1>2SG	first person A acting on second person singular P

References

Almeida, Antonio, Irmãzinhas de Jesus, and Luis Gouvea de Paula
    1983   *A língua Tapirapé,* Biblioteca Reprográfica Xerox (Rio de Janeiro: Xerox).

Anchieta, Joseph de
    1595   *Arte de grammatica da lingua mais usada na costa do Brasil,* Antônio Mariz, Coimbra. (There are various reproductions of this, the most common being by the Biblioteca Nacional, Rio de Janeiro, 1933, and the Editora Anchieta, São Paulo, 1946.)

Barbosa, Pe. A. Lemos
    1970   *Pequeno vocabulário Português-Tupí* (Rio de Janeiro: Livraria São José).

Bendor-Samuel, David
    1972   *Hierarchical structures in Guajajára* (Norman: Summer Institute of Linguistics and the University of Oklahoma).

Betts, La Vera D.
    1981   *Dicionário Parintintín-Português Português-Parintintín* (Brasilia: Summer Institute of Linguistics).

Derbyshire, Desmond C., and Geoffrey K. Pullum (eds.)
    1986   *Handbook of Amazonian languages,* Vol. 1 (Berlin: Mouton de Gruyter).

Dietrich, Wolf
    1986   *El idioma chiriguano* (Madrid: Instituto de Cooperación Iberoamericana).

    1990a   "Chiriguano and Guarayo word formation," *Amazonian linguistics,* edited by Doris Payne (Austin: University of Texas Press), 293–322.

    1990b   *More evidence for an internal classification of Tupí-Guaraní languages* (Berlin: Gebr. Mann Verlag).

Dobson, Rose
    1973   "Notas sobre substantivos do Kayabí," *Série linguística,* Vol. 1 (Brasília: Summer Institute of Linguistics), 30–56.

    1988   *Aspectos da língua Kayabí, Série linguística,* Vol. 12 (Brasília: Summer Institute of Linguistics).

Dooley, Robert A.
    1982   *Vocabulário do Guaraní* (Brasília: Summer Institute of Linguistics).

    1990   "The positioning of non-pronominal clitics and particles in lowland South American Languages," *Amazonian linguistics,* edited by Doris Payne (Austin: University of Texas Press), 457–493.

1991 "A double-verb construction in Mbyá Guaraní," *Work Papers of the Summer Institute of Linguistics, University of North Dakota, Vol. 35*, edited by Robert A. Dooley and J. Stephen Quakenbush, 31–66.

Everett, Daniel, and Lucy Seki
1986 "Deletion, reduplication, and CV skeleta in Kamaiurá," *Notes on Linguistics* 33:48–52.

Gabas, Nilson, Jr.
1994 "O sistema pronominal de marcação de pessoa na língua Karo," *Revista Latinoamericana de Estudios Etnolinguisticos*, Volume VIII: 135–150.

Graham, Albert, Sue Graham, and Carl H. Harrison
1984 "Prefixos pessoais e numerais da língua Sateré-Mawé," *Estudos sobre línguas tupí do Brasil, Série linguística*, Vol.11 (Brasília: Summer Institute of Linguistics), 175–206.

Grimes, Barbara F. (ed.)
1996 *Ethnologue: Languages of the World*, Thirteenth edition (Dallas: Summer Institute of Linguistics).

Harrison, Carl
1986 "Verb prominence, verb initialness, ergativity and typological disharmony in Guajajára," *Handbook of Amazonian languages, Vol. 1*, edited by Desmond C. Derbyshire and Geoffrey K. Pullum, (Berlin: Mouton de Gruyter), 407–439.

Harrison, Carl, and Carole Harrison
1977 *Formulário padrão Tupí: Guajajára*, Archived at the Summer Institute of Linguistics (Brasília), Fundação Nacional do Índio (Braslia), Museu Nacional (Rio de Janeiro), and the Universidade Estadual de Campinas.

Hoeller, Alfredo
1932 *Grammatik der Guarayo-Sprache*, (Guarayos, Bolivia, and Hall in Tirol, Austria: Verlag der Missionsprokura der P.P. Franziskaner).

Jensen, Allen A.
1982 "Análise formal do discurso de dois textos didáticos na língua Wayampi (Oiampí)," ms.

1988 *Sistemas indígenas de classificação de aves: aspectos comparativos, ecológicos e evolutivos* (Belém: Museu Paraense Emílio Goeldi).

1993 "Patterns of negation in Wayampi (Tupí-Guaraní)," *Typological studies in negation*, edited by Peter Kahrel (Amsterdam: John Benjamins).

Jensen, Cheryl
1980 "Word Order in Wayampi," ms.

1981 *Formulário padrão Tupí: Wayampi*, Archived at the Summer Institute of Linguistics (Brasília), Fundação Nacional do Índio (Brasília), Museu Nacional (Rio de Janeiro), and the Universidade Estadual de Campinas.

1983 "Algumas consequências morfológicas do desenvolvimento fonológico da língua Wayapí (Oiampí)," *Estudos linguísticos* (São Paulo), VII:16–25.

1987. "Object-prefix incorporation in Proto Tupí-Guaraní verbs", *Language Sciences*, Vol. 9, No. 1:45–55.

1989 *O desenvolvimento histórico da língua Wayampi* (Campinas: Editora da Universidade Estadual de Campinas).

1990 "Cross-referencing changes in some Tupí-Guaraní languages," *Amazonian linguistics*, edited by Doris Payne (Austin: University of Texas Press), 117–158.

Kakumasu, James
1977 *Formulário padrão Tupí: Urubú*, Archived at the Summer Institute of Linguistics (Brasília), Fundação Nacional do Índio (Brasília), Museu Nacional (Rio de Janeiro), and the Universidade Estadual de Campinas.

1986 "Urubú-Kaapor," *Handbook of Amazonian languages, Vol. 1.*, edited by Desmond C. Derbyshire and Geoffrey K. Pullum (Berlin: Mouton de Gruyter), 326–403.

Kakumasu, James Y., and Kiyoko Kakumasu
1988 *Dicionário por tópicos Urubú-Kaapor - Português* (Brasília: Coedição Fundação Nacional do Índio (FUNAI) - Summer Institute of Linguistics).

Leite, Yonne
1987 "Referential hierarchy and Tapirapé split marking systems," Paper presented at the Working Conference on Amazonian Languages, Eugene, Oregon.

1989 "As cisões no sistema referencial de pessoa em Tapirapé," ms.

Lemle, Miriam
1971 "Internal classification of the Tupí-Guaraní linguistic family," *Tupi studies I*, edited by David Bendor-Samuel (Norman: Summer Institute of Linguistics and the University of Oklahoma), 107–129.

Monserrat, Ruth Maria Fonini
1976 "Prefixos pessoais em Aweti," *Linguística III*, (Rio de Janeiro: Universidade Federal do Rio de Janeiro, Museu Nacional).

Newton, Dennis
1978 "Guarayu discourse," *Work Papers of the Summer Institute of Linguistics*, Riberalta, Beni, Bolivia, 1972–1976, edited by Ursula Wiesemann (Riberalta: Summer Institute of Linguistics), 163–269.

Nicholson, Velda
   1977   *Formulário padrão Tupí: Assuriní*, Archived at the Summer Institute of
           Linguistics (Brasília), Fundação Nacional do Índio (Brasília), Museu
           Nacional (Rio de Janeiro), and the Universidade Estadual de Campinas.

