INDIANA

WOLF DIETRICH

MORE EVIDENCE FOR AN INTERNAL CLASSIFICATION OF TUPI-GUARANI LANGUAGES

Die vorliegende Studie – eine
vergleichende linguistische Unter-
suchung zu den Tupi-Guarani-
Sprachen – sucht die genetischen
Beziehungen zwischen den ein-
zelnen Idiomen dieser indiani-
schen Sprachfamilie Südamerikas
aufzuhellen. Im Vergleich von
neueren und neuesten Daten aus
29 dieser Sprachen stützt der
Autor sich auf 17 phonetische
und phonologische sowie auf 34
morphologisch-grammatische
Kriterien, jeweils ausgewählt nach
ihrer Aussagefähigkeit hinsicht-
lich der „konservativen" Nähe zum
bzw. der „innovatorischen" Entfer-
nung vom rekonstruierten „Proto-
Tupi-Guarani". Dieses seinerseits
wird nicht als eine spezifische
oder einheitliche Sprache auf-
gefaßt, wie auch die verändern-
den Ein- und Nachwirkungen von
Sprachen anderer Herkunft in
Rechnung gestellt werden. In
einem detaillierten Abgleich
zwischen den verschiedenen Kri-
terien und zwischen den einzel-
nen Sprachen gelangt der Autor
zu einer neuen Binnen-Klassifika-
tion, in der sich u.a. auch eine
deutliche Gliederung in eine süd-
liche und eine amazonische
Gruppe bestätigt.

INDIANA

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MORE EVIDENCE FOR AN INTERNAL CLASSIFICATION OF TUPI-GUARANI LANGUAGES

BEITRÄGE ZUR VÖLKER- UND ALTERTUMSKUNDE,
SPRACHEN-, SOZIAL- UND GESCHICHTSFORSCHUNG
DES INDIANISCHEN LATEINAMERIKA

APORTES A LA ETNOLOGIA Y ARQUEOLOGIA,
LINGÜISTICA, SOCIO-ANTROPOLOGIA E
HISTORIA INDIGENAS DE AMERICA LATINA

CONTRIBUTIONS TO THE ETHNOLOGY AND ARCHAEOLOGY,
LINGUISTICS, SOCIAL ANTHROPOLOGY AND HISTORY
OF INDIGENOUS LATIN AMERICA

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FOR MARTA

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1. OBJECTIVES OF THE STUDY

1.1. In recent years reliable data on Tupi-Guarani languages, both lexical and grammatical, have become available to a much higher degree than before. Thus the possibilities of comparative linguistics in this family have increased considerably since the times of the first competent classifications[1], which were those of Aryon Dall'Igna Rodrigues and Bernard Pottier. In spite of the enormous amount of new data obtained within the last twenty five years, we are still far from having sufficient information about many of the Tupi-Guarani languages; sometimes it is even too late, because languages are simply dying out, as is the case of Guarasu-Pauserna. But Aryon D. Rodrigues and his disciples have been trying to establish the historical relationship between Tupi-Guarani languages on the basis of recently published and unpublished material (see especially Rodrigues 1984/85 and Ch. Jensen 1984), reconstructing with increasing trustworthiness different stages in the evolution of Proto-Tupi-Guarani languages[2].

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[1] We shall mainly consider Tupi-Guarani languages (in terms of Rodrigues 1958b), not Tupi-Guarani stock, perhaps with the exception of Awetí and Sateré-Mawé, which Rodrigues (1984/85:35) considers as "aberrant", but see below 8.2.2. and 9.2.6.

[2] It seems to be more reasonable to think of languages in the plural and not only of one PTG (Proto-Tupi-Guarani). Experience in the field of Indo-European languages has shown that the reconstruction of a single proto-language is only a

1.2.1. In this paper I will consider linguistic evidence from phonology and morphology for internal classification of Tupi-Guarani. Lexical coherence has been shown by various authors, including Lemle (1971), although her first aim was a phonological classification. Leite (1982) studied the place of Tapirapé within the Tupi-Guarani family on the basis of vowel changes. It is evident that the grouping of languages depends on the criteria applied. Rodrigues, for instance, showed that the traditional division of the family into Tupi and Guarani languages, which was founded on the conservation of -s- in Tupi and its change to -h- in Guarani, is not sufficient for a genetic classification and that lexical comparison leads to quite different results (Rodrigues 1964:103). Rodrigues' recently published paper on the "Internal relationship within the Tupi-Guarani language family" (Rodrigues 1984/85) is based on evidence from historical phonology.

1.2.2. Ultimately, the purpose of the present study will be a genetic grouping, too, because the criteria for the comparison of phonetic, phonological, and morphological properties were mostly chosen according to the principle of conservation or loss of a feature of one of the "classical" languages of the family, that is, of Tupinambá (Old Tupi) and Avañe'ẽ (Modern Paraguayan Guarani). Questions of genetic relationship are also involved when we

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hypothetical construct, but may never have been a historical reality.

consider innovations unknown in one of the "classical" languages[3].

2. DATA BASIS AND METHODS

2.1. We include 29 languages in the phonetic and phonological comparison. Here the available data are just sufficient in some cases, but others must be excluded from the morphological study because of lack of information; this is the case of Xetá, Guarasu-Pauserna, Canoeiro. Moreover, our information is rather incomplete for Awetí and Sateré-Mawé morphology and grammar. The languages and dialects taken into general consideration are:

Southern languages (Paraguay and South-Eastern Brazilian areas)

Tb: Tupinambá (Rodrigues 1955, 1958, 1959; Lemos Barbosa 1956)
Av: Avañe'ẽ or Paraguayan Guarani (Guasch 1956, 1961/62)
Ap: Apapocuva (Nimuendaju 1914)

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[3] We are not concerned with the distinction between languages and dialects. We could say that Apapocuva is a dialect of Mbyá, Avañe'ẽ an elaborated dialect of Kaiwá, and that Chané and Izoceño-Tapyi are dialects of Chiriguano; but as we will see, there are many degrees of relationship, and it is difficult and rather useless to say to which one we have to apply the distinction of 'language' versus 'dialect'. Generally, there are no widespread languages of such prestige, to which others could politically or culturally be subcategorized as dialects.

Mb: Mbyá (Dooley 1982, 1990; Meader 1961; Ramos and Martínez 1984)
Kw: Kaiwá (Bridgeman 1961, 1976, 1981; A. Taylor 1962; J. Taylor 1961, 1976)
Xt: Xetá (Rodrigues 1978)
Gk: Guayakí (Cadogan 1965, 1968)

Bolivian languages

Ch: Chiriguano-Ava (Dietrich 1986)[4]
CT: Chiriguano-Tapyi or Izoceño or Izozo (Schuchard 1979, Dietrich 1986)
Gy: Guarayo (Hoeller 1932a, 1932b)
Ps: Pauserna or Guarasû (Riester 1972)
Si: Siriono (Schermair 1958, 1962; Priest and McQuilkin Priest 1965)

Northern or Amazonian languages

Wa: Wayãpi of French Guiana (Grenand 1980, 1989)
WJ: Wayãpi of the Jari River/Brazil (Olson 1975, 1976, 1977; R. Olson 1978; A. Jensen 1982; Ch. Jensen 1984)
Em: Emérillon (A. Jensen 1979; Navet 1987)
Cn: Canoeiro (Harrison 1974; Rivet 1924)
AsT: Asurini of Trocará/Tocantins River (Harrison 1971, 1975; Nicholson 1975a, 1975b, 1976a, 1976b, 1982)
AsX: Asurini of the Xingu River (Nicholson 1982)

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[4] Tapiete is very closely related to Chiriguano and has to be considered one of its dialects; it seems certain that the Tapiete got their language from the Chiriguano-Ava (see Dietrich 1986:201-202). Another dialect is Chané, which is also closely related to Chiriguano-Ava (see Dietrich 1986: 199-201).

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Te: Tembé (Boudin 1978)
Gj: Guajajara (Harrison 1986)
Ub: Urubú-Kaapor (Kakumasu 1986)
Tp: Tapirapé (Almeida et al. 1983; Leite 1977, 1982, 1987)
Pt: Parintintin (Betts 1981; Pease 1962, 1968; Pease and Betts 1971)
Kb: Kayabí (Dobson 1976a, 1976b, 1977a, 1977b, 1983a, 1983b, 1983c, 1983d)[5]
Km: Kamayurá (Saelzer 1974; Brandon and Seki 1981, 1984; Seki 1982)
Co: Cocama (Faust 1971, 1972)
Aw: Awetí (Fonini Montserrat 1976)
Jm: Juma (Pease 1977; Abrahamson 1984)
SM: Sateré-Maué or Mawé (Koch-Grünberg 1932; Nimuendaju 1929; Graham and Harrison 1984)[6]
PTG: reconstructed Proto-Tupi-Guarani.

The comparative results are shown in several separate matrices. A positive fulfillment of a criterion is marked by '+' and counted one point with regard to a correspondence in another language. Negative

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[5]) As Koch-Grünberg (1902:359) tells in his study about Apiacá, Kayabí seems to be closely related to Apiacá; Rodrigues (1984/85: 41) puts it together with Parintintin and Kawahíb, though with a question mark. But as there is no modern description of Apiacá, we do not include this language here.

[6]) There is not only a difference of time between the studies of Maué by Koch-Grünberg in 1932, Nimuendaju in 1929, and Graham and Harrison forty or fifty years later, but there may also be a difference between two dialects. However, there is enough to see that it is the same language.

answers are marked by '−' and counted null points in comparison with a '+' for the same criterion in another language, but one point for another '−'. Partial fulfillments are marked by '±' and counted half a point as compared to a '+' or '−'. Remote reflexes are marked by '≥' and counted 0.3 points as compared to '+' (see also sections 3.3., 4.1. and 8.1.).

I am greatly indebted to Aryon D. Rodrigues for giving me general and methodical hints, and to Cheryl Jensen, Yonne Leite, Lucy Seki, and Robert A. Dooley, who gave me precious information about the particular Tupi-Guarani languages of which they are specialists and thus filled many of the gaps I had had in my questionnaire. All remained errors, of course, are my own.

2.2. Besides comparison of recently collected data, it is most helpful to consider old descriptions of Tupi-Guarani from the Jesuitic times, above all the dictionary by Antonio Ruiz de Montoya (1639), which also serves as an exhaustive etymological dictionary for the modern languages.

3. PHONOLOGICAL CRITERIA

3.1. Technique of comparison

As a basis for the phonological and phonetic clas-
sification presented here[7], we took a lot of crite-
ria whose importance will be discussed at each
place. Some of the criteria allow a simple binary
answer, for example "Is word stress on the last
syllable of the root, yes or no?". But sometimes we
have a larger number of possibilities. For example,
if we ask "What is the reflex of intervocalic *-č-
of Proto-Tupi-Guarani?", we have five possibilities:
/č/, /c/, /s/, /h/, or ø. There may be also inter-
mediate solutions, as when we find languages with
final consonants on roots or suffixes, languages
without them, and languages which show only some
of the possibilities of other languages. For exam-
ple, Guarayo has a final -r, but no final -p, -b, -t,
etc.

3.2. First set of phonological criteria

3.2.1. Treatment of final consonants

Since Anchieta's grammar of Old Tupi (Anchieta
1595), the main characteristic of Tupi was held to
be the conservation of final consonants; these are

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[7]   We consider phonemes as well as allophones,
because the latter ones may be very important for
a language type. The distinction between prenasal
stops and nasal consonants is never phonological in
Tupi-Guarani languages; however, it distinguishes
languages where [mb] alternates with [m] according
to the oral or nasal surroundings from languages
where there is [m] in all contexts.

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lost in the Guaranian languages[8]: Old Tupi **aipysy̆k**[9] 'I caught, grasped' - Guarani **aipysy̆**. Montoya has many of the old final consonants, but not all of them: Instead of −k, −ng, −m, −n, −b, −r, he has only −g, −b, and −r. For instance, Montoya **ahupity̆g**

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[8] A more detailed description is to be found in Rodrigues (1945: 336−341 and 1986:30−31). Rodrigues found that ancient Northern Tupi always had final consonants, which were dropped in the South of Brazil and Proto−Guarani. The reflex of a dropped −n was a nasal vowel (**amán** 'cloud, rain' > **amã**). At the times of Montoya, Guarani was also dropping the final consonants; for example, Proto−Tupi **juky̆ra** 'salt'> Proto−Guarani **juky̆r** > Modern Guarani **juky̆**. Thus, Cocama, Parintintin, and to some extent, Tapirapé conserved the situation of Proto−Tupi; Tembé, Guajajara, Kayabí, Kamayurá, and others conserved that of Proto−Guarani.

[9] In order to make possible a comparison of the sounds, we use a standardized transcription, substituting some of the symbols used by the original authors, especially ⟨y⟩ for the high central vowel [ɨ] (which may be ⟨ɨ⟩, ⟨i⟩, ⟨ü⟩, etc. in the original texts); ⟨kw⟩ for ⟨ku−⟩, ⟨cu−⟩; ⟨w⟩ for ⟨hu−⟩; ⟨j⟩ for [y]; ⟨c⟩ for ⟨ts⟩; ⟨ch⟩ for ⟨č⟩ or ⟨x⟩; ⟨x⟩ for [š]; ⟨ŋ⟩ for ⟨g̃⟩ or the like; ⟨'⟩ for the glottal stop [ʔ]; ⟨β⟩ for the bilabial fricative [β], ⟨ś⟩ for a palatalized [s], and ⟨ë⟩ for Schwa. ⟨ ⟩ mean orthographic symbols. Word stress is marked by ' on oral vowels. The symbol ˜ marks unstressed and stressed nasal vowels. In oxytone languages the last syllable marked by ˜ indicates nasalization and stress; in paroxytone languages, ˜ on the penultimate syllable marks nasalization and stress. In all other cases the symbol ˜ marks unstressed nasal vowels.

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'I reached him' – Gy **acupíty** – Pt **aupitýg**. How-
ever, final –r and –b are used only with suffixes:
Montoya **aá** 'I fell, was born' – **aarisé** 'I nearly
fell'; **ahasá** 'I crossed, passed by' – **ndahasábi** 'I
did not cross'; **che–raý** 'my son' – **nda che raýri** 'I
don't have sons'. Montoya notes the lexical stems
as **aá(r)**, **tasá(b)**, and **taý(r)**.

In modern languages, final consonants are fully
preserved in Em, Cn, AsX, Te, Gj, Kb, Km, Aw,
Jm, and SM. In Urubú there is no final –b, –p, nor
–n, and final consonants drop if in contact with
initial consonants of the following word: **Mani'ok
jande japirok** [mani'ó jandé japirók] (cf. Kakumasu
1986:400). AsT shows in some way the pattern des-
cribed in Montoya: AsT **ke(r)** 'sleep' appears as
oké 'he, she, it sleeps, slept', but **okén–ta** 'he, she,
it will sleep', because –r alternates with –n (Har-
rison 1971:45). The only final consonants are –m,
–n, and –w; in all other cases the final root con-
sonant is followed by a vocalic suffix, so that in a
given text these final consonants do not appear at
the ends of words. The same observation can be
made for Parintintin and, less strictly, for Tapi-
rapé. Cocama has preserved all the old final conso-
nants, but added the substantive marker –a to all
nominal stems; all verbs also have developed a
non–etymological vocalic ending. Therefore, in spite
of all superficial appeerence, we mark +Cocama for
"final consonants". For Wayãpi we know that there
were final consonants in the last century, but
nowadays they have been dropped completely. The
two dialects of Asurini disagree in this respect.
The Xingu dialect preserved final consonants,
whereas the Trocará dialect shows the distribution
described above.

Avañe'ẽ sometimes has reflexes of a former final consonant. For example **apáy** 'I awoke' corresponds to Montoya **apág**, Old Tupi **apák**, Pt **yi apági**.

3.2.2. Word stress

Our second important phonetic criterion is word stress. This is not only an impressive suprasegmental phenomenon, but can cause the occurrence of syncope. Languages with word stress on the final syllable are less frequently subject to syncope than languages which changed stress to the penultimate. Many authors agree that in Tupi-Guarani languages there is often an important sentence or even text stress besides the word stress, which is many times suppressed or changed in a given context. On the other hand, in Brazil and adjacent areas there seems to be a firmly established opinion that Tupi-Guarani languages are characterized by heavy final word stress. This opinion was and is due to the knowledge of the "língua geral" in Brazil and of Guarani in Paraguay. For a long time, missionaries and ethnologists who had contact with languages of the Tupi-Guarani family other than Tupi or Guarani itself, thought that these languages were only dialects of the "língua geral" or of Paraguayan Guarani. So it seems that they often did not consider that there could be a different word stress. We find names of tribes written with final stress, like Sirionó, Tapieté, Oyampí; the respective languages actually have word stress on the penult and should be stressed Sirióno, Tapiéte, and Wayãpi[10].

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[10]   Paraguayan ethnologists who studied Chiriguano in the Chaco and in Bolivia called it Guaraní

The more we know about Tupi-Guarani, the more we see that there are many languages with word stress on the penultimate syllable: Chiriguano, Guarayo, Siriono, Pauserna – all languages of Bolivia – but it is true also for such remote languages as Cocama, Asurini (AsT and AsX), Wayãpi (Wa and WJ), and Xetá. We are not sure about Emérillon, as neither Jensen (1979) nor Navet (1987) give any information about this problem. In the matrix in Section 3.3 hypothetically we mark –Emérillon for "stress on the last syllable". The case of Canoeiro is contradictory. We find final stress in most words of Rivet's list (Rivet 1924), but it is on the penult in most cases in Harrison 1974; we follow Harrison.

A major problem is how to describe stress in Parintintin and Tapirapé. The root is oxytone, but words in a given syntagma are nearly always paroxytone because of unstressed suffixes and suffixoids added to nearly every word. As in Cocama, there is no change of stress. In Parintintin there is not even a shade of syncope. Historically, these languages go together with Tupinambá, Tembé, Kayabí, Kaiwá, and so on. On the other hand, the real phonetic impression is that of paroxytone languages. So we give half a point in the comparison and mark ± for "oxytone word stress".

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and notated all their words with final stress. We may explain this by self-delusion due to the abovementioned opinion or by the behavior of Chiriguano informants who knew Guarani and wanted to show that they, too, were Guarani by using its characteristic final stress.

3.2.3. Syncope

Certain criteria relate to the stability of word structure in relation to syncope of unstressed syllables. Here we distinguish somewhat intuitively between "strong", "slight", and "no syncope". We marked the first alternative, for example, in the case of Wa **a–jáo** or Co **ta–jáchu** 'I cried' (bisyllabic root) versus trisyllabic Av **a–jahe'ó**, Pt **a–cháa'a** 'I cried'; or Ch **mbápy** 'three' versus Gy **mbocápy** or Km **moapy̆** 'three'. We marked "slight syncope" whenever there remained at least a nonsyllabic element of the dropped syllable, as for instance in Te **a–zaj'ó** or Tp **achajhá** 'I cried', where ancient –he– remained as –j; and we also marked it whenever there was a simplification of a final unstressed diphthong: Av **uhéj** versus CT **úe** 'thirst', Av **apurahéj** versus CT **apuráe** 'I sing and dance', Av **jary̆i** versus CT **járy** 'grandmother'.

3.2.4. Nasality

One of the most characteristic properties of Tupi–Guarani languages is the existence of phonologically relevant nasality. Thus, absence or change of nasality is an important distinctive feature. Yet we did not consider the fact that nasal vowels simply are much more frequent in languages without final consonants than in those which maintained them: Compare Km **ame'eŋ** and Av **ame'ẽ** 'I gave it', Km **pety̆m–a** and Av **pety̆**, Ch **pẽty**. We listed two different criteria in the matrix, one positive ("Existence of phonological nasality") and one negative ("Changed nasality"). There is no phonological nasality in both varieties of Asurini, Pauserna, Tembé, Guajajara, and Cocama. In some languages we find nasal syllables which are oral in the majority of Tupi–Guarani languages, and vice

versa. This is the case especially of Tapirapé: Tp **achãók** 'I went swimming' vs Wa **ajáu**, Si **achásu**, AsT **we-cháhoŋ**, Av **ajahú**; Tp **kyg** 'bone' vs Xt **kã**, Ch **kãwe**, Kb **kaŋ**. Xetá has some spontaneous nasality corresponding to orality in other languages (see Rodrigues 1978: 10); the same phenomenon can be observed in Urubú: Ub **ihẽ** 'I' vs **(i)jé, ché** in most other languages. Guayakí has not been studied well with regard to phonology, but in every case there seems to be less nasality than in other languages: Gk **ŋwe** 'to bring out, get out' vs Av **anohẽ**, Ch/ CT **anõe**, Te **anuhém**, Pt **ano'ẽ**; Gk **cho nopá** 'I stroke, beat' vs Km **anupã**, Av, Gy **ainupã**. Sateré-Mawé seems to have practically no nasality according to Graham and Harrison (1984), but there is traditional nasality in the word list given by Koch-Grünberg (1924). In the absence of better information, we mark it ± in the matrix.

3.2.5. Prenasal stops

Most of the Southern, Guaranian languages are characterized by a merely phonetic distinction between prenasal stops and nasal consonants. The first ones occur in oral contexts, the latter ones in nasal contexts, as in Ch/CT **nde-júru** 'your mouth' vs **ne-rãi** 'your teeth'. Many of the Northern languages do not show this distinction, like Wa, Te, Gj, Tp, Kb, Km, Co, SM, and AsT. Others show it only in the middle of words, but not in initial syllables, like Jm and AsX. Alternatingly, others have prenasal stops as allophones independently of oral or nasal context, as in Ub (see Kakumasu 1986: 399). In these situations we mark it ±.

3.2.6. Distinction between [j] and [ñ]

Analogously to the distinction between prenasal stops and nasal consonants, we find one between nasal and oral palatal fricatives depending on the context: Av **ñe'ẽ** 'word, speech' vs **ajú** 'I came', but Kb **je'eŋ** the same as **jurú** 'mouth'; CT **añemongéta** vs Ch **ajemyngéta** 'I spoke'. Among the Northern languages Juma is the only one to show a differenciating reflex both here and in the case of prenasal stops. Pt and Km distinguish [j] and [ñ], together with all Southern and Bolivian languages of this family, except Gk and Ps, but, on the other hand, Pt and Km do not have prenasal stops. In Ch, WJ and Tp we find indistinctively [j] and [ñ] in nasal contexts, whereas in Wa the nasal allophone is rather unusual (see Grenand 1980:33).

3.2.7. Distinction between [w] and [gw]

Still in analogy to the distinctions observed in 3.2.5. and 6., we find the maintenance of the allophone [gw] mostly in Southern languages and its confusion with /w/ in all Northern languages with the exception of Pt and Jm. Among the Southern languages only Xt, Gk, Ch, and Ps show this "Northern" feature: Av/Mb/Kw **gwyrá** 'bird', CT/Gy **gwỹra**, Pt **(g)wỹra** vs Xt/AsT/AsX/Co **wỹra**; CT **agwédjy** 'I descended, got off' vs Ch **awéjy**, Wa **awỹjy**. But Xt seems to preserve [gw] in intervocalic position, where we find, for instance, **agwíche** 'I got down, off'.

3.2.8. Treatment of *$/j/$

Most Southern languages of the family preserve *$/j/$ as [j], whereas it frequently changes to [č], [dž], [z] (in Tembé), or even [s] (in AsT) in

Northern, "Amazonic" languages. In SM */j/ seems to be dropped (SM a-re-pot-auká vs Ch a-poro-júka 'I used to kill people, I am a murderer'; we marked "-" with regard to the non-preservation of [j] and subtracted one point more if there was a further change from [č], [dž], [z] to [s], as in AsT. Clearly opposed to the strengthening of an original /j/ is its dropping in SM; this was counted twice in order to set off the opposite development.

In Aw the reflex of */j/ is [t]: Aw ta'wát 'jaguar' vs CT jágwa, Ch jáwa, Km jawát, which all mean 'jaguar'; Av jagwá, AsT cháwa(r), Te zawár all mean 'dog', and Co jawára seems to have both meanings; Aw itát 'lord' vs Ch/CT/Wa íja 'its, his lord', Av/Mb/Co jára, Te zar. In Si we have [t'] or [tj] from */j/, which is a strengthening and therefore is marked as ± preservation of [j]": Si tjasi 'moon' vs Pt jáhy, Km jaẏ, Ch jásy, Ps djáhy. We did not count the slight reinforcement of /j/ to [d'] or [dj] (see Ps/CT djáwa 'jaguar').

One example may show the evolution in all the languages: PTG ajuka 'I kill(ed)' becomes Tb/Av/Mb/Kw/Gk/Ub/Kb/Km ajuká 'I kill(ed)', Ch/CT/Gy/Pt/WJ ajúka, AsX adžóka, AsT asóka, Em/Jm adži-ka, Wa aíka 'I kill(ed)', (whereas Wa júka means 'death, dead'), Te/Gj azuká, Co t-ajúka, Tp atjoká or achoká. In Xetá we find ñchoi 'toad', which corresponds to Av ju'í 'frog', and ogwíche, which is the same as CT ogwédjy 'he/she/it got down, off'. Canoeiro shows [č], as can be seen in Cn chakár 'caiman' (compare Ch/CT jakáre) or cháwar 'jaguar'. Some languages have allophones in complementary distribution, so Pt has [j] in unstressed syllables and [dz], [dž], or [č] in stressed ones. In the same contexts CT has [j] and [dj].

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3.2.9. Glottal stop

The existence of the glottal stop ['] is an impressive phonetic characteristic of Av, Mb, Kw, Gy, and all the Northern languages, except Cocama. So this criterion is quite fit for showing a geographic and a typological grouping. Most of the languages with strong syncope do not have the glottal stop, as in Xt, Gk, Ch, Ps, Si, and Co; among all these only Gk is oxytone.

3.2.10. Treatment of */p/

Some languages change */p/ before back rounded vowels. Si in most cases drops it completely, as for instance in **auã** 'I got up' vs Ch **apũa**, Te **apu'ám**, Mb **apu'ã**; Si **aíka-íka** 'I am pleasant, obliging, I laugh' vs Ch/CT/Wa **apúka**, Co **t-apúka**; Si **úa-te** 'it is finished' vs Av/Kw/Mb **opá**, AsT **ópam**, Te **upáw**. Sometimes original */p/ is [h-] in Si (**hóko** 'long' vs Gy **púku**). There are some words with initial [p-] in Si, but most of them are onomatopoetic (see Schermair 1958:288). Kb changes /p/ to [f] before [u] and [w]: Kb **wafukaíta** 'he shouted' (see Dobson 1977b:4,167) vs Ch/CT/Wa/Pt **opúka** 'he laughed'; Kb **nga ifareté** 'he tied him', **ka'í nga ofár iré** 'after Monkey tied him' (see Dobson 1977b:10,45) vs Mb **ojokwá**, Ch/CT **ojókwa**, but Km **ohwát** (< PTG *o-pwar). In Km the reflex of /p/ before [u] and [w] is [h]: **n-o-huka-ité awá** 'he does not laugh' (see Seki 1982:25) vs Av **ndo-pukái**; Km **jẽ-hwa** 'my hand' vs Ch/CT **che-poãka**, Pt **ji-pũa** 'my finger'; Km **i'yhwapé** 'his claw' vs Te **pu-apé**, Wa **poapẽ**, Gy **poãpẽ**, Ch **pãpe**; Km **hukú** 'long', Si **hóko** vs Pt **pukú**, Ch/CT/Gy **púku**, Co **i-púku**. The only partial preservation of /p/ in Kb and Km is marked + "preservation of */p/" in the matrix.

3.3. Matrix of comparison

For practical reasons we must establish several separate matrices. The following matrix shows only the comparative results based on the criteria surveyed so far. We use the following abbreviations:

FC: Preservation of final consonants
LS: Stress on last syllable of roots
SS: Strong syncope
SlS: Slight syncope
NS: No syncope
Nas: Existence of phonemic vowel nasality
ChN: Change in original nasality
PN: Preservation of the distinction between prenasal stops and nasal consonants
j/ñ: Preservation of the distinction between [j] and [ñ]
[gw]: Preservation of the distinction between [gw] and [w]
[j]:   Preservation of /j/ as [j]
[']:   Existence of the glottal stop
[p]:   Preservation of */p/ as [p].

There is a problem in counting the number of similarities and differences in the case of syncope. As there are three possible solutions for this single criterion, the identical behavior of two languages in this regard will give them three points of similarity. On the other hand, the comparison of two completely opposed languages would not allow any point at all and, thus, make differences in this field too great. Therefore, we come to the following solution: In the case of comparing a strong syncope language with a no syncope language, strong syncope implies slight syncope. Thus, we count one and a half points for the comparison between a "SS" language and a "SlS" language and

one point between a "SlS" language and a "NoS" language.

	FC	LS	SS	SlS	NS	Nas	ChN	PN	j/ñ	[gw]	[j]	[']	[p]
Tb	+	+	-	-	+	+	-	+	+	+	+	+	+
Av	-	+	-	-	+	+	-	+	+	+	+	+	+
Ap	-	+	-	-	+	+	-	+	+	+	+	-	+
Mb	-	+	-	-	+	+	-	+	+	+	-	+	+
Kw	-	+	-	-	+	+	-	+	+	+	+	+	+
Xt	-	-	+	±	-	+	±	+	+	-	-	-	+
Gk	-	+	+	±	-	±	+	±	-	-	+	-	+
Ch	-	-	+	±	-	+	-	+	±	-	+	-	+
CT	-	-	±	+	±	+	-	+	+	+	+	-	+
Gy	±	-	-	-	+	+	-	+	+	+	+	+	+
Ps	-	-	+	±	-	-	-	-	-	-	+	+	+
Si	-	-	+	±	-	+	-	+	+	+	±	-	-
Wa	-	-	±	+	±	+	-	-	±	-	+	+	+
WJ	-	-	±	+	±	+	-	±	+	-	-	+	+
Em	+	-	+	±	-	+	-	+	-	-	-	+	+
Cn	+	-	±	+	±	+	-	±	-	-	-	+	+
AsT	±	-	-	-	+	-	-	-	-	-	--	+	+
AsX	+	-	±	+	±	-	-	±	-	-	-	+	+
Te	+	+	±	+	±	-	-	-	-	-	-	+	+
Gj	+	+	±	+	±	-	-	-	-	-	-	+	+
Ub	±	+	+	±	-	+	±	±	+	-	+	+	+
Tp	±	+	±	+	±	+	+	-	±	-	-	+	+
Kb	+	+	±	+	±	+	-	-	-	-	+	+	±
Pt	±	±	-	-	+	+	-	+	+	+	-	+	+
Jm	±	+	±	+	±	+	-	±	+	+	-	+	+
Km	+	+	±	+	±	+	-	-	+	-	+	+	±
Co	±	-	+	±	-	-	-	-	-	-	-	-	+
Aw	+	+	+	±	-	+	-	±	-	-	+	+	+
SM	+	+	±	+	±	±	-	-	-	-	++	+	+

The matrix will be analyzed together with the following ones in chapter 4.

3.4. Second set of phonological criteria

3.4.1. Treatment of */č/ and */c/

An important feature for characterizing Tupi-Guarani languages is the reflex of PTG *č and *c, both in intervocalic and in initial position. Rodrigues (1984/85) used this feature as a basis for his classification. Jensen (1984:18-19) explains the actual reflexes in Wayãpi as results of a series of weakenings of the original */č/ > /c/ > /s/ > /h/ > ∅, and this is certainly true for all the other languages. Each language displays a different state within this general movement. We follow Rodrigues (1984/85) when he observes language groups formed by either separate developments of PTG *č and *c or their fusion to only one phoneme. But we make some slight corrections in his grouping and, moreover, we distinguish between internal and initial position.

Separate developments characterize all Southern languages with the exception of Tb and Gy; all Northern languages, together with Tb, CT, Ps, and Si, show the fusion of the two phonemes. Different degrees of phonologic conservatism lead to the following subgroups:

Group I. Languages which preserve PTG */č/ as [č], [c] or [s] and present separate solutions for PTG */c/.