   1978   *Aspectos da Língua Assuriní* (Brasília: Summer Institute of Linguis-
           tics).

Payne, Doris, (ed.)
   1990   *Amazonian linguistics* (Austin: University of Texas Press).

   1994   "The Tupí-Guaraní inverse," *Voice: Form and Function*, edited by Barbara
           Fox and Paul Hopper (Amsterdam: John Benjamins).

Priest, Perry N.
   1987   "A contribution to comparative studies in the Guaraní linguistic family,"
           Language Sciences, Vol. 9, No. 1. 17–20.

Rodrigues, Aryon Dall'Igna
   1953   "Morfologia do verbo Tupí," *Letras* (Curitiba), 1:121–152.

   1981   "Estrutura da língua Tupinambá," ms.

   1984/1985 "Relações internas na família linguística Tupí-Guaraní," *Revista de
           Antropologia* (São Paulo), 27/28:33–53.

   1985   "Evidence for Tupí-Carib Relationships," *South American Indian lan-
           guages: retrospect and prospect*, edited by Harriet E. Manelis Klein and
           Louisa R. Stark (Austin: University of Texas Press).

   1990   "You and I = Neither you nor I: The personal system of Tupinambá
           (Tupí-Guaraní)," *Amazonian linguistics,* edited by Doris Payne (Austin:
           Universicy of Texas Press), 393–406.

Ruiz de Montoya, Antonio
   1639   *Tesoro de la lengua Guarani* (Madrid: Juan Sanchez).

   1640   *Arte y Bocabulario de la lengua Guarani* (Madrid: Juan Sanchez).

   1892   *Arte de la lengua Guaraní* [with commentaries, edited by Paulo Restivo]
           (Stuttgart: Guilielmi Kohlhammer).

Seki, Lucy
   1978   "Negação em Kamaiurá," Paper presented at the Universidade Estadual de
           Campinas.

   1987   "Aspects of Kamaiurá morphosyntax," Paper presented at the Working
           Conference on Amazonian Languages, Eugene, Oregon.

   1989   "Sistema de marcação de caso do Kamaiurá," Paper presented at the
           Seminário de Tipologia, Universidade Estadual de Campinas.

   1990   "Kamaiurá (Tupí-Guaraní) as an active-stative language," *Amazonian
           linguistics,* edited by Doris Payne (Austin: University of Texas Press),
           367–92.

Taylor, John
   1984a   "A interrogação na língua Kaiwá," *Estudos sobre línguas tupí do
           Brasil, Série linguística* Vol.11 (Brasília: Summer Institute of Linguis-
           tics), 123–56.

   1984b   "Marcação temporal na língua Kaiwá," *Estudos sobre línguas tupí do
           Brasil, Série linguística* Vol. 11 (Brasília: Summer Institute of Linguis-
           tics), 37–122.

Taylor, John and Audrey Taylor
   1966   *Statement of Kaiwá grammar from clause to morpheme level*, Archived
           at the Summer Institute of Linguistics (Brasília), the Fundação Na-
           cional do Índio (Brasília), and the Museu Nacional (Rio de Janeiro).

Weiss, Helga
   1972   *Kayabí verbs*, Archived at the Summer Institute of Linguistics (Braslia),
           the Fundação Nacional do Índio (Brasília), and the Universidade
           Estadual de Campinas.

   1989   "Notes on ideophones and onomatopoeia in Kayabí," *Revue de
           Phonétique Appliquée*, Occasional publication of the Université de
           l'Etat, Mons, Belgique, 389–97.

Appendix I

Reconstructions

The majority of morphemes in this list were reconstructed by the author of this paper. Morphemes 1–6, 12–15, 18–23, 25–38, 43–47 were reconstructed as part of my master's thesis in 1984 (C. Jensen 1989), under the orientation of Aryon Rodrigues. Morphemes 39–40, 48–56, 58–59 were reconstructed during the same period but were not included in the thesis. The reconstructions of morphemes 16–17, 22 are revisions of forms reconstructed in my thesis and appear in C. Jensen (1990). Morphemes 24, 41–42, 68–72, 74, and 76–77 were reconstructed for this paper. Morphemes 8, 10, 57, 73, 75, and 78–80 were reconstructed by Miriam Lemle (1971); morphemes 7, 9, and 11 by Aryon Rodrigues (p.c.); and morphemes 63–67 by Allen Jensen (1993). Orthographical symbols have been standardized for the reconstruction. The citing of accented and non-accented forms does not necessarily mean that the non-accented (orthographically unmarked) forms are phonetically unaccented. It means simply that no accent was recorded. In cases where a morpheme has different forms, depending on whether it is at the word boundary or whether another affix occurs between it and the word boundary, this is indicated by alternating forms, one with two hyphens.

Person markers (Set 1)

1. *a- '1SG Set 1'

a-	(As,Ch,Gi,Gj,Gu,Kb,Km,Kw,Pt,Tb,Ur, Wa)
ã-	(Tp)

2. *ere- '2SG Set 1'

ere-	(As,Gi,Gj,Gu,Kb,Km,Kw,Pt,Tb,Tp,Ur, WaJ)
re-	(Ch)
ne- ~ -ere-	(WaA)

3. *oro- '1EX Set 1'

oro-	(As,Gi,Gu,Kb,Km,Kw,Pt,Tb,Wa)
ro-	(Ch)
uru-	(Gj)
ara-	(Tp)
eliminated in Ur	

4. *pe- '2PL Set 1'

pe-	(As,Ch,GiM,Gj,Gu,Km,Kw,Pt,Tb,Tp, Ur,Wa)
pẽ-	(Kb)

5. *ja- '1IN Set 1'

ja-	(Ch,GiM,Gu,Km,Kw,Pt,Tb,Ur,Wa)
sa-	(As)
za-	(Gj)
čã-	(Tp)
sa-	(Kb,WaJ) derived from t-ja-

Forms derived from t-ja-i-

ti-	(Pt)
si-	(Gj,Kb,Wa)

6. *o- '3 Set 1'

o-	(As,Ch,GiM,Gu,Kb,Km,Kw,Pt,Tb,Wa)
u-	(Gj,Ur)

Some languages have w- (or gw-) allomorph (Gj,Kb)

a-	(Tp)

Person markers (Set 2)

7. *čé, ičé '1SG Set 2, free pronoun' [Rodrigues]

če	(Ch,Gu)
se, ise	(As)
ce	(GiM)
sjé, isé	(Tb)
hẽ, ihẽ	(Ur)
he, ihe	(Gj)
e, i(j)e	(Wa)
je, ije	(Kb,Km)
ji, jihi	(Pt)

8. *né, ené '2SG Set 2, free pronoun' [Lemle]

ne, ene	(As,Gj,Kb,Km,Tb,Wa)
ne, nehe	(Pt)
ne	(GiM,Gu,Si,Ur)

9. *oré '1EX Set 2, free pronoun' [Rodrigues]

ore   (As,Ch,Gi,Kb,Km,Pt,Tb,Wa)
ure   (Gj)
eliminated in Ur

10. *pé, pe . . . ẽ '2PL Set 2, free pronoun' [Lemle]

pe, pehe   (As,Km,Pt)
pe, pehẽ   (Km,Ur)
pe, pe'ẽ   (Tb)
pe, pejẽ   (Wa)
pẽ, peẽ   (Kb)
pe   (Gj, Gu)
pene   (GiM)