Ia) Mb, Gk, and Xt still have the reflex [č] in internal position, whereas PTG */c/ > ∅ in both positions. Initial */č/ shows solutions different from medial position. In each of the following paragraphs we first treat medial *-/č/- (*-/č/-),

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then medial *-/c/- (*-/c/-), then initial *-/č/-
(*/č/-), and */c/- (marked */c/-):

Examples for Mbyá: Mb jachỹ 'moon' < PTG *jachy,
achỹ 'his ache, illness' < *cachy, achú 'left hand' <
*achu, aachá 'I crossed it' < *aachaβ, apychá
'(sense of) hearing' < *apychá, ro'ychã 'cold' <
*ro'ychãm, (t/r)achó 'worm' < *(t/r)achó, gwachú
'big' < *guachú, achẽ 'I went out' < *achẽm, kyché
'knife' < *kyché. The reflex of *-/c/- is ∮ in
Mbyá: oó 'he went' < *oco, moapỹ 'three' < *moca-
pyr, pyáu 'new' < *pycacu, kwaraỹ 'sun' < *kuara-
cy, taỹ 'ant' < PTG *tacy, but che–rechá 'my eyes'
< *ije–recá, which may be influenced by the verb
aechá 'I saw it' < *aepjak. Initial *č– is [č]: Mb
chy 'mother' < *chy, chu'ú 'to bite' < chu'ú, chã
'string' < *cham, chyrỹ 'to slip, flow' < *chyrỹk,
and the reflex of */c/- is ∅: Mb e'ẽ 'it is sweet/
salty' < *ce'em, ovỹ 'it is green/blue' < *coβy,
evo'í '(kind of) worm' < *ceβo'í.

Examples for Guayakí: Gk jachỹ 'moon', achỹ 'pain',
jachú 'left hand', pychỹ 'to grasp' < *pychỹk, pychá
'hearing', achó 'worm', wachú 'big', kychí 'knife'.
The reflex of *-/c/- is ∅: Gk oó 'to go', poú
'new', tayrẽ 'ant', but we find cha 'eyes', which
seems to have been treated as if *č was initial, as
in chu(u) 'to bite', chã 'string', chyrỹ 'to go away,
leave', whereas *c– became ∅: ẽ 'it is sweet/spicy',
akú 'it is hot', wẽ 'to go out' < *aẽ < PTG *acem,
where, contrary to Mbyá, *c has been treated as
initial; [w] originally served to delete the hiatus.

Reflexes of medial *-/č/- in Xetá: Xt y ácha 'I
crossed the river', rãicha 'cold', –acho 'augmenta-
tive suffix' < *uchu 'big', whereas the reflex of
Xetá *-/c/- once more is ∅: pi'ó 'you (pl) went'.
Initial *č– is preserved as [č] (cha 'string', cho 'to

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bite'), whereas *c- is h-: **haméta** 'his lip plug' <
PTG *cemetar.

Ib) Apapocuva has changed *-/č̬/- to [c], *-/c/- to
ø: **jacy̆** 'moon', **acy̆** 'his ache', **aacá** 'I crossed it',
roycá 'cold', **gwacú** 'big', **acẽ** 'I went out', but
aipyy̆ 'I grasped it' shows a treatment of *-c- as
*-c-[11], as in **oó** 'he went', **mboapy̆** 'three', **kwaray̆**
'sun', but **che-recá** 'my eyes'[12]. Initial *c- becomes
[c] (**cy** 'mother', **ycã** 'string', **acy̆i** 'I ran', whereas
*/c/- becomes ø: **eẽ** 'it is sweet/spicy', **ovy̆** 'it is
green/blue'.

Ic) In Av, Kw, and Ch *-/č̬/- and */č̬/- are redu-
ced to [s], whereas *-/c/- has become [h] in Av
and Kw, but ø in Ch:

Reflexes of *-/č̬/- in Avañe'ẽ: **jasy̆** 'moon', **hasy̆**
'his ache', **ahasá** 'I crossed it', **asú** 'left hand',
apysá 'hearing', **ro'ysã** 'fresh', **tasó** 'worm', **gwasú**
'big', **asẽ** 'I went out', **kysé** 'knife', but we find
aipyhy̆ 'I grasped it', like **ohó** 'he went', **mbohapy̆**
'three', **kwarahy̆** 'sun', **pyahú** 'new', **tahy̆i** 'ant',
ajahú 'I bathed' < PTG *ajacuk, but **xe-resá** 'my
eyes'. The reflex of */č̬/- is [s] (**sy** 'mother', **su'ú**
'to bite', **syry̆** 'to run, flow', **sã** 'string'), whereas

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[11] Perhaps we have to reckon with different
forms in PTG, which cannot have been one real
unified language, *a-i-pychy̆k and *a-i-pycy̆k.

[12] In most Tupi-Guarani languages there are
forms of this lexical item which may not be ex-
pected phonetically, because either they are in-
fluenced by the verb *aepjak 'I see it' or once
more we have to suppose two different basic
forms, *-echa and *eca.

*/c/- behaves like *-/c/- if it is the 3 p marker
(he'ẽ 'it is sweet', hovỹ 'it is green/ blue'), but
shows the same reflex as */č/- in other cases:
sevo'í 'worm', so'ó 'meat'[13].

Reflexes of *-/č/- in Kaiwá are shown by jasỹ,
hasỹ, ahasá, asú, gwasú, asẽ, kysé, and reflexes of
*-/c/- by ohó, mbohapỹ, but —resá. For reflexes of
*/č/- and */c/- our examples do not differ from
those we chose for Avañe'ẽ.

Chiriguano–Ava examples in the same order are
jásy, hásy, aása, ásu, apỹsy, rõysa, táso, wásu, ai-
pỹsy 'I grasped it', but also kwarásy 'sun', whereas
ãe 'I went out' seems to derive from *acem, not
*achem in this case. Examples for *-/c/- > ø in
Chiriguano are óo 'he went', mbápy 'three', pyáu
'new', ajáu 'I bathed', but che–résa 'my eyes' and
tásy 'ant' < PTG *tachy. Initial */č/- > [s-] (sy,
súu, sỹry, sã), whereas */c/- > [s-] in lexical items
(sevói 'worm', sóo 'meat'), but > [h-] as a 3 p
marker: hẽe, hówy.

Group II. Languages which preserve PTG */č/ as
[c] or [s] both in internal and initial position

IIa) Co and Gy show [c] in each position both for

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[13]   It seems that the original stem of this word
is o'ó, being prefixed by r— for attributive function
and s— for 3d 'person', so that the prefix t— could
be used for personal undetermination. In some
languages s— was integrated into the lexical stem
(Av, Kw, Ch), and then h— marks the 3d person; in
Mb, Ap, Gy, and most of the Amazonian languages
the original situation was preserved. In any case,
s— derives from *c—.

•č and •c, whereas Aw has [t] in all cases, which we consider as a variant of [c]:

Co has the characteristics just described, but changes /c/ to [č] before /i/: jácy 'moon', cáchi 'ache, pain', ta—japechíka 'I grasp it', kẏchi 'knife'. Examples for the reflex of •-/c/- are úri úcu 'he goes', mucapiríka 'three', cacíwa 'ant', ta—jácu 'I bathe', ca-chica-kwára 'my eyes'. Initial •/č/- and •/c/- are always /c/, especially because the 3 p marker of a previous Tupi—Guarani language, which was certainly overtaken by the Cocamas, was integrated into the lexical stem: cúu 'meat', t—acyrẏka 'I float, flow', ci 'sweet', cáku 'heat, hot', ca 'hair', cúni 'to be black', chíta 'many'.

Guarayo reflexes of •-/č/- are evidenced by jácy 'moon', ácy 'ache, pain', acáca 'I crossed it', ácu 'left hand', apẏca 'hearing', roẏca 'cold', táco 'worm', gwácu 'big', aipẏcy 'I grasped it', ācē 'I went out', kẏce 'knife'. The same reflex is found for •-/c/-: óco 'he went', mbocápy 'three', pyácu 'new', tácy 'ant', ajácu 'I bathed', —réca 'eyes'; •/č/- > /c/ (cy 'mother', cúu 'to bite', cẏry 'to flee', cā 'string'), the same as •/c/-: cēē 'it is sweet/spicy', cóvy 'it is green/ blue', cóo '3 p-meat'.

Awetí reflexes of •-/č/-: tatẏ ipó = Tb sasẏ xe-pó 'my hand was aching', kyté 'knife', and •-/c/- e-qually > [t]: a-tó 'I go', mytátu 'new', aj-atúk 'I bathe', potẏje < PTG •pocyj 'heavy'. Initial •/č/- became [t] (tu'ú 'to bite'), the same as •/c/- (te'ē 'it is salty', t—akúp 'it is hot', t—āj 'his teeth').

IIb) Tb and Si show the reflex [s] in each position for PTG •č and •c:

Tupinambá reflexes of *-/č/-: jasy̆ 'moon', sasy̆ 'he is ill', apysá '(sense of) hearing', aipysy̆k 'I grasped it', guasú 'big', asém 'I went out'. Examples for *-/c/- > /s/ are osó 'he went', mosapy̆r 'three', ajasúk 'I bathed', −resá 'eyes'; for */č/-: sy 'mother', suú 'to bite', asyry̆k 'I slipped', sám(a) 'string'; for */c/-: seẽ 'it's sweet', sovy̆ 'it is green/blue', soó 'meat'.

Siriono reflexes of *-/č/-: tjási 'moon', se−rási te 'I am ill', a−tása (a−irása, a−diása) 'I passed through, crossed it', a−ísi 'I grasped it', e−rósẽj 'my worm', −kwásu, −kwáhu, −kwáu 'big', a−sẽ 'I went out'. Examples for *−/c/− > /s/ are: óso 'he went', e−iásu 'it is new, he is young', tási 'ant', a−chásu 'I bathed', −résa 'eyes'; for initial */č/-: si 'mother', a−síu 'I ate , bit it', sã 'string'; for */c/− suβúi 'worm', sóo 'meat'. The 3 p marker never is *c− in Siriono (see below 5.1.1.).

Group III. Languages which reduce PTG */č/ and */c/ to [h]

IIIa) CT, Ub, Te, and Gj show [h] in most positions, but also have examples of preservation of a previous stage characterized by [s] (CT, Ub, Gj) or [c] (Te) − though not in the same cases in these various languages − and of loss of *−/c/− (CT) and */c/− (Ub, Te):

Chiriguano−Tapyi reflexes of *−/č/-: jáhy 'moon', háhy 'he is ill', áhu 'left hand', rõyha 'cold', gwá−hu 'big', ky̆he 'knife', but aása 'I crossed it', apy̆sa 'hearing', táso 'worm' and ãe 'I went out', áipy/ aipy̆y 'I grasped it'; *−/c/− > /h/: óho 'he went', táhy 'ant', −réha 'eyes', but ∅ in mboápy 'three',

pyáu 'new', kwaráy 'sun', ajáu 'I bathed'[14]; */č/- >
/h/: sé-hy 'my mother' (but sy when isolated), húu
'to bite', ahẏry 'I ran, fled', but sã 'string'; */c/-
> /h/: hẽe 'it is sweet/spicy', hówy 'it is green/
blue', but sóo 'meat'.

Urubú reflexes of *-/č/-: ahẏ 'he is ill', apyhẏk 'I
grasped it', but asá 'to cross'. PTG *-/c/- likewise
becomes /h/ (ohó 'he went', mahapír 'three'),
whereas */č/- is preserved as /s/: su'ú 'to bite'.
As a 3 p marker initial */c/- sometimes has the
reflex /h-/ (hembé 'his lip', hamũi 'his ancestor'),
sometimes ø (ahẏ 'he is ill'), whereas lexical items
show [s-]: so'ó 'meat'.

Tembé reflexes of *-/č/-: zahẏ 'moon', hahẏ 'he is
ill', ahúr 'left hand', apyhá 'hearing', tahók 'worm',
-uhú 'augmentative suffix', apyhẏk 'I grasped it',
kyhé 'knife'; PTG *-/č/- is preserved as [c] in
aacáw 'I crossed it', ruwycáŋ 'cold', wacú 'big'.
Examples of *-/c/- are ohó 'he went', pyahú 'new',
tahẏw 'ant', azahák 'I bathed'. Initial */č/- is [h]
in hy 'mother', but [c] in acyrẏk 'I slipped' and [t]
in ati'ú 'I bit it'; */c/- is /h/ in grammatical func-
tion (he 'it is sweet/spicy', huwẏ 'it is green/
blue'), but ø in lexical stems (oó 'meat').

Guajajara reflexes of *-/č/- are /h/ in uhua'ú 'he
is big', uhém 'he arrived' < PTG *ochem 'he went
out', takihé 'knife', but w-asaasáw 'he poked holes'

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[14]   As the Izoceño-Tapyi overtook their language
from the Chiriguanos (Dietrich 1986:19-24, 198-
201), they actually could not preserve a reflex of
*-/c/-, where there was none in Chiriguano-Ava.
Nevertheless, there are some particular cases which
need a more detailed explanation.

(Harrison 1986:435), which we consider as a reduplication form of **asáw** < PTG **ˑachaβ** 'to cross'. The reflex of ˑ-/c/- is /h/ (**ohó** 'he went'), and initial ˑ/c/- is likewise /h/ as a 3 p marker (**huryweté** 'he is happy').

IIIb) Ps, Pt, Jm, AsT, AsX, and SM(?) show /h/ solutions in most cases, sometimes ∅, but never [c] nor [s]:

Pauserna-Guarasu reflexes of ˑ-/č/-: **djáhy** 'moon', **apíha** 'hearing', **hóhoi** 'worm', **úhu** 'big', **kíha** 'knife', and likewise -/c/- > /h/ (**óha** 'he went', **-réha** 'eyes'); ˑ/č/- > /h/ (**hy** 'mother'), the same as ˑ/c/- (**ihóvi** 'blue').

Parintintin reflexes of ˑ-/č/-: **jahỹ** 'moon', **hahỹ** 'he is ill', **aháv** 'I crossed it', **apỹha** 'hearing', **-ahóg** 'grub, seed, sperm', **-(au)hú** 'big', **apyhỹg** 'I grasped it', **ahém** and **ãˑē** 'I went out', **kyhéˑi** 'knife'. Examples of ˑ-/c/- > /h/ are **ohó** 'he went', **mbohapỹr** 'three', **pyahú** 'new', **tayví** 'ant', **ajahúg** 'I bathed', but **ji-rea-kwár** 'my eyes'. Initial ˑ/č/- generally is changed to /h-/ (**hy**, but also **y** 'mother', **huˑú** 'to bite', **ham** 'string'), but ˑ/c/- is lost: **eˑē** 'it is sweet', **ovỹ** 'it is green/blue', **aˑó** 'meat', **evóˑi** 'worm'.

Juma reflexes of ˑ-/č/-: **háhy** 'he is ill', **-hu** 'augmentative', **apyhỹg** 'I grasped it', **ahém** 'I went out'; ˑ-/c/- becomes /h/ in **ohó** 'he went', but ∅ in **-rea-kwára** 'eyes'; initial ˑ/č/- > /h/ (**ihỹ** 'ˑ(his?) mother', **hahỹ** 'he is having pain'), and likewise ˑ/c/- (**hahỹ, heˑē** 'it is sweet/spicy', **haˑó** 'meat').

Reflexes of ˑ-/č/- > [h] in Asurini of Trocará: **sahỹa** 'moon', **háhy** 'ache, pain', **aáham** 'I crossed it', **apỹha** 'hearing', **apỹhyŋ** 'I grasped it', **-óho**

'big', kẙhe 'knife'; of *-/c/-: áha 'I went', ịjáho 'new', acháhoŋ 'I bathed', ipohói 'heavy', kwarahẙa 'sun'; */č̌/- is [h] in hy 'mother', but ø in oó'o 'he bit (him)'; */c/- is preserved as [h] in grammatical function (hé'e 'it is/smells good', hákom 'it is hot', but seems to be lost in lexical items (ewó'i 'worm').

Reflexes of *-/č̌/- in Asurini of Xingú River: džá-hy/džahẙa 'moon', háhy 'ache, pain', aóhap 'I crossed it', apẙhyk 'I grasped it', -óhu 'big', kẙhe/kẙ'e 'knife', but also apẙa '(sense of) hearing'. *-/c/- > /h/: áha 'I went', ịjahówa 'new', ipohói 'heavy', kwaráhy 'sun'. Initial */č̌/- > [h] in hy 'mother', but is lost in oó'o 'he bit (him)'; */c/- > [h] (ha-ków/hakóp/okúp 'hot, ill', hé'e 'it is/smells good'), but > ø in éta 'much, many', ewó'i 'worm'.

Our information about SM is incomplete, because we do not have examples of the development of PTG *-/č̌/-. All we can see is that */c/- seems to show a stronger, more conservative reflex, [t], than *-/c/- (> [h]): a-re-tem 'I go out' and a-re-to 'I go' must be considered as initial treatments of */c/, whereas -eha 'eye' as well as ahenoi 'I teach', henoi 'he teaches' (as opposed to i'atu-enoi 'they teach') have to be interpreted as internal treatments.