11. *jané '1IN Set 2, free pronoun' [Rodrigues]

jane   (Ch,Gi, Gu, Kb,Pt,Tb,Ur,Wa)
zane   (Gj)
jene   (Km)
sane   (As)

12. *(i- ~ jo-); (c- ~ yoc-) '3 Set 2, Class I and Class II, respectively'

i- ~ jo-   (Ch,GiO,GiM,Gu,Kw,Tb)
i-   (As,Gj,Kb,Km,Pt,Tp,Ur,Wa)
c-   (Gu)
s- ~ jos-   (Tb)
h- ~ joh-   (GiO)
h-   (As,Ch,Gj,Km,Pt,Tp,Ur)
Ø-   (Kb,GiM,Wa)
the Ø allomorph is usually replaced by morphemes specific for gender and number in Kb and Pt

Coreferential person markers (Set 3)

13. *wi- '1SG Set 3'

wi   (GiO,Tb)
bi-   (Gu)
i-   (Pt)
we-   (As,Tp)
te-   (Kb), probably derived by analogy from such irregular forms as *wi-t-eko > teko*, reinterpreting the prefix as *te-*
eliminated in Ch,Gi,Gj,Kw,Ur,Wa

14. *e- '2SG Set 3'

e-   (As,Gu,Kb,Km,Pt,Tb,Tp)
eliminated in Ch,Gi,Gj,Kw,Ur,Wa

15. *oro- '1EX Set 3'

oro-   (As,GiO,Gu,Kb,Km,Pt,Tb)
ara-   (Tp)
uru-   (Gj)
eliminated in Ch,Gi,Gj,Kw,Ur,Wa, or reinterpreted as morpheme 3

16. *peje- '2PL Set 3'

peje-   (Kb,Km)
peče-   (Tp)
pese-   (As)
pe-   (Pt,Tb), replaced by morpheme 10
eliminated in Ch,Gi,Gj,Kw,Ur,Wa

17. *jere- '1IN Set 3'

jere-   (Km)
sere   (As)
čere-   (Tp)
jare-   (Kb)
jane-   (Pt,Tb), replaced by morpheme 11
eliminated in Ch,Gi,Gj,Kw,Ur,Wa

18. *o- '3 Set 3'

o-   (As,GiM,Gj,Gu,Kb,Km,Kw,Pt,Tb,Wa)
Some languages have a *w-* allomorph (Gj,Kb,Km).
a-   (Tp)

Portmanteau person markers (Set 4)

19. *oro- '1 A with 2SG P Set 4'

oro-   (As,Gi,Gu,Km,Kw,Pt,Tb,Wa)
ro-   (Ch)
uru-   (Gj)
ara-   (Tp)
eliminated in Kb, Ur

20. *opo- '1 A with 2PL P Set 4'

opo-   (GiO,Gu,Km,Pt,Tb)
po-   (Ch)
poro-   (Wa)

oro-	(As,GiM)
ara-	(Tp)
apo- '1SG A with 2PL P'	(Kw)
apu- '1SG A with 2PL P'	(Gj)
ãpa- '1SG A with 2PL P'	(Tp)
oropo- '1PL A with 2PL P'	(Kw)
urupu- '1PL A with 2PL P'	(GjP)
eliminated in Kb,Ur	

Dependent verb suffixes

21. *-abo ~ -ta ~ -a 'dependent serial verb'

-abo

-abo ~ -abo	(GiO,Pt,Tb)
-awu	(Kb)
-wo	(Tp)
-o	(Gu)

-ta

-ta	(As,GiO,Gj,Kb,Pt,Wa)
-a	
-a	(As,GiO,Kb,Pt,Tb,Tp)
-pà	(Gj)
-m	(Km)
eliminated except for remnants in Ch,GiM,Kw,Ur,Wa	

22. *-i ~ (undetermined C) 'oblique-topicalized'

-i	(As,GiO,Kb,Km,Pt,Tb,Tp)
-j	(As,Kb)
-w	(Kb,m,Tb)
-n	(Gj,Ur remnants)
eliminated except for remnants in Ch,GiM,Gu,Kw,Ur,Wa	

23. *-VmV ~ -rVmV 'temporal/conditional (when/if)'

-eme ~ -reme	(Tb)
remẽ	(Wa)
mehe	(Gj)
-amu ~ -ramu	(Kb)
-amo ~ -ramo	(As)
-ramo	(GiM,Kw,Tp)
-amõ ~ -ramõ	(GiO)
-ame ~ -rame	(Pt)
-rahã	(Ur)

24. *ire ~ (ri)re 'sequential (after)'

-ire ~ -re	(Gj,Kb)
rire	(GiM)
-ire	(Wa)
-irẽ ~ -rẽ	(Pt)
-re	(Kb,Gu)

Valence-changing affixes

25. *je- 'reflexive'

je-	(Ch,GiM,Gu,Kb,Km,Kw,Tb)
se-	(As)
če-	(Tp)
ze-	(Gj)
ji-	(Pt,WaA)
i-	(WaJ)
meaning 'reflexive/reciprocal' in Gj,Wa	

26. *jo- 'reciprocal'

jo-	(Ch,GiM,Gu,Kb,Km,Kw,Pt,Tb)
ju-	(Ur)
so-	(As)
ča-	(Tp)
meaning 'reflexive/reciprocal' in Ur	

27. *mo- 'simple causative'

mo-	(As,Ch,GiO,GiM,Gu,Kb,Km,Pt,Tb,Wa)
mu-	(Gj,Ur)
ma-	(Tp)

28. *ero- ~ ro- 'comitative causative'

ero- ~ ro-	(As,GiO,GiM,Gu,Kb,Km,Pt,Tb,Ur,Wa)
ro-	(Ch)
era- ~ ra-	(Tp)
eru- ~ ru-	(Gj)

Linking prefix

29. *r- 'linking prefix (Class II stems only)'

r-	(As,Ch,Gi,Gj,Gu,Kb,Km,Kw,Pt,Tb,Tp, Ur,Wa)

Nominalizations

30. *-ár ~ -cár ~ -tár 'agent'

  *-ár

-ár, -ar	(As,Gj,Gu,Pt,Tb,WaA)
-at ~ -ar-	(Kb,Km)
-ar- ~ -a	(GiM,GiO,WaJ)
-ãr	(Tp)
-a	(Ch)

  *-cár

-car	(Gu)
-sár	(Tb)
-har	(Gj,Pt,Ur)
-har- ~ -ha	(GiO,Kw)
-ar- ~ -a	(WaJ)
-ar	(WaA)

  *-tár

-tár, -tar	(As,Tb)
-tat ~ -tar-	(Km)
-tar- ~ -ta	(GiO)

31. *-áb ~ -cáb ~ -táb 'circumstance'

  *-áb

-áb	(Pt,Tb)
-ap ~ -aw-	(Kb,Km)
-aw	(As,Gj)
-ãw	(Tp)
-aw- ~ -a	(Ch,GiM,Wa)
-aw-	(Gu)

  *-cáb

-sáb	(Tb)
-ca	(Gu)
-hab	(Pt)
-haw	(Gj)
-hap	(Ur)
-ha ~ -haw-	(Kw)
-aw- ~ -a	(Wa)

  *-táb

-táb	(Pt,Tb)
-tap ~ -taw-	(Km)
-taw	(As)
-ta	(Wa)

In some languages this, rather than morpheme 43, refers to the action or quality of a verb.