IIIc) Within the group of languages which is characterized by general /h/ reflexes of both */č̌/ and */c/, Km has a particular position because of the frequent loss of both ancient phonemes:

Kamayurá reflexes of *-/c/-: apyhẙk 'I grasped it', but jaẙ 'moon', kye'iá 'knife'. The result of *-/c/- is /h/ in ohó 'he went', hyhá 'ant', but ø in moa-pẙt 'three', -reá 'eyes'; */č̌/-becomes /h/ in hãm

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'string', but ø in **au'ú** 'I bit (it)'; */c/-> /h-/ as a
3 p marker: **heá** 'his eyes', **het** 'his name', **hapó**
'its root'.

Group IV. Languages which generally reduce both
*/č/ and */c/ to ø

The extreme position is shown by Kb, where the
loss is complete, whereas Wa, WJ, Em, Cn, and Tp
are less uniform by showing positive solutions ([č,
c, s, h]) in certain cases.

IVa) Reflexes of *-/č/- in French Guayana Wayãpi
are shown by **jáy** 'moon', **áy** 'ache, pain', **apỹy** 'I
grasped it', **awẽ** 'I went out'; of *-/c/-: **oó** 'he
went', **maapy** 'three', **pyáu** 'new', **kwaráy**'sun', **−réa**
'eyes'. Initial */č/- > ø (e−y 'my mother'), but we
find **sú'u** 'to bite', **só'o** 'game, meat'. Initial */c/-
likewise is lost (**áku** 'it is hot', **áy** 'he is ill', **ée**,
but also **hée** 'his name'; **húu** 'his father').

Reflexes of *-/č/- in Wayãpi of Jari River: **jáy**
'moon', **áy** 'ache, pain', **apỹy** 'I grasped, bought it',
aẽ 'I went out', but **(a)ása** 'I met (him), passed
(somewhere)', **−wásu** 'big', **kỹse** 'knife'. Examples of
the loss of *-/c/- are **óo** 'he went', **moápy** 'three',
(in the Wayãpi dialect of the Amaparí River we
find **mosápy**, see Jensen 1984:41), **pyáu** 'new', **po'ỹi**
'heavy', **kwaráy** 'sun', **−réa** 'eyes'. Initial */č/- > ø
in **y** 'mother', **oỹry** 'it flowed', **ã** 'string', but [s] in
sú'u 'to bite', and **sówy** '(it is) blue' must derive
from *č**ówy**, whereas its basis is **cówy** in other
languages (see Ch. Jensen 1984:19); */c/- is gener-
ally lost in lexical items (**e'ẽ** 'sweet', **ewó'i** 'worm',
ó'o 'meat', but **só'o** 'game'), but is preserved as [h]
as a 3 p marker in monosyllabic words: **he** 'his
name', **ho**, 'its leaf', **ha** 'its feather'.

Emerillon reflexes of −/č/−: dzáy 'moon', oem 'he
went out', but apyhy̆k 'I caught it', −'uhu 'augmen−
tative'; reflexes of −/c/−: mbapy̆t 'three', pyokátu
'new', −réa 'eyes', but póhi 'heavy'. As in WJ,
initial ·/č/− is lost in e−y 'my mother', but is [c]
in cú'u 'to bite'. Initial ·/c/− is lost in polysyllabic
words (erékwa 'his wife', akú 'it is hot'), but is
[h] in monosyllabic words (het 'his name').

Canoeiro reflexes of ·−/č/−: cháy 'moon', itaky
'knife', nté−re 'your eyes'. We lack examples of the
reflex of ·−/c/−; ·/č/− > ∅ (tupá'am 'string', but
we find ochécu 'he bit (it)', which may be ex−
plained as a reflex of PTG ·/i/ + /c/ (see below
3.4.2.). Initial ·/c/− seems to be generally lost
(á(a)ku 'it is hot'), but we find cha'á 'its fruit'.

Tapirapé reflexes of ·−/č/−: chã'y 'moon', chãó 'left
hand', wehyaám 'I crossed it'. PTG ·−/c/− is also
generally lost: ãá 'I went', maãpy̆t 'three', tãy̆p
'ant', ãchãók 'I bathed', −rẽá 'eyes', but rahy̆
'febrile'. Initial ·/č/− is lost in y 'mother', ahá
'meat', ohó 'to bite'; ·/c/− > ∅ in polysyllabic
words (emé 'his lip', akóp 'it is hot', ẽã 'his
eyes'), but > [h] in monosyllabic words: het 'his
name', hy̆j 'his teeth', hap 'its leaf'.

IVb) Kb shows reduction to ∅ in each position;
PTG ·−/č/−: ay̆ 'ache, pain', py̆y̆k 'to grasp', a−y−
aa−pa 'they crossed the water', ũ'ẽ 'they left', uẽ−
ma 'they came out'; ·−/c/−: oó 'I went', −reá
'eyes'. Initial ·/č/− > ∅ (je−y̆ 'my mother', o'ó
'meat', and equally ·/c/− > ∅ (kynar−ét 'her name',
wan−eá 'their (fem) eyes').

In the matrix we mark the reflexes generally oc−
curring for each language. Reflexes which occur
only exceptionally are marked ±.

3.4.2. Treatment of /i/ + */č/ and /i/ + */c/

There is a phonetic rule which prevents the weakening of PTG */č/ and */c/ when preceded by /i/, so that it remains [č] even where *č is generally reduced to [c, s], or it is preserved as [s] where *č became [h]: Tb xe-sy, but ixy 'his mother', sã vs ixã 'his string', suú vs aixuú 'I bit (him, it)'; Ch ché-sy vs íchy, sã vs ichã, súu vs aichúu; CT sé-hy vs ísy. Strange enough, the rule does not work in Av (isy, isã, aisu'ú), but there are ixupé, ixuguí inherited probably from Old Tupi ixupé, ixuí, where the postpositional elements supé 'to, for' and suí 'from' were prefixed by i-. Mb does not show any of these forms, and Kw does not have the mechanism in verb forms, because we find oisu'ú 'he bit him'. In Ap we find at least ichy 'his mother'. In Xt we have, for example, hawícha 'big, chief' (see Tb ubixába 'big') and rãicha 'cold'. Gy shows its usual traditional character: íchy, ichã, aichúu, and aichóo 'I extended' vs cóo 'to extend'. Among the Northern languages only WJ has −ichú'u vs sú'u.

An example of the mechanism */i/ + */c/ > /ič/ can be seen in the forms of the 1 sg person pronoun PTG *ice: Mb cheé, Ch/Gy che, Tb (i)xé, Av xe, Ps/CT/Si se vs Wa/WJ/Km/Tp ijé, Kb je, Pt jí-hi, Em/AsX idžé (where *c is lost and /j/ avoids the hiatus), SM u−itó vs Te/Gj ihé, Ub ihẽ (where /h/ avoids the hiatus).

3.4.3. Existence of /h/

The next criterion is in connection with the preceding ones. Tupi-Guarani languages can be grouped according to the existence of /h/ or its absence, because reducing *č or *c to ∅ is a feature which contrasts very much with conservative languages in

this regard. Languages which lack /h/ must have morphophonemic problems, because /h-/ is the traditional prefix of the 3d person for roots of the H-class. Lack of /h/ is found in Northern langua- ges like Cn, Kb, Co, Aw, Si, and partly in Wa, WJ and Tp, where only some monosyllabic words have the h- prefix (see above 3.4.1.). Mb, Ap, and Gk can be said to share this "Northern" characteristic.

3.5. Matrix of comparison

In the following matrix we use these abbreviations:

[č]:   the reflex of PTG *č or *c is [č]
[c]:   is [c]
[s]:   is [s]
[h]:   is [h]
-ø-:   is ø
c- :   the reflex of PTG *č- or c- is [č]
c- :   is [c]
s- :   is [s]
h- :   is [h], ø- = is ø (3.4.1.)
ič :   /i/ preceding PTG *č or *c prevents weak-
        ening of these phonemes (3.4.2.)
/h/:   existence of /h/ (3.4.3.)

	[č]	[c]	[s]	[h]	-ø-	č-	c-	s-	h-	ø-	ič	/h/
Tb	−	−	+	−	−	−	−	+	−	−	+	+
Av	−	−	+	+	−	−	−	+	+	−	−	+
Ap	−	+	−	−	+	−	+	−	−	+	±	−
Mb	+	−	−	−	+	+	−	−	−	+	−	−
Kw	−	−	+	+	−	−	−	+	+	−	±	+
Xt	+	−	−	−	+	+	−	−	+	−	+	+
Gk	+	−	−	−	+	+	−	−	−	+	+	−
Ch	−	−	+	+	+	−	−	+	+	−	+	+
CT	−	−	−	+	+	−	−	+	+	+	+	+
Gy	−	+	−	−	−	−	+	−	−	−	+	+
Ps	−	−	−	+	±	−	−	−	+	−	−	+
Si	−	−	+	−	−	−	−	+	−	−	−	−
Wa	−	−	−	−	+	−	−	+	−	±	−	±
WJ	−	−	±	−	+	−	−	±	±	±	+	±
Em	−	−	−	±	+	−	+	−	±	+	−	+
Cn	−	−	−	−	+	+	−	−	−	+	−	−
AsT	−	−	−	+	+	−	−	−	±	+	−	+
AsX	−	−	−	+	+	−	−	−	±	+	−	+
Te	−	−	−	+	±	−	+	−	+	±	−	+
Gj	−	−	−	+	±	−	−	−	+	±	−	+
Ub	−	−	±	+	±	−	−	+	+	−	−	+
Tp	−	−	−	±	+	−	−	−	±	+	−	±
Kb	−	−	−	−	+	−	−	−	−	+	−	−
Pt	−	−	−	+	±	−	−	−	+	±	−	+
Jm	−	−	−	+	±	−	−	−	+	+	−	+
Km	−	−	−	+	+	−	−	−	±	+	−	+
Co	+	+	−	−	−	±	+	−	−	−	−	−
Aw	−	+	−	−	−	−	±	−	−	±	−	−
SM	−	−	−	+	−	−	±	−	+	−	−	+

The matrix will be analysed below (4.) together with the preceding and the following one.

3.6.   Third set of phonological criteria

3.6.1.   Treatment of */pw/

Our next criterion regards the preservation or further development of the nexus PTG */pw/, which occurs especially in the suffix *-pwer 'past tense' or 'perfective aspect'. Therefore, our criterion is the reflex of *-pwer in Tupi-Guarani languages: It is unchanged in Tb, AsX, and Kb, whereas it became -kwe in most other languages; the reflex -we of Gk was considered a variant of -kwe, whereas its reduction to -ke in Si, Wa, and probably in Jm and Aw was marked as a different development. It does not seem to exist at all in Co, so that conformity or disagreement with this phonetic and, at the same time, morphological criterion could not be counted in this case. Information about SM is not sure.

3.6.2. Treatment of /t/ + /i/

Another important criterion to show the phonetic stability of a Tupi-Guarani language is that of /t/ followed by /i/, Here, too, we may find different forms of palatalization, that is reducing the stop to a sibilant [-si-] or an affricate [-či-] or [-ci]. In some languages there seems to be a correspondence between the assibilation of the nexus -ti- and the pronunciation of /j/ as an affricate or sibilant (see 3.2.8.): Both features are found in Mb, Xt, Wj, Em, Cn, AsT, AsX, Gj, Tp, once more a confirmation of the Northern shape of Mb and Xt phonology. On the other hand, Te, Pt, and Jm, which do not preserve [j], here show their character as, phonologically, traditional languages. Si reinforces /j/ to [tj] (**tjási** 'moon') and has -ši- reflexes: **iwáši** 'corn' vs Av **avatí**, Ch/ CT **awáti**; **e-dišíi** 'shoulder'

vs Ch/CT **atíy, ší** 'white' vs Te **tǐng,** Av **moroti̇̀,**
and by this once more displays its scarce phonol-
ogic stability.

3.6.2.1. The languages which preserve –ti– are Tb
(**aβatí** 'corn', **tínga** 'white'), Av (**avatí, tǐ, ati'y**
'shoulders'), Ap (**awatí**), Kw (**awatí, nontǐni** 'he is
not ashamed' ≈ Av **nomotǐni**), Gk (**waté/waché**
'corn', but only **chǐ** 'white'), Ch/CT (**awáti, tǐi,**
atíy, hāti 'its horn'), Te (**awatí, tǐŋ, hatí**), Pt
(**awatí, tǐŋ, hatǐ**), Co (**awati, tini**), Aw (**tǐŋ**), Jm
(**awatía, tǐa** 'nose', **akytí** ≈ Ch **aikỹti** 'I cut it'),
SM (**awatí**).

3.6.2.2. The –si– reflex is found in Ps (**awáśu, pisía**
'chest', **moróšu** 'white'), Si (**awási, e–así'y** 'my
shoulders', **e–rāmaší** (nte) 'my horn', **ší**), Wa (**awási,**
jami–rasǐ 'horn', **sǐ**), WJ (**awási, sǐ, posí'a** 'chest'),
AsT (**awasía, hásia** 'his horn', **siŋ, oap'ysi** ≈ Ch
oñap'yti, WJ **aapásǐ** 'he tied it'), Kb (**awasí, sǐ**
'point, tip', **tatasǐŋ** 'smoke' ≈ Av **tatatǐ,** Ch/CT
tatāti, Gy **tatāchi**).

3.6.2.3. Four Northern languages have a –ci– reflex,
though one of them, Canoeiro, as we have seen,
does not show only this solution. The other lan-
guages are Em (**awáci, ciŋ** 'white', **cǐ** 'nose', **tata-**
cin 'smoke'), Gj (**ciŋ, siŋ** 'white', **he kicí/kisí** 'he
cut me'), Km (**awací, cíɲa** 'white', **cína** 'nose', but
tatasíŋ 'smoke').

3.6.2.4. The –ǰi– reflex is equally distributed in
Southern and Northern languages, but as the pre-
servation of –ti– is less universal in Southern than
in Northern languages, the –ci– reflex, too, must
be considered as a chiefly Northern innovation. It
can be found in Mb (**awachí, pochi'á, chǐ** 'nose,
tip', **chiǐ, achǐ** 'something prominent'), Xt (**awāchi**

'fog' ≈ Ch **ywỹti**), Gk (**waché** 'corn', **achĩ** 'horn', **jachí** 'on shoulders'), Gy (**awáchi, añapỹchi** 'I tied it', **pochía, amõchi** 'I ashamed s.o.' ≈ Ch **amõti** 'I was ashamed'), Cn (**chĩ** 'nose', but **póci** 'chest', **awáchi**, but **ãci** 'horn'), AsX (**awáchi, háchi, chiŋ, oapỹchi** (≈ Gy **añapỹchi**), **okỹchi** 'he cut it' (≈ AsT **okỹsi**)), Ub (**awaxí**)[15]; Tp (**hãwãchĩ, achĩ** 'horn', **chĩ** 'nose', **achĩ** 'he was ashamed').

3.6.3. Vowel shift

3.6.3.1. Vowel shift may characterize languages as much as consonant shifts. They have been studied for some languages in a detailed manner (see Leite 1982). In this study we are interested in the following features which we mark ± if they occur only in unstressed syllables:

"Existence of /u/", which is a negative characteristic of AsT, Tp, and partly of Xt: AsT **soówa** vs AsX **džu** 'thorn'; Tp **rot** vs Ap/Mb/Pt **ru** 'to bring'; Xt **akóto** vs ChCT **aikútu** 'I pierced it'; AsT **serorywéte** vs AsX **dže–ruwéte** 'I am glad'.

"Distinction of /i/ – /y/ and /a/ – /y/", which negatively separates Si and mostly Ps from the rest of the languages (Mb/Te **py'á** vs Ps **pía**, Si **e–ía** 'heart, soul'; Av **jy'ỹ** vs Xt **ñco** 'rainbow'). As Priest (1987) showed, Siriono does not have /y/ in words where this phoneme appears in cognate languages.

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[15] Information is not sure, because we only found this example, which may be a loanword, and there are several particles with [ti], like **tĩ** 'also', and **tipé** 'in vain'.

"Distinction of /a/ – /o/", which negatively char-
acterizes Xt, Kb, Tp, and Km in front of many
other languages (Tb, Av, Ap, Kw, Gk, Gy, Ps, Si,
Cn, Te, Ub, Pt, Aw), for instance Tp **ahá**, AsX
á'aa vs Si **sóo** 'meat', but there is large number of
languages where the two phonemes are neutralized
in unstressed syllables (Av **aporavyký** vs Ch/CT
aparawýky 'I worked, took pains (about s.th.)').

"Weakening of /a/ or /y/ to [ë]" is a feature
which characterizes Gj, but which occurs in condi-
tions that have not yet been studied sufficiently:
Gj **ēmēn** 'rain' ≈ Ps **amã**, Km **amaŋ**, Pt **aman**, AsX
amýna; Gj **i-ēkým** 'he/she got wet' ≈ Ch **iñãky**, Si
ñaáki, Gj **tēpúz** 'house' ≈ Av/Pt **tapýi**; Gj **kuzē**
'woman' ≈ Te **kuzē**, Km/Pt **kuñã**, Ch/ CT/Gy **kũña**,
AsT **kócho**. Tembé reduces /a/ to [ë] in originally
nasal contexts: Te **tētē** 'hard' ≈ Av **tatã**, Ch/CT
tãta, co **táta**, Si/Wa **ãtã**; Te **të'ýi** 'seed(s)' ≈ Av
ta'ỹi, Kb **-a'ỹi**. This feature, together with the loss
of nasality, makes Tembé very similar to Guajajara.
In Xt there is a rounding of /y/ to [ë] in conson-
antal surroundings, as it looks like: Xt **kēche** 'to
be in fear' ≈ Av **kyhyjé**, Ch/CT/Wa **kýje**, Si **sikítje**,
sikíche, Co **akýcha**; Xt **ēwa** 'earth, soil' ≈ Wa/AsT-
/Ch **ywy**, whereas /y/ is preserved in vocalic con-
texts: Xt **póy** 'heavy' ≈ Ch/CT **póy**, Av **pohýi**. We
mark this feature by ± for Xt and Te, because the
weakening seems to be less general than in Gj.

3.6.3.2. Within the modern languages, Av, Kw, Gy,
Cn, Te, and Pt seem to be those with the utmost
vocalic stability. Their unstable counterparts are
especially Xt, Ps, Si, AsT, AsX, Gj, Tp, and Co.
Most of the other Amazonian languages show a
mid-position , whereas in the South Gk, Ch, and,
though far less, Ap and Mb have some minor in-
novations. In general, Amazonian languages are

more subject to vowel shift than Southern langua-
ges.

3.6.4. Treatment of */k/

Only in one case we included a feature which does
not occur in more than one language: Awetí is
characterized by the fact that there is a change of
/k/ > [c] before palatal oral vowels and of /k/ >
[t] before palatal nasal vowels. This contributes to
give Awetí its particular phonetic shape: Aw i-ecé
'come in!' vs Av eiké, Ch/CT/Wa éike; Aw oténtap
'door' vs Te ukén, Av okẽ.

3.7. Matrix of comparison

In the following matrix we use these abbreviations:

pw:	the reflex of PTG *pwer is −pwe(r)
kw:	is −(k)we
ke:	is −ke (3.6.1.; '0' means lost of the suffix)
ti:	"preservation of [t] preceding /i/"
si:	"PTG */t/ + /i/ > [si]"
ci:	"PTG */t/ + /i/ > [ci]"
či:	"PTG */t/ + /i/ > [či]"
/u/:	"Existence of /u/"
i/y:	"Distinction of /i/ and /a/ vs /y/ preserved"
a/o:	"Distinction of /a/ vs /o/ preserved"
[ë]:	"Weakening of /y/ or /a/ > [ë]"
[k]:	"Preservation of /k/ as [k]".

	pw	kw	ke	ti	si	ci	či	/u/	i/y	a/o	[ë]	[k]
Tb	+	−	−	+	−	−	−	+	+	+	−	+
Av	−	+	−	+	−	−	−	+	+	+	−	+
Ap	−	+	−	+	−	−	−	+	+	+	−	+
Mb	−	+	−	−	−	−	+	+	+	±	−	+
Kw	−	+	−	+	−	−	−	+	+	+	−	+
Xt	−	+	−	−	−	−	+	−	±	−	±	+
Gk	−	±	−	±	−	−	+	+	+	+	−	+
Ch	−	+	−	+	−	−	−	+	±	±	−	+
CT	−	+	−	+	−	−	−	+	+	±	−	+
Gy	−	+	−	−	−	−	+	+	+	+	−	+
Ps	−	+	−	−	+	−	−	+	±	+	−	+
Si	−	−	+	−	+	−	−	+	−	+	−	+
Wa	−	−	+	−	+	−	−	+	+	±	−	+
WJ	−	+	−	−	+	−	−	+	+	±	−	+
Em	−	+	−	−	−	+	−	+	±	±	−	+
Cn	−	+	−	−	−	+	+	+	+	+	−	+
AsT	−	+	−	−	+	−	−	−	+	±	−	+
AsX	+	−	−	−	−	−	+	+	+	±	−	+
Te	−	+	−	+	−	−	−	+	+	+	±	+
Gj	−	+	−	−	−	−	−	+	±	±	+	+
Ub	−	+	−	−	−	−	+	+	+	+	−	+
Tp	−	+	−	−	−	−	+	−	+	−	−	+
Kb	+	−	−	−	+	−	−	+	+	−	−	+
Pt	−	+	−	+	−	−	−	+	+	+	−	+
Jm	−	−	+	+	−	−	−	+	+	±	−	+
Km	−	+	−	−	−	+	−	+	+	−	−	+
Co	0	0	0	+	−	−	−	+	±	±	−	+
Aw	−	−	+	+	−	−	−	+	+	+	−	−
SM	0	0	0	+	−	−	−	+	±	±	−	+

4. RESULTS OF PHONOLOGICAL COMPARISON

4.1. If now we count the number of agreements between all the phonetic and phonological criteria in each language, we will get the rate of phonetic coherence between the languages. We give one point for every agreement between two languages with regard to the same criterion, no matter if it is an agreement between two positively or two negatively marked criteria. Half a point is given for every agreement between a positive or negative answer and a positive answer of limited validity, marked by ±. Thus, the possible maximum rate, which would mean phonological identity within the bounds of our criteria, is 37 points.

4.2. The following table shows the phonological agreements between all compared languages in a ranking which goes from the highest rates down to the lowest ones. The most important result of the phonetic and phonological comparison are not only the groupings formed by the languages of great phonological similarity, but is also the shape of coherence each language shows with all other languages. There are languages which show very high rates of coherence with at least one or even with several other languages, and there are those which seem to be far less conspicuous by showing only a moderate rate of coherence, for instance not more than 29 points. And last there is a group of languages with a rather low rate of maximal coherence, that is with a maximum under 26 points. We can also see that high rate languages, like Tb, Av, Kw, AsT, Te, Gj, and Pt, generally show a more differenciated coherence with the other languages than moderate rate languages, as for instance Ap, Gy, WJ, AsX, because the latter ones do not have rates lower than 18 or 17 points.

High rate languages have a very specific phonetic shape, whereas moderate rate languages are less characterized and may be regarded as connecting links between well defined extremes. On the other hand, low rate languages, like Xt, Gk, Si, and Co, are characterized by a defective coherence with other Tupi-Guarani languages. It may be surprising that languages like Awetí and Sateré-Mawé are not more divergent from the average Tupi-Guarani phonetic shape than Urubú and less than Xt, Gk, Si, and Co.

4.3.

Tupinambá	Avañe'ẽ	Apapocuva
	35.5 Kw	
31.5 Kw		
30 Av	30 Tb	
	28.5 CT	
		28 Mb
27.5 Gy	27.5 Ub	27.5 Gy/Pt
27 Pt	27 Pt	27 Kw
	26.5 Ap/Gy/Jm	26.5 Av
		26 CT
25.5 Ap/CT		25.5 Tb
24.5 Jm	24.5 Ch/Te	
	24 Km	24 Aw/Cn
23.5 Ch/Ub/SM	23.5 Mb	23.5 Jm/WJ/Gk
	23 WJ	
22.5 Mb/Si/Kb/Aw	22.5 Ps	22.5 Km
22 Wa/WJ	22 Wa	22 Kb/Ch
	21.5 Si/Gj	21.5 Te/Em
21 Te/Km	21 AsT	21 Wa/Tp
20.5 AsX	20.5 Aw	
	20 Em/Tp	20 AsT/Si/Ps/Ub
	19.5 AsX	19.5 Co/SM
19 AsT/Em		
18.5 Gk/Cn	18.5 Cn/Kb	
		18 Xt/AsX
17.5 Gj/Tp	17.5 Xt	
17 Ps	17 Gk	17 Gj
	15.5 Co/SM	
15 Co		
14.5 Xt		

Mbyá	Kaiwá	Xetá
	35 Av	
	31.5 Tb/Pt	
	30 CT	
28 Ap	28 Ch	
27.5 Pt		
	27 Ap/Gy	
26 Gy/Tp	26 Jm	
25.5 WJ/Gk		25.5 Ch/Gk/WJ
25 AsT/Cn		25 Tp
24.5 Jm		24.5 Mb/Gj
24 Kw/Xt	24 Mb/Wa/Te/	24 CT/Ub
23.5 Av	23.5 WJ Ub	23.5 Em/Ps
23 CT/Kb	23 Km	
22.5 Tb/Wa/Em/ AsX/Km	22.5 Ps	
	22 Si	
21.5 Gj		21.5 AsT
21 Ub	21 AsT	21 Gy/Cn/AsX/ Pt/Km
20 Te	20 Gj/Aw	
	19.5 Em/Tp	19.5 Si/Wa/Jm/Co
19 Aw/Si		19 Ap/Kw
18.5 Co	18.5 Cn/Kb	18.5 Te
	18 Xt/AsX	
17.5 Ch/Ps	17.5 Gk	
		17 Av
	16.5 SM	16.5 Kb
		15.5 SM
		15 Aw
14.5 SM	14 Co	14.5 Tb

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Guayakí	Chiriguano-Ava	Chiriguano-Tapyi
	33 CT	33 Ch
		30 Kw
	28.5 Ps	28.5 Av/Pt
	28 Kw	28 WJ
		27.5 Jm
	27 Ub	
	26.5 WJ	26.5 Ps/Ub
		26 Ap
25.5 Mb/Xt	25.5 Em	25.5 Tb
	25 Av/Xt	25 Gy
24.5 Cn/Tp/Aw	24.5 Wa/Pt/SM	24.5 Wa/Km
	24 Si/Gj	24 Xt/SM
23.5 Ap/Kb/	23.5 Tb/Km	23.5 Em
23 Ps/WJ	23 Te/Jm	23 Mb/Si/AsX
22.5 Ch/Ub/AsX	22.5 Gk/AsX	22.5 Te/Gj
22 Te/Wa	22 Ap/Gy	22 AsT
21.5 CT/Km		21.5 Gk/Cn/Tp
21 Em/Co	21 Tp	
	20.5 AsT	
20 Gy	20 Cn	20 Kb
19.5 Jm/SM		
19 Gj	19 Kb/Co	
18.5 Tb/Si/Pt	18.5 Mb	
18 AsT		18 Aw
17.5 Kw		17.5 Co
17 Av		
	16 Aw	

Guarayo	Pauserna	Siriono
	28.5 Ch/Gj	
	28 Te	
27.5 Tb/Ap		
27 Kw/Pt	27 AsT/Ub/SM	
26.5 Av	26.5 CT	
26 Mb	26 Em/Wa	26 Wa
	25.5 WJ/AsX	
25 CT/Cn	25 Wa/Km	
24.5 WJ	24.5 Pt	
		24 Ch
23.5 Ps/Em/Wa	23.5 Xt/Gy/Si/Kb	23.5 Ps/WJ
	23 Av/Gk/Jm/Co	23 CT
22.5 Km	22.5 Kw/Cn/Tp	22.5 Tb
22 Ch/Te/Aw		22 Kw/Ub/Aw
21.5 Ub/Jm	21.5 Aw	21.5 Av
21 Xt/AsT/AsX/Tp		21 Em/Kb
		20.5 Jm
20 Gk/Si	20 Ap	20 Ap/Gy/Pt
19.5 SM		19.5 Xt/Cn/Co
19 Kb		19 Mb
18.5 Gj/Co		18.5 Gk
	17.5 Mb	
	17 Tb	17 AsX/SM
		16.5 Gj
		16 Tp/Km
		15.5 AsT
		14.5 Te

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Wayãpi		Wayãpi (Jari)		Emérillon	
				31.5	Cn
31	WJ	31	Wa		
29.5	Kb			29.5	AsT
				29	Gj
		28.5	AsT		
		28	CT/Tp	28	Km
		27.5	Cn	27.5	AsX/Te
		27	Em/Km	27	WJ
26.5	Jm	26.5	Ch/AsX/Ub/Kb		
26	Ps/Si/Km	26	Pt	26	Ps
25.5	Cn/Ub/AsX/	25.5	Mb/Xt/Ps/Jm	25.5	Ch/Tp
25	Tp Aw	25	Te/Gj		
24.5	Ch/CT/AsT	24.5	Kw/Gy	24.5	Ub/Kb/Aw
24	Em/SM			24	Wa/Pt/Jm
23.5	Gy	23.5	Ap/Si	23.5	Xt/CT/Gy/SM
23	Gj	23	Av/Gk	23	Co
22.5	Mb			22.5	Mb
22	Tb/Av/Kw/Gk/	22	Tb		
	Te/Pt			21.5	Ap
21	Ap			21	Gk/Si
20	Co	20	Aw/SM	20	Av
19.5	Xt			19.5	Kw
		19	Co	19	Tb

Canoeiro	Tembé	Guajajara
	32.5 Gj	32.5 Te
31.5 Em		
		30 Km
	29 Pt	29 AsT/Em
	28.5 Jm/SM	28.5 Ps/AsX
28 AsX/Tp	28 Ps/AsX	
27.5 WJ	27.5 Em/AsT/Km	
27 Te/Kb	27 Cn	27 Jm/SM
26.5 Wa/Gj/Km		26.5 Cn/Tp
26 AsT	26 Ub/Tp	26 Pt
25.5 Wa		25.5 Ub
25 Mb/Gy/Aw	25 WJ	25 WJ
24.5 Ap/Gk	24.5 Av/Aw	24.5 Xt/Kb
24 Ub/Pt	24 Kw/Kb	24 Ch
23.5 Jm		
	23 Ch	23 Wa
22.5 Ps	22.5 CT/Co	22.5 CT
	22 Gk/Gy/Wa	22 Av
21.5 CT/Co	21.5 Ap	21.5 Mb/Aw
21 Xt	21 Tb	
20.5 SM		
20 Ch	20 Mb	20 Kw/Co
19.5 Si		
		19 Gk
18.5 Tb/Av	18.5 Xt	18.5 Gy
18 Kw		
		17.5 Tb
		17 Ap
		16.5 Si
	14.5 Si	

Urubú	Tapirapé	Asurini-Trocará
		31 AsX
	29.5 Km	29.5 Em
	29 AsT	29 Gj/Tp
		28.5 WJ/Pt
	28 WJ/Cn/AsX	
27.5 Av/Jm		27.5 Te
27 Ch/Ps/Tp/Km	27 Ub/Kb	27 Ps
26.5 CT/WJ/Pt	26.5 Gj/Jm	
26 Te	26 Mb/Te	26 Cn
25.5 Wa/Gj	25.5 Em	25.5 Km/Jm
25 AsX/SM	25 Xt/Wa	25 Mb
24.5 Em	24.5 Gk/Pt	24.5 Wa
24 Kw/Xt/Cn		24 Kb
23.5 Tb		
23 Aw		
22.5 Gk	22.5 Ps	
22 Si/Kb		22 CT
21.5 Gy	21.5 Ap/CT/Gy/SM	21.5 Xt/SM
21 Mb/AsT	21 Ch/Aw	21 Av/Kw/Gy/Ub
		20.5 Ch
20 Ap	20 Av	20 Ap
	19.5 Kw	
		19 Tb
		18.5 Co
		18 Gk
	17.5 Tb/Co	
		17 Aw
16.5 Co		15.5 Si