32. *-pýr 'patient'

-pýr, -pyr	(Gj,Gu,Pt,Tb)
-pyt ~ -pyr-	(Kb,Km,Tp)
-py ~ -pyr-	(GiO)
-py	(GiM)

eliminated in Ur,Wa

33. *emi- 'object'

emi-	(As,Ch,GiM,GiO,Gj,Gu,Kb,Km,Pt,Tb, Tp,Wa)

34. *-ba'é 'clause nominalizer'

-ba'é, -ba'e	(GiM,GiO,Gu,Kw,Tb)
-bae	(Ch)
-be'e	(Pt)
-wa'e	(As)
-ma'e	(Gj,Kb,Km,Tp)
ma'ẽ	(Wa)
me'ẽ	(Ur)

35. *-cwár, *nwár 'nominalizer of adverb or postpositional phrase'

-swár, -nwár	(Tb)
-cwa	(GiO)
-war	(As,WaA)
-wat ~ -war-	(Kb)
-wa	(Ch,GiM,WaJ)
-nar	(Gu)

Unspecified possessor prefix

36. *∅- ~ nasalization of initial C ~ t- ~ elimination of initial V 'Unspecified possessor'

∅-	(Ch,GiO,GiM,Gu,Pt,Tb,Tp,Wa)
nasalization of #C	(Ch,GiO,GiM,Gj,Gu,Kb,Pt,Tb,Tp,Wa)

t-   (Ch,GiO,GiM,Gj,Gu,Kb,Pt,Tb,Tp,Wa)
elimination of #V   (Ch,GiO,Gj,Gu,Pt,Tb,Tp,Wa)

Modificational suffixes

37. *-wačú ~ -učú 'augmentative'

-wačú ~ -uču   (GiO, Gu) In Gu -učú only appears in
                                        some old forms.
-wasú ~ -usú   (Tb)
-wahu ~ -uhu, -hu   (Ur)
-hu ~ -uhu, -hũ ~ -uhũ   (Pt)
-oho   (As)
-wacu   (GiM)
-wasu   (Ch,Kw)
-wasu, -u   (WaJ)
-wasu ~ -u, -usu   (WaA)
-wahu ~ -hu   (Gj)
-uu   (Kb)
-(o) o   (Tp)

38. *-'í 'diminutive'

-'í, -'ĩ   (GiM,Pt,Tb)
-'i   (As,Tp,Wa)
-a'i   (Gj)
-i'i ~ -'i   (Kb)

39. *-pwér ~ -wér 'devolved, former'

-pwér ~ -wér   (Tb)
-kwer ~ -wer   (As)
-kwer ~ -er ~ -ŋwer ~ -wer   (Gj,WaA)
-kwe ~ -(n)e ~ -(r)e ~ -ŋwe ~-we   (GiM,Kw,WaJ)
-kwer ~ -ŋwer   (Ur)
-kwer ~ -ŋwer ~ -ruer ~ -awer   (Pt)

40. *-rám ~ -wám ~ -ám 'anticipatory, future'

-rám ~ -wám ~ -ám   (Tb)
-ruam ~ -aŋwam ~ -aruam   (Pt)
rã   (Ch,Gi,Gu,Wa)
-wàm   (Gj)
-rom ~ -wom   (As)

41. *-eté 'true, genuine'

-eté or -ete   (As,GiM,Gj,Gu,Km,Tb,Wa)
-éte   (Ch)

hete ~ ete ~ te   (Pr)
jete   (Ur)
-wete   (Wa)

42. *-rán 'false, imitation'

-ran   (Tb,Ur,WaA)
-ràn   (Gj)
-rã   (WaJ)

Grammatical suffixes on nouns

43. *-a ~ -Ø 'nominal case'

-a ~ -Ø   (Pt,Tb,Tp)
-a   (As,Kb,Km)
Ø   (Ch,Gi,Gj,Gu,Kw,WaJ)

In some languages this morpheme also refers to the action or quality of
a verb.

44. *-amo ~ -ramo 'attributive case'

-amo ~ -ramo   (As,Tb)
-amu ~ -ramu   (Kb)
-amo ~ -ro   (Pt)
-amõ ~ -ramõ   (GiO,Tp)
-ramo   (Ch)
-rami   (GiM)
-romo   (Gj)
-ramõ   (WaJ)
-amo, romo   (WaA)
-ram   (Km)

45. *-pe 'punctual locative case'

-pe   (As,Ch,GiO,Gj,Kb,Pt,Tb,Tp,Wa)
-be   (Gu)
-py   (GiM)
-p   (Km)

46. *-bo 'diffuse locative case'

-bo   (GiO,Pt,Tb; and WaA in derivations)
-mo   (As in derivations)
-mũ   (Kb in derivations)
-o   (WaJ in derivations)

47. *-i 'partitive locative case'

    -i   (GiO,Pt,Tb,Wa; and As in deriva-
                     tions)

Postpositions

48. *cupé 'to, for'

supé	(Tb)
upe	(Ch,GiM,Gj,Kb,Km,Wa)
upe	(Gu, -u with 1st and 2nd person)
ope	(As,Tp)

49. *pé 'to, for'

pé, pe	(As,Ch,GiM,Gj,Kb,Km,Kw,Pt,Tb, Ur,Wa)

50. *ecé 'at, regarding, about'

ece	(Gu)
esé	(Tb)
ehe	(As,Gj,Km,Kw,Pt,Ur)
ehe	(GiO - 3rd person h-ece)
e	(GiM - 3rd person Ø-ece)
e	(Ch - 3rd person h-ese)
e	(Wa - 3rd person Ø-ee)
ee	(Tp)
are	(Kb - 3rd person Ø-ee)

51. *ecebe 'with (accompaniment)'

ecebe	(Gu)
esebe	(Tb)
ehebe	(Kw)
ehewe	(Gj)
ebe	(Ch,GiM,WaA)
ewe	(Tp,WaJ)
eewe	(Kb)

52. *pabẽ 'with (accompaniment)'

pabẽ	(GiM,Tb)
pabeĩ	(Pt)
paweŋatu	(Gj)

53. *kotý 'towards'

kotý, koty	(Ch,Gu,Kw,Pt,Tb)
katy	(As,GiM,Kb,Km,Tp)
koty ~ kyty	(Ur,Wa)
kutyr	(Gj)

54. *obaké 'in front of'

obaké, obake	(GiM,Gu,Tb,WaA)
ake	(Ur)
uake	(Gj)
owake	(As,WaJ)

55. *enoné 'ahead of'

enoné, enone	(As,Ch,GiM,Gu,Pt,Tb,Wa)
enune	(Gj,Kb)

56. *pocé '(lying) with'

poce	(Gu)
posé	(Tb)
puhe	(Gj)
poi	(Wa)

57. pypé 'in' [Lemle]

pype	(As,Ch,GiM,Gu,Kb,Pt,Tp)
pupé, pupe	(Gj,Km,Tb,Wa)

58. *upí 'with, by means of, according to, within an area'

upí, upi	(Ch,GiM,Gj,Gu,Kb,Kw,Pt,Tb,Ur,Wa)
opi	(As,Tp)

59. *cuwí 'from'

cui	(Gu)
su'í	(Tb)
uwi	(Pt)
wi	(Ch,Gi,Gj,Kb)
ŋi	(Ur)
wyi	(Wa)
hi, ohi	(As)

Note: Morphemes 60–62 occur in some languages exclusively in derivations (see sect. 4 of text).