Asurini (Xingu)	Parintintin	Kayabí
	31.5 Kw	
31 AsT	31 Jm	
		29.5 Wa/Km
	29 Te	
28.5 Gj	28.5 CT/AsT	
28 Cn/Te/Tp		
27.5 Em/Jm/Km	27.5 Ap/Mb	
27 Kb	27 Tb/Av/Gy	27 Cn/AsX/Tp
	26.5 Ub	26.5 WJ
26 WJ	26 WJ/Gj/Km	26 Aw
25.5 Ps/Wa		25.5 SM
25 Ub	25 Ch	
24.5 Pt/SM	24.5 Ps/AsX/Cn/Tp	24.5 Em/Gj
	24 Em	24 AsT/Te
		23.5 Gk/Ps/Jm
23 CT	23 SM	23 Mb
22.5 Mb/Gk		22.5 Tb
22 Ch/Aw	22 Wa	22 Ap/Ub
	21.5 Aw	
21 Xt	21 Xt	21 Si
20.5 Tb/Co	20.5 Kb	20.5 Pt
		20 CT
19.5 Av/Gy	19.5 Si	19.5 Co
19 Kw		19 Ch/Gy
	18.5 Gk	18.5 Av
18 Ap		18 Kw
17 Si	17 Co	
		16.5 Xt

	Kamayurá	Cocama	Juma
31			Pt
30	Gj		
29.5	Kb		
28.5			Te
28	Em/Jm		Km
27.5	AsX/Te/Tp		Av/CT/AsX/Ub
27	WJ/SM/Ub		Kw/Gj
26.5	Cn		Wa/AsT/Tp
26	Ps/Wa/Pt		WJ/SM
25.5	CT/AsT		Tb/Mb
25			Aw
24.5		Aw	Ap
24	Av/Kw		Em
23.5	Mb/Ch/Gy		Ch/Cn/Kb
23	Aw	Ps/Em	Ps
22.5	Ap	Te	Gy
22		SM	
21.5	Xt/Gk	Cn	
21	Tb	Gk	
20.5		AsX	Si
20		Wa/Gj	
19.5		Ap/Xt/Si/Kb	Gk
19		Ch/WJ/Jm	Xt/Co
18.5		Mb/Gy/AsT	
17.5		CT/Tp	
17	Si	Pt	
16.5		Ub	
15.5	Co	Av/Km	
15		Tb	
14		Kw	

Awetí		Sateré-Mawé	
		28.5	Te
		27	Ps/Gj/Km
26.5	SM	26.5	Aw
26	Kb	26	Jm
25.5	Wa/Jm	25.5	Kb
25	Cn/Te	25	Ub
24.5	Ap/Gk/Em/Te/Co	24.5	Tb/Ch/AsX
		24	CT/Wa/Pt
		23.5	Em
23	Ub/Km		
22.5	Tb		
22	Gy/AsX/Si	22	Co
21.5	Ps/Gj/Pt	21.5	AsT/Tp
20.5	Av/Tp	20.5	Ap/Gy/Cn
20	Kw/WJ	20	WJ
		19.5	Gk
19	Mb		
18.5	CT		
17	AsT	17	Si
		16.5	Kw
16	Ch	15.5	Av/Mb/Xt

4.4.   Grouping based on phonological criteria

4.4.1. The large number of phonetic and phonological criteria we considered in the comparison does not allow a clear grouping of all the languages studied. We can,however, establish four types of
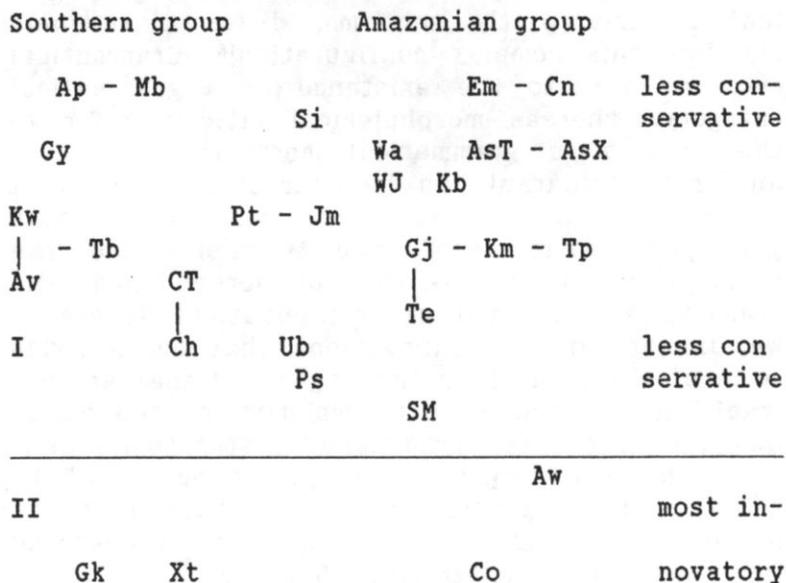
results: First of all, it is evident that high rates of agreement indicate close phonological relationship, which may also be evaluated as a statement of close cognate relationship or, at least, as stability with regard to phonological change. Thus, we can see that Tupinambá, Kaiwá, and Avañe'ẽ are close cognates and show a maximum of phonological stability, whereas Mbyá and Apapocuva are close to one another with a high, but not extreme rate of 28 points of agreement, and their phonological coherence with Tb, Kw, and Av is below this level. On the other hand, we see close relations not only between languages of the same area, but also between Southern languages, like Tb, Kw, and Av, together with Ap and Mb, and languages of the Amazonian basin, and especially Parintintin.

Most of the Amazonian languages of the Tupi-Guarani family listed above are, however, all related phonetically with one another, but not with Southern languages. Exemplifying this are Em and Cn, AsT and AsX, Te and Gj, which not only form three small closely related subgroups, but also show low rates of agreement with Bolivian or Southern languages of the same family. Tp, Kb, and Km are well integrated into the Amazonian language group as there is a certain phonic affinity between each of these three languages as well as between them and AsX, and between Tp, Kb, Cn and WJ. Yet they do not show exclusive coherence with definite subgroups. Juma, for instance, correlates clearly with Parintintin. Sateré-Mawé seems to have some affinity to Te, Gj, Km, Aw, as well as to Ps. Both dialects of Wayãpi are close cognates. Even though both show no particular phonetic affinity to any other group, WJ has 28 points of agreement with CT and Wa 26.5 with Si, both of which belong to the Bolivian area group.

Within the languages of the Bolivian area, Ps is the only one to show more affinity to Amazonian than to Southern languages. Gy is close to Tb, Ap, Kw, Av, as well as to Pt, whereas both dialects of Chiriguano show, on the one hand, a high rate of mutual coherence, but do not behave in the same way with regard to other languages. Both are close to Kw, but CT exhibits a slightly more conservative character, with regard to stable languages like Av, Pt, WJ, than Ch. It is, however, also important to see that they have some affinity to the phonological shape of Amazonian languages, too.

Low rate languages do not share most of the traditional, i.e. inherited specific phonic characteristics of the language family. They are phonetically aberrant with regard to the majority of the languages. This applies especially Xt, Gk, Si, Co, and Aw. Cocama seems to differ the most from the general character of traditional Southern languages, whereas at least Xt and Gk show more affinity to those than to Amazonian languages. Siriono is a very peculiar case, but could be regarded as a link between Amazonian, Bolivian, and Southern languages. Finally, Urubú, though being less aberrant than Siriono, could be classified in a similar way.

4.4.2. Simplifying and systematizing our phonological ranking we come to the following grouping of Tupi-Guarani languages:

```
Southern group          Amazonian group

    Ap - Mb                     Em - Cn      less con-
                Si                           servative
   Gy                     Wa    AsT - AsX
                          WJ  Kb
Kw              Pt - Jm
 |   - Tb                 Gj - Km - Tp
Av            CT            |
                           Te
I            Ch    Ub                        less con
                   Ps                        servative
                  SM
_____
                           Aw
II                                           most in-

    Gk    Xt                    Co           novatory
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5. FIRST SET OF GRAMMATICAL AND MORPHO-LOGICAL CRITERIA

An additional study of morphological and grammatical criteria partly confirms, differentiates and clarifies this complex configuration[16]. Grammatical criteria refer to the existence of a grammatical category, whereas morphological criteria refer to the form of a grammatical morpheme. Old Tupi and/or Old Guarani can be characterized by most of the criteria included. These criteria illustrate yet again the degree of linguistic change and stability, this time in the field of morphological and grammatical conservatism or innovation. Generally, we did not include innovations that characterize some of the Amazonian languages and that are not traditionally found in the majority of the Tupi-Guarani languages. Traditional grammatical forms which have undergone thorough changes will be reflected by negative scores for those features. However, in four cases we included widespread innovatory criteria (see below 5.3.2., 7.4.3. – 7.4.4.).

5.1. Alternating initial t-, r-, h-

One of the typical features of Tupi-Guarani languages is the alternation of initial t̲-, r̲-, h̲- in certain nouns. According to the phonetic evolution of *c-, its realization is [s-] or [c-] in some conservative languages and [h-] or ∅ in the more developed ones (see above 3.4.1.). Non-possession

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[16]   As was stated above (see 2.1.), Xetá, Pauserna-Guara$ug'wä, and Canoeiro had to be completely excluded from morphological and grammatical comparison due to a lack of data. We were able to partly include Awetí and Sateré-Mawé.

is generally indicated by t-forms, sometimes by s- or ó (Av so'ó 'meat', okẽ 'door', Ch/CT sóo, õke), whereas r-forms mark 'attributive' function and h-forms '3 p possession'(see 5.3.1.). Here we only differentiate between t- (or its allomorphs), r-, and h- (TRH in the matrix). TR∅ is offered for the alternative solution, where the h- initial is represented by ∅; T/R, where there is only an alternative between t- and r-, r- occuring even as the marker of 3 p, as is the case of Si: erási te se ka 'something is giving me pain', corresponding with Av hasy-eté xé-ve. OTH is a heading in the matrix that indicates other solutions, as for instance r- vs ó in Tp, t-/'- vs r- vs i- or other specified 3 p prefixes in Kb, or even supplementary forms, like that of the Ub s-class, which changes k- > š- in 3 p: Ub ihẽ kupé 'my back' vs xupé 'his back' (Kakumasu 1986: 371-372).

Some languages have the usual alternation between t- and r-, but have different solutions for 3 p: Wa, WJ, Em, AsX, Tp, and Jm usually have ó, but have maintained h- in monosyllabic words. We mark this by ±TRH and +T/R in the matrix. In Pt the distribution of t-, h-, ∅ seems to be not only a question of syntax, but of class marking (t- for human, h- for non-human, ∅- for human in some cases; see Betts 1981: 72-73), whereas r- is always attributive.

5.2. Attributive and predicative forms

The next criteria are to show the kind of distinction between attributive and predicative functions in words with alternating initial sound. Here we find maintained in most languages the traditional distribution we have in Tupinambá and Old Guarani: The predicative form is s-, h-, or ∅, whereas the attributive form is that of 1 p and 2 p deter-

miners (Av **hasy̆** 'his/her illness', 'he/she is ill' vs **xe-rasy̆** 'my illness', 'I am ill', but also **xe-memby̆-rasy̆** 'my child's illness' vs **xe-memby̆ hasy̆** 'my child is ill'; Gy **tácy** 'ill(ness)' vs **che-rácy** 'I am ill' vs **ácy** 'he is ill'; Tp **che-remireká** 'my husband/wife, partner' vs **emi-reká** 'his/her partner', **che-raty̆** 'my wife' vs **aty̆** 'his wife'). Only Ch, CT, and SM generalized <u>h</u>- both in predicative and attributive function (Ch **che-mémby hásy** 'my child is ill' as well as 'my child's illness'). The Chané dialect of Chiriguano does not have this feature (**che-mémby-rásy** 'my child's illness'). Si has generalized <u>r</u>- in both functions (see above 5.1.1.). Neither Gk, Aw, nor Co have any of the alternations discussed in 5.1. nor, consequently, different forms for predicative and attributive functions.

In the matrix we mark the different solutions by <u>rh</u> whenever attributive <u>r</u>- is different from predicative <u>h</u>- or ∅; <u>hh</u> whenever both functions are not distinguished, but <u>h</u>- is the general form; <u>rr</u> whenever <u>r</u>- is the general form.

5.3. Reflexive forms

5.3.1. Still in the nominal field, we study the preservation of the distinction between reflexive and non-reflexive forms of the 3 p markers of nouns. This traditional feature has been largely maintained and is unknown only in aberrant languages within the Tupi-Guarani language family, like Gk and Co, as well as in Ch/ CT[17], Si, and Ub. In the other

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[17] We will see that there is generally no important grammatical and morphological difference between Chiriguano-Ava and Chiriguano-Tapyi, so

languages even the morphology of the 3 p reflexive
form is, in general, the traditional one: Tb s-eté
'his body', Latin 'corpus eius' vs o-eté 'his (own)
body', Latin 'corpus suum'; túba 'his father' vs
gúba 'his (the subject's) father'; Gy c-éte vs gwé-
te, tu vs gu, ía 'its fruit' vs óa 'its/his/her (own)
fruit', tayr 'his son' vs gwayr 'his (own) son'; Km
taẏra vs oaẏra; Mb ta'ẏ vs gwa'ẏ, ipó 'his hand' vs
opó 'his (own) hand', ová 'his head' vs ngová 'his
(own) head'; Pt gá-po 'somebody's hand' vs ó-po
'his (own) hand'; Tp ipyhã 'somebody's liver' vs
apyhã 'his (own) liver'; Wa ilu oikáka 'he killed his
(somebody else's) father' vs olu oikáka 'he killed
his (own) father' (see Grenand 1980:58); Te iwyra-
pár 'his bow' vs uwyrapár 'his (own) bow', hapẏi
'his house' vs uapẏi 'his (own) house'; SM ipy 'his
foot' vs topy 'his (own) foot', iha 'his eye' vs teha
'his (own) eye'. In Av the reflexive form ogue- vs
non-reflexive i-/h- only occurs as a fixed form
with a few nouns (henda 'his house' vs oguenda
'his own house', hetã 'his country' vs oguetã 'his
own country'). It is marked ±Av in the matrix.

5.3.2. In some languages the category of reflexive
vs non-reflexive person marking has been extended
to all persons. This is so in the case of Tp, Kb,
AsT, and partly AsX, and therefore seems to be an
Amazonian feature: Tp che-pinã 'my fishing-hook
(with regard to someone or something)' vs we-pinã
'my fishing-hook (with regard to me)'; AsX dže'ẏna

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we will not have them as separate items in the
following matrices. These dialects are differentiated
in phonological and lexical respect (see Dietrich
1986: 198-201).

oésʰak 'he sees my picture' vs te'ẏna aésʰak 'I see my picture (in the mirror)'.

5.4. Person marking

5.4.1. One of the most prominent characteristics of a Tupi-Guarani language is its manner of person marking. Nearly all these languages have the same semantic distinctions, that is, for instance, they distinguish nominal from verbal markers, they distinguish the same persons, and they use the same kind of traditional morphemes. Innovations in this field prove that the respective language either does not originally belong to the Tupi-Guarani family or that it has developed in another direction. In our comparison we have included two criteria, the first of which determines the category of the person by studying the personal pronouns (Pr in the matrix) from which nominal person markers are traditionally derived; the second criterion refers to the question if there are separate verbal person markers (PM in the matrix).

Ub is the only language to preserve not more than one 1 pl p form, jan(d)é, ja- and hence does not differentiate inclusive from exclusive meaning. As the rest of its person markers are traditional, we marked ± Ub for PPr. Em does not distinguish between inclusive and exclusive 1 pl person in the verbal person markers, where nonde- is the only form for intransitive verbs (for ci- in transitive verbs see below 5.4.3.). Gk has only the traditional personal pronouns and uses them as person markers in nouns and verbs (or, rather, Gk does not differentiate nouns and verbs), so that we mark +Gk for Pr, but -Gk for PM. Si has changed the 3 p morpheme to e- '3 sg p' vs hē- '3 pl p', so we marked ± Si for PPr. Em shows some innovations

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in the set of personal pronouns: **nonte kom** '1 pl incl', **aṇa/winya** '3 sg p', and **waĩn kom** '3 pl p' show a complete reorganization. All plural persons have a plural marker **ko(m)** which was borrowed from Carib (see A. Jensen 1979: 6). Aw has changed its 1 pl incl form (**kay–** for verbs and nouns). Co does not differentiate between nouns and verbs, but the category of person itself is not changed, though the morphology is not the traditional one for 3 sg and pl and 1 pl incl, especially as there are male and female forms for all persons.

5.4.2. Modern Tupi–Guarani languages of the South are characterized by two series of verbal person markers (**a–**, **(e)re–**, **o–**, **ya–**, **(o)ro–**, **pe–** and **ai–**, **(e)rei–**, **oi–**, **yai–**, **(o)roi–**, **pei–**, and special variants according to the language). The i-prefix has been said to mark transitive verbs, because it is the morpheme of the third person as an object in some languages, but not in all (see Dietrich 1986:89–90). It was a free syntactical form in Tupinambá, whereas it is obligatory with certain verbs in Av, Ap, Kw, Mb, Ch/CT, and Gy, which means, it must be expressed even if there is a nominal direct object. In these languages all verbs with –i–expansion are transitive, but not all transitive verbs have the –i–expansion. We mark ± Te and Gj in the matrix, because these languages show reflexes of–i– only in verbs with vocalic initial sounds, [i–] becoming [j–] and then [z]: **az–apó**, **erez–apó**, **uz–apó** etc, from **apó** (not *zapó) 'to make', because it is **he–apó** (not *he–zapó) 'he made me', and similarly Te/Gj **he–apí** 'they stroke me' vs **az–apí** 'I stroke (him/her/them)' (see also Jensen 1987:51). Mistakenly most linguistic descriptions note roots like *zapó 'to make' or *zapí 'to strike', saying that **apó** and **apí** are "short" forms. SM (Abrahamson 1984:178–181) shows the prefix in transitive

verbs whenever the object is focussed, so we mark ± SM for the criterion a-/ai-, which means that there is a complementary distribution of verbal markers with and without the i-prefix.

5.4.3. Some Amazonian Tupi-Guarani languages are characterized by a morphological distinction between two 1 pl incl verbal person markers, one for intransitive verbs and corresponding phonologically to *ja- and a second one corresponding phonologically to *ti-, which is used with transitive verbs. Jensen (1987:50-52) gave a conclusive explanation of the origin of *ti- (< *t-ja-i), which accounts for the fact that, at least in some cases, *ti-forms occur only in the optative (purpose) mood and do not show its morpheme t- because this prefix has already been incorporated in *ti-: Wa ja-tuwe si'u 'we (incl.) go, let's eat (it)', Te ti'ú zaha 'let's go to eat (it)', Gj si-apó 'we (incl.) made it', but also 'for us (incl.) to make it'; Em ci-kúsuk 'we (incl.) washed (it)', Tp chiãrõ 'we (incl.) waited for them', Kb si-etũ 'we (incl.) smelled (it)', Pt ti-juká 'we (incl.) killed it', Aw ti-t-ētúp ujá 'we (incl.) heard him'.

5.5. Matrix of comparison

In the following first matrix of grammatical and morphological criteria we used these abbreviations:
TRH, TRø, T/R, OTH (see above 5.1.)
     rh, hh, rr (see above 5.2.)
rfl: "Existence of a reflexive 3 p marker" (see above 5.3.1.)
RFL: "Existence of reflexive forms for all persons" (see 5.3.2.)
Pr: "Existence of the traditional category of persons as represented by personal pronouns" (see above 5.4.1.)

PM: "Existence of verbal person markers" (see above 5.4.1.)

ai: "Distinction of two sets of verbal person markers" (see 5.4.2.)

ti: "Existence of a special 1 p incl person marker" (5.4.3.).

	TRH	TRØ	T/R	OTH	rh	hh	rr	rfl	RFL	Pr	PM	ai	ti
Tb	+	-	-	-	+	-	-	+	-	+	+	+	-
Av	+	-	-	-	+	-	-	±	-	+	+	+	-
Ap	-	+	-	-	+	-	-	+	-	+	+	+	-
Mb	-	+	-	-	+	-	-	+	-	+	+	+	-
Kw	+	-	-	-	+	-	-	+	-	+	+	+	-
Gk	-	-	-	-	-	-	-	-	-	+	-	-	-
Ch/CT	+	-	-	-	±	+	-	-	-	+	+	+	-
Gy	+	-	-	-	+	-	-	+	-	+	+	+	-
Si	-	-	+	-	-	-	+	-	-	+	±	-	-
Wa	±	-	+	-	+	-	-	+	-	+	+	-	+
WJ	±	-	+	-	+	-	-	+	-	+	+	-	+
Em	±	-	+	-	+	-	-	+	-	±	±	-	+
AsT	+	-	-	-	+	-	-	+	+	+	+	-	-
AsX	±	-	+	-	+	-	-	±	±	+	+	-	-
Te	+	-	-	-	+	-	-	+	-	+	+	±	±
Gj	+	-	-	-	+	-	-	+	-	+	+	±	+
Ub	+	-	-	±	+	-	-	-	-	±	+	-	-
Tp	±	±	-	±	+	-	-	+	+	+	+	-	+
Kb	-	-	-	+	+	-	-	+	+	+	±	-	+
Pt	±	-	-	±	+	-	-	+	-	+	+	-	+
Jm	±	-	-	±	+	-	-	?	-	+	+	-	?
Km	+	-	-	-	+	-	-	+	-	+	+	-	-
Co	-	-	-	-	-	-	-	-	-	±	-	-	-
Aw	-	-	-	-	-	-	-	+	-	±	±	-	+
SM	-	-	-	±	-	+	-	+	±	-	±	±	-

The above matrix will be analysed below, together with the two following ones (see p. 74 and p. 83).

6. SECOND SET OF GRAMMATICAL AND MORPHOLOGICAL CRITERIA

6.1. Negation

Most of the following criteria refer to verbal categories. The traditional negative morpheme (Neg) of Tupi-Guarani languages is n(d) ...i, which is well-known in all dialects except in Gk, the Chiriguano complex, Si, and Ub. In Co we have týma and ni, both preceding the predicate, so that we note ±Co for "neg"[18]. We were interested furthermore in finding out the diffusion of a negative morpheme ⁻-a or -ã, which is a lexical negation in Ch/ CT, but a predicative one in Gk and Si. In Ub the only negative particle is -ým, which is the traditional lexical negative morpheme of Old Tupi and Guarani. Therefore we had to note -Ub for "Neg" and ±Ub for "-ã". because it only has ani as a negative phrase 'no!', but not as a negative morpheme. WJ and Em have a negative suffix -rowã, which was rated at 0.3 points. The existence of only ani 'no!' was rated at 0.3 points and marked by ≥ in the matrix.

6.2. Optative mood

One of the standard verbal categories of traditional Tupi-Guarani languages is the optative mood (permissive, hortative, or purpose mood) as expressed by the prefix t-: Mb ta'ikuái porã 'they may

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[18] Týma could be related to Ch/CT mbáety (ma) 'NEG perfective aspect', which derives from mbáe 'thing, something, nothing' + hetýp 'not to agree' (which is quoted for Old Guarani, see Montoya 1639, SV) + ma 'perfective aspect; already'.

live in harmony', Av **tapuká xé** 'I may laugh, let me laugh, I am going to laugh', Ch/CT **tóu** 'he may come, let him come', Pt **taho** 'I may/want to go', Te **ta–zane–ruŕy̌w** 'we may be delighted', Si **tatéa** 'I am going/want to see him', Wa **aá–ta ta–jáu** 'I am going to take a bath'. The non–existence of this mood in Gk, AsX, Ub, Aw, Co, and SM separates these languages from the rest of the language family, particularly as this negative feature is not the only one that characterizes just this group of languages. In Tp we find **t–** in some fixed expressions, like **te'y̌–na** 'sit down!' (**ã–y̌n** 'I sit down') or **tehina** 'let us...!' (**tehina aawó** 'let him go!'). As there is no free form, we mark ≥Tp or 0.3 points for "t–".

6.3. Tense

6.3.1. Most Tupi–Guarani languages are characterized by the expression of tense and aspect both in verbs and in nouns. The basic opposition of verbal tense is that of future and non–future, because future has its own morphemes, whereas non–future is expressed by a zero morpheme and means basically past tense. There are different constructions with auxiliary verbs for the explicit expression of present tense. Future has a traditional distinction between remote future (–ne) and intentional future, expressed by –ta (< **pota** 'to want'): Ch/CT **ajú–ta** 'I am going to come' vs **áju–ne** 'I will come (sometime)', Tp **ãchao–patan** 'I am going to bathe' vs **ãchao–ne** 'I will bathe (sometime)'; Wa **aá–ta** 'I am going to go', **tátu oíka–ne** 'he will/must kill the armadillo'. Both forms are somewhat archaic in Gy, so we mark ±Gy for "–ta" and "–ne". Some languages only have the remote future: Km **korín ahá–n** 'tomorrow I will go', Te **apuká–nehé** 'I will laugh', **ahá tawhú–pe–nehé** 'I will go to town'. Others only

have the intentional future, like Mb (aiapó-ta tembi'ú 'I am going to prepare the meal'), WJ, AsT, AsX (iakym-ótat 'he is going to be wet'), and Ub, but Em, which is close to Wayãpi in many regards, has both the futures (apóta-ne 'I will be willing to, will desire it' and ame'ēng-tat 'I am going to give it').

6.3.2. Nominal tense (NT) or aspect is very uniform in nearly all these languages and is differentiated everywhere in the same way: −rama, −ram, −rã, −ra for the destinative aspect, and −pwéra, −kwer, kwe, −nwe for the perfective aspect, for instance in Ch/CT aiápo ãi che−retã−ra 'I am making/building my (future) house (which is to be my house)' vs aécha che−retã−gwe 'I saw my ancient house (which is no longer a house, but a ruin)'; Km ywy−rapar−am 'which is to be a bow', irũ−ram 'the one who is to be a husband'. In some languages the distinction between nominal and verbal tense is not very strict, which means that nominal tense may occur also with verbs, but not vice versa: Mb ne−kane'õ vy nd−ere−o−ve−i'rã when you get tired, you won't go on any farther' (see Dooley 1987:14), Gy acépja−ra 'I will see him'.

6.4. Nominalizing suffixes

6.4.1. In most of the Southern Tupi−Guarani languages there is a nominal form of verbs, called a participle by the ancient grammarians, i.e. the patient of the action expressed by a transitive verb. This nominalizing suffix, −py(r), has future and perfective forms in Tb (−pyra, −pyráma, −pyr−wéra), Av (−py, −py−rã, −pyré), Gk (−py/−mby, −prã, −pre), Gy (−pyr, −pyra, −pýrer, and the like in Mb and Kw), SM (pyr−am, pyr−et, see Graham and Harrison 1984:197), but not in Tp, which has only

-pyrá (**ichokā-pyrá** 'the one who was killed, who is dead'). In the Amazonian area the suffix exists in Em (**-pyly**), Tp, Km, Kb (**-pyr**), SM, and Pt, though the meaning of Pt **-pyr** is not exactly the same as in the other languages and is therefore marked +Pt in the matrix.