60. *ár 'above'

ár, ar	(Gu,Kb,Pt,Tb,Ur,WaA)
ary	(Gi)
aa	(WaJ)

61. *pýr 'near'

pýr, pyr	(As,Gj,Gu,Kb,Pt,Tb,WaA)
py	(Gi,WaJ)

62. *wýr 'under'

wýr, wyr	(Gj,Gu,Kb,Pt,Tb,Ur,WaA)
wy	(Ch,Gi,WaJ)

Negation morphemes

63. *n-...-i ~ na-...-i ~ ni-...-i 'negation of predicate of independent clause' [A. Jensen]

n-...-i ~ na-...-i ~ ni-...-i	(GiM,GiO,Kb,Wa)
n-...-i ~ na-...-i	(Gu,Tb)
n-...-i	(Gj,Pt)
n-...-ite	(Km)
n-...-ihi	(As)

64. *e'ým 'negation of dependent verbs and nouns' [A.Jensen]

e'ým	(Km,Pt,Tb)
e'ỹ	(GiM,Gu,Kw,Wa)
'ym	(Gj)
y'ym	(As)
e'em	(Kb)
ym	(Ur)

65. *ruã or ruĩ 'negation of adverbials, nouns, and verbs' [A. Jensen]

ruwã, ruwãj	(GiO)
ruã	(Tb,Wa)
ruĩ	(Pt)
ruẽj	(Km)
-a, nasalizing preceding vowel	(Ch)

66. *eme 'negative imperative' [A. Jensen]

eme	(As,GiM,GiO,Gu)
ume	(Tb)
em	(Km)
ne	(Wa)

67. *ani 'negative free response form' [A. Jensen]

ani	(Ch,GiO,Tb,Wa)
anite	(Km)
ãnĩ	(Gu)
ahãn	(As,Pt)
any	(GiM)
nan	(Gj)

Demonstratives

68. *ko 'here, near the speaker, visible'

ko	(Ch,GiM,Gj,Gu,Tb,Ur)

69. *ke 'here, near the speaker'

ke	(Tb,Wa)
ki	(Pt)

70. *kyƀõ 'around here, in relation to more remote areas (contrastive)'

kyƀõ	(GiM,Tb)
kyƀo	(WaA)
ky(w)õ	(Ch)
ky	(Gu)
kyo	(WaJ)

71. *aipo 'anaphoric reference to citation'

ajpo	(Tb)
aipo	(GiM,Gu,Kw,WaJ)
aepo	(WaA)
aemo (?)	(Pt)

72. *'áŋ 'this one, now, here (visible or invisible)'

'aŋe	(Gi)
'áŋ	(Tb,WaA)
aŋa	(Pt)
'ã	(WaJ)
'àŋ	(Gj)

73. *a'é 'he, that one, there (visible or invisible)' [Lemle]

a'é, a'e	(As,GiM,Gj,Gu,Kb,Km,Pt,Tb,Ur,Wa)
háe	(Ch)

74. *wĩ or *wíŋ 'that one (visible), which may be far from the hearer also'

wĩ, wíŋ	(Tb)
wyĩ, âwĩ	(Wa)
ŋwi	(Pt)

75. *mõ, *amõ 'there, another, some (invisible)' [Lemle]

mõ, amõ	(GiM,Tb,Wa)
mo, amua	(Pt)
omo	(GjP)
amu	(Kb)
amõ	(Ur)

76. *pé 'that one'

pe	(GiM,Gj,Pt)
pebe	(Gu)
péa	(Ch)
upéa	(Kw)
peme'ẽ	(Ur)

77. *wã 'they, those'

wã, awã	(Tb)
wã	(Kb)
wà	(Gj)

Numbers

78. *ojepeteĩ 'one' [Lemle]

ojepe	(Tb)
osepesowe	(As)
pitei	(Gj)
ojipejĩ	(Pt)
ojepete	(Km)
pete'ĩ	(Ur)
jẽpeĩ	(Gu)
pe'ĩ	(Wa)
pẽti	(Ch)
peteĩ	(GiM)

79. *mokõj 'two' [Lemle]

mokõj	(Gi,Km,Pt,Tb,Ur,Wa)
mokoi	(As)
mõkoi	(Ch)
mukuz	(Gj)

80. *mocapýr 'three' [Lemle]

mocapy	(Gu)
mosapy	(Tb; WaA some speakers)
mohapy	(Pt)
mo'apyt	(Km)
mapyr	(Ur)
moapy	(Gi; WaA some speakers; WaJ)
mapy	(Ch)

forms based on negated form of *irõ 'pair'

nairoihi	(As)
na'iruz	(Gj)

Appendix II

Tupí-Guaraní Phonemes and their Reflexes

Orthographical references:

Vowels (oral and nasal sets)

*i	*y [ɨ]	*u
*e	*a	*o

Consonants

*p	*t	*k	*' [ʔ]
	*c [ts]	*č [tš]	
*m	*n	*ŋ	
*ɓ	*r		

Semivowels

*w	*j [y]

Stress is nonphonemic. In most languages it is on the final syllable of the stem(s). In Guarayu, Wayampí, and Chiriguano it is on the penultimate syllable. In Tocantins Assuriní it is on the penultimate syllable of verbs and the third to the last syllable on nouns, due to the -a 'NC' suffix having become a permanent part of the stem.

Orthographic conventions:

The high central vowel *[ɨ] is written orthographically as y.
The palatal semivowel *[y] is written as j.
The glottal stop *[ʔ] is written with an apostrophe '.

Vocalic changes:

*a > ã (Tp)
*o > a (Tp)
*ã > à (voiceless mid central vowel) (Gj)
Some *o > u (Gj,Ur)
Some *o > a (As)
*u > o (As)
loss of nasalization (As,Gj,Tp)

Consonantal changes:

*p

*pu, *pw > f (Kb)
*pw > kw (As,Gj,Tp,Wa)
*pj > pi [pj] (Gu), c (GiM), [č] (Tp), c [č] (Km), s (As,Gj,Kb,Ur,Wa)

*t

*ti > ti (Tb,Pt), či (Gu), ci [či] (Km), xi [ci] (GiM), si (As,Gj,Ur,Wa)

*k

ik > x [š] (Ur)
*k# > g [ŋ] (As, some Wa)
some k > g [g] medially (Kw), finally (Kb)

*ɓ

written as v in (GiM,Gu,Kw,Pt,WaA)
*ɓ# > p (Kb,Km)
*ɓ > w (As,Gj,Kb,Ur,WaJ)

*m, *n, *ŋ

In some languages (Ch,Gi,Gu,Kw,Pt,Ur) the oral allophones are written separately as mb, nd, ng.
ŋ written as g (As,Gj,Wa)
ŋ written as g̃ (Kb, Pt)

*č, *c

*č [tš] > x [c] (GiM), [č] Tp, s (As,Gu,Tb), h (As,Gj,Ur), Ø (Kb,Tp,Wa)
*c [ts] > s (Tb), h (As,Gj,Kw,Ur), Ø (GiM,Kb,Tp,Wa)
c written as s (Gu)

*w

*w > gw (Kw), gu (GiO,GiM)
Sometimes written as ù (Kb)

*j   pronounced in various languages as [y], [ž], or [dž]

*j > z (Gj, Tembé)
*j > s (As)
*j > x [č] (Tp)
In some languages the nasalized allophone [ñ] is written separately, as nh (GiM,Kw,Pt).
Syllable final, j is written in some languages as i or as ì (Kb).

*r

*r# > t (Kb, Km)
Some *r# > n (As)

Appendix III

Some Phonological Rules from Tupinambá which apply to Tupí-Guaraní languages in general

Proto-Tupí-Guaraní Phonetic inventory (from C. Jensen 1989)

Non-syllabic segments (C):

	p	t	k	m	n	ŋ	ɓ	r	c	č	'	w	j
syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-
consonantal	+	+	+	+	+	+	+	+	+	+	-	-	-
voiced	-	-	-	+	+	+	+	+	-	-	-	+	+
nasal				+	+	+	-	-				(-)	
continuant	-	-	-				+	+	-+	-+		+	+
posterior	-	-	+	-	-	+							
labial	+	-	+	-		+	-					+	-
high									-	+			

Syllabic segments (V):

	i	e	y	a	u	o	ĩ	ẽ	ỹ	ã	ũ	õ
syllabic	+	+	+	+	+	+	+	+	+	+	+	+
nasal	-	-	-	-	-	-	+	+	+	+	+	+
posterior	-	-	+	+	+	+	-	-	+	+	+	+
labial			-	-	+	+			-	-	+	+
high	+	-	+	-	+	-	+	-	+	-	+	-

Rodrigues uses the following symbols:

+ morpheme juncture (affix + stem or affix)
≠ juncture of stems
pause

Phonological rules (based on Rodrigues 1981)
   A discussion of these rules and their occurrence in other languages appears in C. Jensen (1989).

1. Nasalization of voiceless consonants

$$\begin{bmatrix} +\text{cons} \\ -\text{voice} \end{bmatrix} \rightarrow [+\text{nas}] / [+\text{nas}] \left(\left\{ \begin{bmatrix} -\text{acc} \\ +\text{syl} \\ -\text{cons} \\ -\text{syl} \end{bmatrix} \right\} \right) \left\{ \begin{matrix} + \\ \neq \end{matrix} \right\} \underline{\quad} \left(\begin{bmatrix} -\text{cons} \\ -\text{syl} \\ +\text{voice} \end{bmatrix} \right) \begin{bmatrix} +\text{syl} \\ -\text{nas} \end{bmatrix} \begin{bmatrix} -\text{syl} \\ -\text{nas} \end{bmatrix} \begin{matrix} n \\ \\ \# \\ \\ 0 \end{matrix}$$

Any nasal, whether of consonant or accent (realized on the vowel), causes a nasalization of the initial voiceless consonant of the following morpheme in the same phonological word. For example:

nupã 'beat' $\neq$ *katú* 'well' > *nupãŋatú* 'beat well'
mo 'CAUS' + *só* 'go' > *monó* 'send'
akáŋ 'head' $\neq$ *péb* 'flat' > *akáŋ* $\neq$ *méb* > 'flat head' (to rule 2)

2. Nasalization of accent

$$\begin{bmatrix} +\text{acc} \\ -\text{nas} \end{bmatrix} \rightarrow [+\text{nas}] / \underline{\quad} \begin{bmatrix} +\text{cons} \\ +\text{nas} \end{bmatrix} \neq [-\text{syl}]$$

In Tupinambá this rule applied when there was a consonant cluster produced at morpheme boundary by the combination of two morphemes. The rule is based on the interpretation that the nasal accent did not co-occur with a final nasal consonant. Accordingly, this rule is followed by another (6) which simplifies consonant clusters.

> *akáŋ* $\neq$ *méb* > *akãŋ* $\neq$ *méb* > (rule 6) 'flat head'

3. Epenthesis of /y/

$$\emptyset \rightarrow \begin{bmatrix} +\text{syl} \\ +\text{high} \\ +\text{post} \\ -\text{lab} \end{bmatrix} / \begin{bmatrix} +\text{cons} \\ -\text{lab} \end{bmatrix} + \underline{\quad} [+\text{cons}]$$

According to this rule an epenthetical vowel y [ɨ] is inserted between two consonants at a morpheme juncture of the type stem + affix.

'ár 'day' + *-bo* 'diffuse locative' > *'árybo* 'in the day'

4. Weakening of labial consonants

$$\begin{bmatrix} +\text{cons} \\ +\text{lab} \end{bmatrix} \rightarrow [+\text{cont}] / \begin{bmatrix} +\text{cons} \\ +\text{voic} \\ -\text{nas} \end{bmatrix} \neq \underline{\quad}$$

'áb $\neq$ *pukú* > *'áb* $\neq$ *bukú* > 'long hair' (to rule 6)
kuáb $\neq$ *me'éŋ* > *kuáb* $\neq$ *be'éŋ* > 'show, give knowledge' (to rule 6)
okár $\neq$ *pytér* > *okár* $\neq$ *bytér* > 'the middle of the plaza' (to rule 6)

5. Metathesis

Note that this rule from C. Jensen (1989) replaces Rodrigues' rule 6.

Structural description: $[+\text{cons}] \begin{bmatrix} -\text{syl} \\ -\text{cons} \\ -\text{voic} \end{bmatrix}$
                          1   2

Structural change: 1 2 > 2 1

When the second of two consonants at the morpheme juncture (of two stems) is a glottal stop, this metathesizes with the preceding consonant.

ipit 'skin' $\neq$ *'ok* 'to remove' > *ipi'rok* 'to skin' (Kb)

6. Simplification of consonant clusters (5 in Rodrigues)

$[+\text{cons}] > \emptyset / \underline{\quad} \neq [-\text{syl}]$

In Tupinambá the first consonant in a consonant cluster, created at morpheme juncture of two stems, is eliminated.

> *akãŋ* $\neq$ *méb* > *akãméb* 'flat head'
  'áb $\neq$ *bukú* > *'ábukú* 'long hair'

7. Vocalic assimilation

$$\begin{bmatrix} -\text{syl} \\ +\text{high} \\ -\text{post} \\ +\text{lab} \\ -\text{acc} \end{bmatrix} > \begin{bmatrix} \alpha\ \text{post} \\ \beta\ \text{lab} \end{bmatrix} / \begin{bmatrix} +\text{syl} \\ -\text{high} \\ \alpha\ \text{post} \\ \beta\ \text{lab} \\ +\text{acc} \end{bmatrix} + \underline{\quad} \begin{bmatrix} +\text{cons} \\ +\text{voic} \\ +\text{lab} \end{bmatrix}$$

According to this rule, when the suffix of the dependent serial verb *-ábo* or the nominalizer *-áb* follows a low vowel, the first vowel of the suffix is assimilated to the position of the preceding vowel. This happens only occasionally with the nominalizer as the normal allomorph following vowels is *-sáb* in Tupinambá.

o+ só +ábo > *o+só+óbo* > 'and went' (to rule 8)
o+ manõ +ábo > *o+manõ+óbo* > 'and died' (to rule 8)
s+e'é +ábo > *s + e'é + ébo* 'and scraped it' (to rule 10)

8. Nasalization of voiced consonant to the right

$$\begin{bmatrix} +\text{cons} \\ +\text{voic} \\ -\text{nas} \end{bmatrix} > [+\text{nas}] \: / \begin{bmatrix} +\text{syl} \\ +\text{acc} \\ +\text{nas} \end{bmatrix} + \begin{bmatrix} +\text{syl} \\ +\text{acc} \end{bmatrix} \rule{1cm}{0.4pt}$$

This rule applies to dependent serial verbs.

> *o+manõ+óbo* > *o+manõ+ómo* > (to rule 10) 'and died'

9. Nasalization of /r/

$$\begin{bmatrix} +\text{cons} \\ +\text{voic} \\ -\text{nas} \\ -\text{la} \end{bmatrix} > [+\text{nas}] \: / \begin{bmatrix} +\text{syl} \\ +\text{acc} \\ +\text{nas} \end{bmatrix} + \rule{1cm}{0.4pt} \: \neq$$

The *r* is nasalized after a nasalized accented vowel.

tĩ 'nose' ≠ *rám* 'ANTIC' > *tĩnám* 'what will be a nose'
nupã 'beat' +*reme* 'when' > *nupãneme* 'when ... beats'
irũ 'partner' +*ramo* 'AC' > *irũnamo* 'as a partner'

10. Suppression of accent

$$[+\text{acc}] > \emptyset \: / \rule{1cm}{0.4pt} + \begin{bmatrix} +\text{syl} \\ +\text{acc} \end{bmatrix}$$

> *s+e'é+ébo* > *s+e'e+ébo* > 'and scraped it' (to rule 12)
apití+ábo > *apiti+ábo* > 'and killed it' (to rule 11)
> *o+manõ+ómo* > *o+mano+ómo* > 'and died' (to rule 12)
'ú 'eat' + *ár* 'NOM' > *'u+ár* > 'eater' (to rule 11)

11. Asyllabification

$$\begin{bmatrix} +\text{syl} \\ +\text{high} \end{bmatrix} > [\text{-syl}] \: / \rule{1cm}{0.4pt} + \begin{bmatrix} +\text{syl} \\ +\text{acc} \end{bmatrix}$$

In Tupinambá, when a stem ending in a high final vowel is followed by an accented vowel, the first vowel becomes asyllabic (semivowel).

> *apiti+ábo* > *apitjábo* 'and killed it'
> *'u+ár* > *'wár* 'eater'

12. Elimination of identical low vowel

$$\begin{bmatrix} +\text{syl} \\ -\text{high} \\ \alpha \text{ post} \\ \beta \text{ lab} \\ -\text{acc} \end{bmatrix} \rightarrow \emptyset \: / \rule{1cm}{0.4pt} + \begin{bmatrix} +\text{syl} \\ \alpha \text{ post} \\ \beta \text{ lab} \\ +\text{acc} \end{bmatrix}$$

> *s+e'e+ébo* > *s+e'ébo* 'and grated it'
> *o+mano+ómo* > *o+manómo* 'and died'

13. Nasalization of voiced consonant to the left

$$\begin{bmatrix} +\text{cons} \\ +\text{voic} \\ -\text{nas} \end{bmatrix} \rightarrow ([+\text{nas}]) \: / \rule{1cm}{0.4pt} [+\text{syl}] + ([-\text{syl}])[+\text{syl}][+\text{nas}]$$

> *ero* 'CC' + *sém* 'come out' > *enosém* 'come out with it'

14. Insertion of semivowel /j/

$$\emptyset \rightarrow \begin{bmatrix} -\text{cons} \\ -\text{syl} \\ +\text{voic} \\ -\text{lab} \end{bmatrix} \: / \begin{bmatrix} +\text{syl} \\ +\text{high} \\ -\text{post} \end{bmatrix} \rule{1cm}{0.4pt} \begin{bmatrix} +\text{syl} \\ +\text{high} \\ -\text{lab} \end{bmatrix}$$

In Tupinambá, the semivowel *j* is inserted between a high front vowel and a high front or central vowel.

i '3' + *itá* 'rock' > *ijitá* 'his rock'
i '3' + *ypý* 'beginning' > *ijypý* 'its beginning'

15. Epenthesis of /i/

$$\emptyset \rightarrow \begin{bmatrix} +\text{syl} \\ +\text{high} \\ -\text{post} \end{bmatrix} \: / \: [+\text{cons}] + \rule{1cm}{0.4pt} \begin{bmatrix} +\text{cons} \\ -\text{voic} \\ +\text{cont} \end{bmatrix}$$

In Tupinambá, the epenthetic vowel is *i* when followed by the consonant *s*.

a+ '*ár* +*swér* > *a'áriswér* 'I almost fell.'
1SG fall nearly

16. Diphthongization

$$\begin{bmatrix} + \text{ syl} \\ + \text{ high} \\ - \text{ post} \\ - \text{ acc} \end{bmatrix} \rightarrow \begin{bmatrix} - \text{ cons} \\ - \text{ syl} \\ + \text{ voic} \\ - \text{ lab} \end{bmatrix} / \, [+\text{syl}] \underline{\quad} \begin{Bmatrix} \# \\ [-\text{syl}] \end{Bmatrix}$$

In Tupinambá, a vowel cluster in which the second of two vowels is a high front vowel *(i)* results in a diphthong. This occurs with the partitive locative suffix, negation of verbs, incorporation of object prefix, and the addition of a prefix to a stem beginning with a high front vowel.

ku'á 'waist' + *i* > *ku'áj* 'at the waist'
n 'NEG' + *a* '1SG' + *karú* 'eat' + *i* 'NEG' > *nakaruj* 'I didn't eat.'
a '1SG' + *i* '3P' + *potár* 'want' > *ajpotár* 'I want it.'
o '3' + *ikó* 'be' > *ojkó* 'he is'

17. Absorption of /i/

$$\begin{bmatrix} + \text{ syl} \\ + \text{ high} \\ - \text{ post} \end{bmatrix} \rightarrow \emptyset \, / \begin{bmatrix} - \text{ cons} \\ - \text{ syl} \\ + \text{ voic} \end{bmatrix} \underline{\quad} \#$$

In Tupinambá, an /i/ between a semivowel and a pause is absorbed.

n + *a* + *poraséj* + *i* > *naporaséj* 'I didn't dance.'
NEG 1SG dance   NEG

18. Insertion of /w/

$$\emptyset \rightarrow \left(\begin{bmatrix} - \text{ cons} \\ - \text{ syl} \\ + \text{ voic} \\ + \text{ lab} \end{bmatrix} \right) / \begin{bmatrix} + \text{ syl} \\ + \text{ post} \\ + \text{ lab} \end{bmatrix} \underline{\quad} [+\text{syl}]$$

In Tupinambá, there is optional insertion of /w/ between two vowels when the first is a back vowel.

o '3 COREF' + *eté* 'body' > *oeté* or *oweté* 'his own body'
o '3 COREF' + *obaké* 'in front of' > *oobaké* or *owobaké*
                                          'in front of himself'
kuáb 'know' > *kuáb* or *kuwáb* 'know'

19. Devoicing of final consonants (1.3 in Rodrigues)

This devoicing was optional for Tupinambá.

sjé rúb > [šérúᵖ] or [šérúb] 'my father'
sjé ra'ýr > [šéra?ɨ̌ᵗ] or [šéra?ɨ́r] 'my son'

Distribution of Proto-Tupí-Guaraní phonemes

Only vowels and semivowels are permitted at the end of a non-final syllable. The consonants which are permitted in final position are *b, r, k,* and nasals. Sequences of consonant plus semivowel are permitted, except for **b.* Sequences of semivowels: **jwa* and **wja* are not permitted. The velar nasal is not permitted initially.

Appendix IV

Changes which Resulted in Subgroups

Rodrigues, 1984/1985,
with additions by C. Jensen

Subgroup I

1. loss of final consonants
2. *č and *c retained as separate phonemes
   - *č > [c] or [š]
   - *c > h or Ø
3. reinterpretation of sequences as single phonemes *pj, *pw, *kw [C. Jensen]
4. elimination of consonant sequences [C. Jensen]
5. merger of *pw and *kw as [k^w] (or k)
6. *pj > č or ž
7. in Chiriguano, change of stress from final to penultimate syllable

Subgroup II

1. loss of final consonants
2. merger of *č and *c > c or s
3. merger of *pw and *kw > kw or k
4. *pj remains intact
5. change of stress from final to penultimate syllable
6. palatalization of *t/__i [C. Jensen]

Subgroup III

1. retained final consonants
2. merger of *č and *c > c or s
3. *pw remains intact
4. *pj remains intact
5. stress unchanged

Subgroup IV

1. final C retained with or without modifications
2. merger of *č and *c > h
3. merger of *pw and *kw > kw [k^w]
4. *pj > č or c

5. *j > č, c, s, or z
6. merger of 4 and 5 in some languages
7. merger of *b and *w with possible reinterpretation of final allomorphs [C. Jensen]
8. palatalization of *t/___i [C. Jensen]

Subgroup V

1. retained final consonants
2. merger of *č and *c > h or Ø
3. *pw > f (bilabial)
4. *pj > s
5. *j expressed as affricate
6. merger of *b and *w with reinterpretation of final allomorphs [C. Jensen]
7. pronominal markers for third person include masculine, feminine, and plural
8. palatalization of *t/__i [C. Jensen]

Subgroup VI

1. retained final consonants
2. merger of *č and *c > h
3. *pw > kw (Parintintín), fw, or f (Tupí-Kawahíb)
4. *pj remains intact
5. *j remains intact
6. pronominal markers for third person include masculine, feminine, and plural
7. palatalization of *t/___i [C. Jensen]

Subgroup VII

1. retained final consonants
2. merger of *č and *c > h or Ø
3. *pw > hw or h, retained as separate from *kw
4. *pj > s
5. *j intact
6. merger of *b and *w with reinterpretation of final allomorphs [C. Jensen]
7. palatalization of *t/___i [C. Jensen]

Subgroup VIII

1. loss - partial or complete - of final consonants
2. merger of *č and *c > h or Ø
3. merger of *pw and *kw > kw [k^w]
4. *pj > s

5. *j intact

6. in most languages, merger of *b and *w [C. Jensen]

7. palatalization of *t/___i

Appendix V

Distinguishing Properties of Tupí-Guaraní Languages

Rodrigues 1984/85

This is the set of criteria developed by Rodrigues to identify Tupí-Guaraní languages and to exclude those languages which are Tupí but not Tupí-Guaraní.

1. The existence of prefixes marking the subject on transitive and (agentive) intransitive verbs in independent clauses, including forms identical with or phonologically derivable from: a- 'I', ere- 'you', ja- 'you and I', oro- 'he and I', pe- 'you and he', o- 'he, they' (also 'I, you and he').

2. Personal pronouns referring to the possessor, the subject of stative (nonagentive) intransitive verbs, and direct object, as well as the subject of intransitive verbs in dependent clauses, including forms identical with, or phonologically derivable from: čé 'I', né 'you', jané 'you and I', oré 'he and I', pe(ẽ) 'you and he' (also ačé 'I, you and he').

3. Relational prefixes including r-, which indicates that the determiner of the prefixed word is the word which immediately precedes, applicable to one class of words which includes 'eye', 'face', 'lower lip', 'blood', 'body', 'leaf', 'house', 'name'; for example, Tupinambá pajé r-esá 'shaman's eye', sjé r-esá 'my eye'.

4. The phoneme j [y] (or its alveolar or alveopalatal equivalents: [ž], č, dž, z) in words such as jačý 'moon', jakú 'guan (bird)', jý 'axe', jurú 'mouth', ajurú 'parrot', ja'ẽ 'clay pot', kujã 'woman', júb 'yellow', pajé 'shaman', pejú 'blow'.

5. The phoneme č [tš] (or c [ts], s, h, or zero) in words such as čý 'mother', čók 'larva', ču'ú 'chew, bite', -wačú, -učú 'large', -ubičáb 'great, important, chief', čám 'cord', ečá 'eye', čo'ó 'game animal'.

6. The phoneme c [ts] (or s, h, or zero) in words such as có 'go', cetá 'be many', ocenúb 'he hears it', pycacú 'new', pocáŋ 'medicine', pycýk 'grasp', pycá- 'night'.

7. The words itá 'rock' and eír 'honey, bee' with i (and not wi, kwi, or ky).

8. Basic vocabulary including forms phonologically derivable from: jacý 'moon', ybák 'sky', -atá 'fire', jepe'áb 'firewood', ybyrá 'wood', -apó 'root', ka'á 'jungle', -ecá 'eye', tĩ 'nose, beak', jurú 'mouth', namí 'outer ear', jybá 'lower arm', poti'á 'chest', -etymã 'lower leg', -o'ó 'meat', abá 'person, who?', ma'é 'thing, what', pirá 'fish', wyrá 'bird', kujã 'woman', pukú 'long', poráŋ 'beautiful', obý 'blue/green',

péb 'low, flat', *mokõj* 'two', *manõ* 'die', *me'éŋ* 'give', *je'éŋ* 'speak', *apó* 'make', *atá* 'walk', *-epják* 'see', *ma'ẽ* 'look'.

9. The word *petým* (and not *pé*) 'tobacco' (literally, 'planted tobacco').

CUMULATIVE INDEX TO VOLUMES 1–4

This index incorporates and supersedes the one published in Volume 3. Coverage has been extended and improved, and many new subjects have been indexed for all four volumes.

Bold italic numerals followed by a colon refer to volumes; plain Arabic numerals refer to pages; boldface page ranges in an entry indicate whole chapters devoted to that topic or written by that person. Thus '*1*: viii, 15, **33–127**; *2*: 73–9' means, 'in volume 1, pages viii and 15 and the entire chapter in pages 33 to 127 inclusive; in volume 2, pages 73 to 79 inclusive'. For very general topics like 'verbs', references to the general topic are first listed by volume ('*3*: 80, 127–9, 185, …') and then as subclassified by language (e.g., '(Guajajara) *1*: 410, 431') and by subtype ('benefactive verbs, *1*: 297, 585, 595').

The different spelling conventions of English, Spanish, and Portuguese give rise to many orthographic variations for names of languages (and tribal groups). Systematic regularization has not been attempted here, and alternate spellings for names of languages are not covered exhaustively. Some nonstandard spellings are included where difficulties in identifying languages might arise, but in addition it will be helpful to bear in mind the following alternations when searching for a language name:

b ~ v	*c ~ k*	*c ~ s*	*ch ~ tx*	*g ~ j*
gu ~ hu ~ w	*j ~ h*	*x ~ sh*	*y ~ j*	*z ~ s*

A purely English case-insensitive alphabetical ordering is used: accents on vowel letters are ignored for alphabetization, so *ç* is equated with *c* and *ñ* with *n*. The prefixes "Mc" and "St." are alphabetized literally (not equated with "Mac" and "Saint").