6.4.2. Similarly typical of traditional Tupi-Guarani languages are word formations by means of the prefix **tem(b)i-** (with alternating initial consonant), which express the result or object of a process. These deverbal nouns are often described as present passive participles because the formation means 'that which is done'. But the definition of the participle does not include the semantic restriction to the designation of things, concrete or abstract, as we find in **tem(b)i-**formations. Therefore, we cannot admit the existence of participles in Tupi-Guarani languages, except in the case of the passive participles formed by **-pyr**. Formations by means of **t-em(b)i-** do not exist in Gk, Si, Ub, and Co. Information is lacking for AsX, Aw, and Jm, but we have, for example Tb **temijuká** 'what is killed', **abá remijuká** 'what is killed by the Indian'; Mb, Kw, Av **tembi'ú** 'what is eaten, meal', Mb **emiendú** 'what is heard, news'; Ch/CT **temimónde** 'clothing, clothes', **che-rembiápo** 'my creation'; Te **he-remierekó** 'what is possessed by me, my goods', **he-remirekó** 'what is held by me, my wife'; Pt **ji-remitym** 'what is planted by me, my plant'; Tp **che-remihó hēhē** 'what is eaten by me/my meal is good/tasty'; Wa **e-lemi'u**, Em **e-lemi'ō** 'what is eaten by me, my meal'.

6.5. Syntactical hierarchization

Syntactical hierarchization is rather poor in Tupi-Guarani languages, but all the languages, except Si,

Te, Gj, Ub, and Gk, use the traditional suffixes, called gerund suffixes by ancient grammarians. Tb has −bo, −mo, −ramo, and −a for marking dependent clauses − details cannot be studied here − and at least one of these suffixes appears in most of the other languages. We find −wo in Av, −wy or −vy in Ap, Mb, Kw, −woe in Gy (but as an archaic form, therefore ±Gy for "−wo"), −wẽ in Te, −pẽ in Gj,− wo in Tp, Pt, and Jm, −aw in Aw, whereas −a exists in Tp, Pt, Kb, and Jm, −o in Em. Co has −ai, which we consider as being the same. The most widespread suffix is −ramo (in Av,Mb, Kw, Ch/CT, Gy (but archaic) , AsT, Km), −rambe in AsX, −ẽmo in Te, −leme in Wa, −reme in WJ, −a−nam in Em,− amo, −ro, −no in Pt, −no in Ap, −amu in Kb, −hamo in SM. Other suffixes, which were considered equivalent to −ramo, are −mehe (for instance in Te and Gj) and −rahã in Ub, but as they do not correspond absolutely with regard to morphology, they are rated at only 0.5 points. We did not con− sider the suffix −jawe, existing in Av, Mb, Kw, Gk, and Ch/CT.

6.6. Reflexive and reciprocal voice

Reflexive and reciprocal voice is a well−known and, hence, an important category of Tupi−Guarani languages. Whereas the reflexive voice, expressed by −je− and its different phonological reflexes, is found in all languages but Gk and marked by a different morpheme (−ka) in Co (0.3 points), the reciprocal voice, corresponding phonologically to the prefix −jo−, is less universal: It does not exist in Gk, Te, Gj, Ub, Co, and is undifferentiated from the reflexive voice in WJ and Em. In WJ and Wayampipukú −jo− occurs with nouns (o−nũpa ño− ãka−kupa '3−hit RECIPR−head−PL', 'they hit each other on their heads'; but also Wa opóko oje−kupa

'3p hit RECIPR-PL), but not with verbs, where it
is expressed by -ji- 'reflexive'; therefore we rate
±WJ for "-jo-". In Wa, however, we also find o-jo-
wápy 'they lock up each other', though it is not
clear whether this is possible in all grammatical
persons. In Ub the formal syncretism is represen-
ted by -ju-, with a reflexive as well as a recipro-
cal function. Examples of the reflexive and reci-
procal voices: Tb a-je-pysẏk 'I hold on to s.th.'-
oro-jo-pysẏk 'we (excl) hold on to s.th.'; Ch ña-ñe-
ñẏwo 'we arrowed ourselves', that is 'we dischar-
ged arrows to ourselves', o-jo-áyu 'they love them-
selves mutually'; Gy a-je-épja 'I see myself' - ja-
jo-júka 'we kill ourselves mutually'; Si a-di-múmba,
a-dji-múmba, a-tji-múmba, a-tju-múmba 'I wake
up', a-tji-ísi 'I take it for myself', a-tju-rúba 'I
take myself up, I stand/get up'; Wa a-j-kúsu 'I
clean myself', Tp ã-che-chokã 'I squash myself'
chi-cha-chokã 'we (incl) strike us mutually'; Kb a-
j-esa-uká je kĩã upé 'I showed myself to him (to
the doctor)' vs a-ju-esák wã 'they saw themselves
one another'.

In Si the reciprocal voice does not exist, but there
is a reflex of it in pronouns like utjúe, which
corresponds to Ch/Gy ojóu-pe 'to one another', so
that we count 0.3 points in the matrix. The same
is true for WJ, and Em, where we find pronominal
forms like Em džópe 'to them'. SM has a prefix
to'o- 'reciprocal', which could be the same, and
another prefix wo'o- 'universal reciprocal' (uru-
wo'o-kwap 'we (excl) all know one another', see
Graham and Harrison 1984:185), so that we rate it
+SM for "-jo-".

6.7. Matrix of comparison

In the following matrix the criteria are abbreviated

by the morphemes studied in the preceding paragraphs. "Neg" means the form of predicative negation (see 6.1.), "t-" is the optative mood (see 6.2.), "ta", "ne" are suffixes for 'future' (see 6.3.1.), "NT" is nominal tense (see 6.3.2.), "pyr/emi" are nominalizing suffixes (see 6.4.), "wo/-a/r(a)m(o)" are suffixes for syntactical hierarchization (see 6.5.), and "je"/"jo" are morphemes of the reflexive and reciprocal voice (see 6.6.).

	Neg	-ā	t-	ta	ne	NT	pyr	emi	wo	-a	rm	je	jo
Tb	+	-	+	-	+	+	+	+	+	+	+	+	+
Av	+	-	+	+	+	+	+	+	+	-	+	+	+
Ap	+	-	+	+	+	+	?	+	+	-	+	+	+
Mb	+	-	+	+	-	+	+	+	+	-	+	+	+
Kw	+	≥	+	+	+	+	+	+	+	-	+	+	+
Gk	-	+	-	-	-	+	+	-	-	-	+	-	-
Ch/CT-	+	+	+	+	+	-	+	-	-	+	+	+	+
Gy	+	-	+	±	±	+	+	+	±	-	±	+	+
Si	-	+	+	-	-	+	-	-	-	-	-	+	≥
Wa	+	±	+	+	+	+	-	+	-	-	+	+	±
WJ	+	≥	+	+	-	+	-	+	-	-	+	+	≥
Em	+	+	+	+	+	+	+	+	?	+	+	+	≥
AsT	+	?	+	+	-	+	-	+	+	-	+	+	+
AsX	+	?	-	±	-	+	-	?	±	-	+	+	+
Te	+	-	+	-	+	+	-	+	+	-	+	+	-
Gj	+	+	+	+	+	?	-	+	+	-	±	+	-
Ub	-	≥	-	+	-	+	-	-	-	-	±	-	+
Tp	+	-	≥	+	+	+	+	+	+	+	+	+	+
Kb	+	?	+	-	-	+	+	+	+	+	+	+	+
Pt	+	±	+	≥	+	+	±	+	+	+	+	+	+
Jm	+	±	+	≥	+	?	?	?	+	+	-	?	?
Km	+	≥	+	-	+	+	+	+	-	-	+	+	+
Co	±	-	-	-	-	±	-	-	-	+	-	≥	-
Aw	?	?	-	-	?	?	?	?	+	-	-	?	?
SM	+	?	-	-	-	?	?	+	-	-	+	±	±

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The above matrix will be analysed below, together with the following one

7. THIRD SET OF GRAMMATICAL AND MORPHOLOGICAL CRITERIA

7.1. Voice

7.1.1. Factitive or causative voice has two traditionally differentiated categories in most Tupi-Guarani languages. One is represented by the suffix −uka(r), which expresses 'factitive voice' in transitive verbs (Av ajuká 'I killed (him)' vs ajuka−uká 'I made him kill (somebody)', Si amiíkwa−uka 'I make him know it', CT eebá−uka 'make/let me see it/them!', Te a'é uzuká−ukár tapi'ír(i) zwã−pe 'he made João kill the tapir'; Tp awãchihi ãchaak−akan 'I make him/them crush (the) rice'; Kb kasurua aesa−ukat je kĩã upé 'I made him see/showed him the pup'. The factitive voice is unknown only in Wa, WJ, AsX and Ub, Cocama having again the category, but not the suffix, which is −ta. So we mark ≥Co for "uka". Gk has only a prefix ka− 'to feign, affect', which may have the same origin, whereas the suffix −ka, −nga 'which is useful, fit for' is a nominal suffix and has nothing to do with −uka(r), therefore ±Gk for "uka".

7.1.2. The prefix −ro− and all corresponding forms, like Tp −ra−, is sociative-factitive or concomitant-sociative, which means that the subject makes someone do something and performs the same action himself: Mb kavajú a−ro−ñá, yvaté−rupi a−ro−pó 'I made the horse run (accompanying it), I made it jump high up (accompanying it)'; Ch áike 'I went in' vs a−ró−ike 'I made him go in (accompanying

him)', **opūa** 'he got up' – **gwyropūa** 'I made him get up with me'; Wa **we-lo-wa'ḗ** 'they made her come with them', **oj-lo-ike** 'he made him enter with him'; WJ **aro'a** 'I made him fall with me', **o-ero-'a** 'he made me fall with him'; Si **a-ru-tjévi** 'I made him return with me'; **Chãrio ã-ra-ké** 'I make Chãrio enter with me, I enter accompanied by Chãrio'; AsT **o-ero-chérem** ≈ AsX **o-romoi-ℓérep** 'I made the boat float upon the water (accompanying it)'. Sociative-factitive –ro– does not exist in Gk, Ub, and Co. According to Jensen (1984:104) this morpheme is integrated in widespread verbal units, like **a-reko** 'I made it stay with me, I own(ed) it', **a-r-a(h)a** 'I made it go with me, I took it along with me', and would explain their structure.

7.2. Word formation morphemes

7.2.1. Word formation is one of the most elaborated fields of Tupi-Guarani grammar. So we had to make a choice between the numerous suffixes and prefixes. The first morpheme is a universal one in Tupi-Guarani languages: –mo– or (–mbo–) precedes verbal roots of intransitive verbs and then means 'factitive' (in which case it is not a word formation morpheme, for example in Ch/CT **óky** 'it rains' vs **omóngy** 'he makes it rain', WJ **ajáu** 'I bathe' vs **amojáu** 'I make him/her/them bathe'), Em **o-mõmba-kátu** 'he made him/her/them awake'. It is, however, an element of word formation whenever it makes factitive verbs from nominal predicates: Ch/CT **imãna** 'he/she is ashamed' → **amomãna** 'I make him ashamed'; Gy **c-éta** 'there is a lot' → **amoéta** 'I multiply, increase it'; Te **akỹm** 'it is wet' → **amuakỹm** 'I make it wet'; Si **e-sõõ, e-rõõ** 'it is soft, sloppy and filthy' → **amosõõ** 'I make it sloppy and filthy'; Kb **je-mara'ne kĩã reé** 'I became →

angry at him' vs **je—momara'ne kĩã** 'he made me become angry at him'.

But **—mo—** also serves as a verbalizer of nominal non—predicative roots: Mb **pyaú** 'new' ⟶ **ambopyaú** 'I renew it'; Pt **pyha** 'transparent' ⟶ **amombyha** 'I make it transparent, make holes, knit it'; Te **irú** 'friend, companion' ⟶ **amuirú** 'I accompanied him'; Ch **ĩru** 'friend, comrade' ⟶ **amũiru** 'I accompanied him'; Pt **porãŋ** 'talented, gifted' ⟶ **amomorãŋ** 'I charmed, enchanted'; Kb **kawĩ** 'manioc mush' ⟶ **amokawĩ** 'I made manioc mush'. This universal prefix does not exist in Gk and Co.

7.2.2. The second word formation morpheme we chose for classifying purposes is the still more universal nominalizer that phonologically corresponds to PTG ***—car** (we simplify with regard to the allomorphs, see Jensen 1984:108—109). This very productive suffix forms agent substantives (nomina agentis) chiefly from verbal, but also from nominal predicative roots. Its existence in all studied Tupi-Guarani languages, apart from Wa, Em, AsX, and Jm, where we lack information, does not make this suffix suitable for classification, but it shows the surprising morphological coherence of these languages: Tb **juka—sára** 'killer', **pysyk—ára** 'the one who takes hold of, catches'; Mb **oó apo—á** 'home constructor'; Ap **ñande—rakykwé moña—á** 'those who come behind us' (see Nimuendaju 1914: 401); Ch/CT **waka—réta iñangaréko—a** 'guardian of cows, cowboy', **waka—réta réru—a** 'the bringer of the cows'; Gy **che—mboé—car** 'my teacher'; Si **e—rirõ—sa** 'who steals, thief'; Wa **jemoe'a** 'pupil, the one who teaches to himself/who learns'; WJ **mo'e—a** 'teacher', **pete—a** 'who claps his hands'; Wayãpi of the Amapari River **mo'e—ar, pete—ar**; Te **zuka—hár** 'killer', **i—apo—hár** 'maker, craftsman'; Tp **che—mahe—ãna**

'my teacher'; Pt **mbo'e-har** 'teacher'; Km **poro-mo'e-tát** 'the one who teaches people'; SM **u-he-noi-hat** 'who teaches me'.

7.2.3. Another universal characteristic of Tupi-Guarani word formation is the incorporation of nominal direct objects into the verbal complex, that is, between the personal prefix and the root. Some languages have inherited the old pronominal prefixes for 'generic non-human object' (**-mbae-**) and 'generic human object' (**-poro-**). Here we chose the latter one, which is rather wide-spread and, thus, once more shows the grammatical coherence of this language family. But again Gk, Co, and Si are the divergent languages. For several other languages we are lacking information. Examples are: Mb **aporombo'é**, Ch/CT **a-porombóe** 'I teach people, am a teacher'; Gy **aporopóta** 'I am in love with s.o.', literally 'I love (people)'; Te **apuruputár** 'I want (a woman), am jealous/envious of her'; AsX **oporožóka** 'he kills (people), is a killer'. Nominalizations are, for example, Mb **porombo'é-a** 'teacher', Ch/CT **mbaeporóu** 'cannibal', Te **puruzuka-hár** 'killer'; Wa **polo-ápi ai mã'ẽ** 'those who hit people badly/they who miss(ed) people'; AsX **morokótuk** 'which stings, injection'. In SM **-pot-** means 'habitual verbal object' (**a-re-pot-akasá** 'I used to see things/persons'), whereas the form **-miit-** corresponds semantically to **-poro-** in other languages: **a-re-miit-erút** 'I bring (people)'.

7.3. Second person object pronouns

The same kind of incorporation is shown by the pronominal elements ***-oro-** '2 sg p as a direct object, the speaker being the subject' and ***-opo-** '2 pl p as a direct object, the speaker being the subject'. Yet this type of construction does not

belong to word formation, but shows the agglutinative character of Tupi-Guarani grammatical inflection. The possible origin of the existing allomorphs of −*opo− (−apo− etc., −oropo− etc., −po−, −poro−, and −oro− etc.) is conclusively explained by Jensen (1984: 83−86). These prefixes are found in all studied languages, except Gk, Si, Ub, Kb, Aw, Co, and SM. Information is lacking for Jm, partly for Em (*−opo−?). Examples are: Tb **oropysẏk** 'I/we (incl) take hold of you (sg)', **opopysẏk** 'I/we (incl) take hold of you (pl)'; Kw **orohexá** 'I/we (incl) see you (sg)', **oropohexá** 'I/we (incl) see you (pl)'; Ch/CT **ché ronũpa** 'I beat you (sg)', **óre ronũpa** 'we (incl) beat you (sg)', **ché/óre ponũpa** 'I/we (incl) beat you (pl)'; Gy **che/óre orokwáa** 'I/we (incl) know you (sg)', **che/óre opokwáa** 'I/we (incl) know you (pl)'; WJ **oro−ésa** 'I/we (incl) met you (sg)', **poro−ésa** 'I/we (incl) met you (pl)'; Em **ta−lo−pẏhyk, ta−lo−'u** 'I will grasp you, I will eat you (sg)'; Tp **ara−ãrõ** 'I/we (incl) wait for you (sg)', **apa−ãrõ** 'I/we (incl) wait for you (pl)'; Km **oro−carõ** 'I/we (incl) waited for you (sg)', **oro−ecák** 'I /we (incl) saw you (sg)' vs **opo−ecák** 'I/we (incl) saw you (pl)'. In Wa we find the normal pronominal form as prefixed to the verb:

ta − ne − péyu;   á−yo   pen− ésa
3pOPT−2pOBJ−blow   1sg−come 2plOBJ−see
'I came to see you';   'he may/shall blow at you',
but also
olo−   mo− jáu− ta
1pSUBJ2pOBJ−CAUS−bathe−FUT
'I am going to make you bathe'.
It seems that the *−opo−form does not exist in Wa.

7.4. Personal pronouns

7.4.1. Traditional pronominal forms, too, may show stability or innovative tendencies of languages

thus serving to determine groups of corresponding languages. Whereas local determiners of nouns are expressed throughout the Tupi-Guarani languages by nearly uniform suffixes and confirm the basic unity of the family, one could imagine that an "irregular" form like Av **hesé** '3 p + −rehé 'on him, to him, by him' would not be inherited in all languages. The form was **r−esé** in Tb and had a 3 p form **s−esé**, which developed to **hesé** and the like in other languages, where it became independent from the **t−**, **r−**, **h−** alternation, because the local determiner, as an old attributive form (see above 5.2.), was −**re(hé)** in any case. Surprisingly enough, **hese** (and corresponding forms) is unknown only in Gk, Em, AsX, Co, and, probably, SM. In the other languages we find, for example, Mb **eché**, Ap/ Kb/−Tp **eé**, Xt **héche**, Old Guarani and Kw **hesé**, Ch **hése**, CT/AsT/Pt **hé− he**, Gy **céce**, Si **diése**, WJ **ée**, Wa **ta−mãẽ ee aipa** 'OPT1p sg−look−after him−I', 'I will look after him'; Te/Km **hehé**.

7.4.2. The local determiners *c−upe 'to, for' and *cui 'from, of' were originally nouns which could be prefixed by personal markers and then changed [c] to [č] when preceded by the 3 p marker /i−/. When the nouns had become local suffixes, independent of initial alternations, 3 p forms with a then unmotivated */č/, could have been maintained as synchronically "irregular" forms of 3 p pronouns determined by these local suffixes: Tb **ixupé** 'to him/her/them', **ixuí** 'from him/her/them'; Mb/Ap **ichupé**, **ichugwí**; Kw **íxupe**, **íxugwi**; Ch **chúpe**, **chú−gwi**; Gy **chúpe**, **íchui**; Em **idjúpe** (not *idžúpe, which would be the normal result of /j/); AsT **ichópe**, **ichóhi**; Te **izupé**, **izwí**; Tp **ichopé**, **ichowí**. The forms were not found in Gk, Si, AsX, Ub, Pt, Jm, Kb, Aw, and SM. Some languages only have forms that correspond to *ichupe (Wa/WJ **ij−úpe**,

Km **ij—upé**, Co **cúpe**), but not to *ichui (0.5 points in the matrix). The corresponding phonological rule, as described in 3.4.2., was not confirmed in Amazonian languages, with the exception of WJ. The phenomenon studied in this paragraph is little more widespread in that area, but includes at least Te, Gj, Tp, and, though partially, Wa, WJ, Jm, and Co.

7.4.3. Tupi—Guarani languages, which originally did not have a 3 p personal pronoun, compensated the gap by using the demonstrative *a'e. This has preserved its demonstrative value in some languages or is used for things only (neuter function), so in Ap, Em, and AsT (half a point in the matrix for "existence of *a'e as a 3 p personal pronoun"). The form has not been maintained in Gk, Wa, WJ, Pt, Aw, and SM, and is replaced by **ŋa, aŋa, ga**, and the like, an innovation unknown in Southern languages, inclusive Ch/CT, Gy, Si, except Gk, which has **go** (compare AsT **góa** 'people', corresponding to the demonstrative **ko** in other languages, both ± in the matrix for the criterion "ŋa"), whereas AsX has **ga—** as a 3 p marker for relational suffixes (**ga—hi** 'from him') and **á'e** as the 3 p pronoun, which does not occur with suffixes. Tp has **ãhẽ** instead of *a'e, which is a traditional form (see Tb **ahẽ**), but **ãhẽ** always has a number marker, which is **—ŋa** for 'sg' and **—ŋe/—ŋy** for 'pl' (**ãhẽŋá** 'he/she', **ãhẽŋy** 'they'. As **—ŋa** is a constituent of Tp pronouns, we rate it ±Tp for "ŋa", the same as Wa, which has **ãwĩ**, and WJ, with **ã** and **ãwĩ**. SM does not have any of these pronominal forms. Whereas *a'e is rather a widespread pronoun, forms corresponding to **ŋa** can be found chiefly in the Amazonian area.

7.5. Sex marking

The last two criteria refer to the innovation of sex marking. There are two kinds of sex marking in Tupi-Guarani languages, one of personal pronouns and one of the whole speech. So we find either a distinction between male and female 3 p pronouns or a general differentiation between male and female speech in pronouns, person markers, and other linguistic elements. The forms are not the traditional ones, because this is not a traditional category in Tupi-Guarani languages, and cannot be studied here in detail. Sex marking occurs only in Amazonian languages. It is obligatory in 3 p pronouns in Pt and Jm ("sm" in the matrix). Male and female speech ("M/F") is a category of Tp, Kb, Aw, and Co. In Te we find a reflex of the traditional male/female speech distinction of Tupi-Guarani languages in assertive particles (ehe-mia 'yes!, female speaking'; ehe-pa 'yes!, male speaking').

7.6. Matrix of comparison

In the following matrix we use these abbreviations:

uka: "Existence of the factitive voice" (see 7.1.1.)
ro: "Existence of the factitive sociative voice" (see 7.1.2.)
mo: "Existence of *-mo- as a word formation prefix" (7.2.1.)
car: "Existence of *-car as a word formation suffix (7.2.2.)
poro:"Existence of* -poro- as a generic human object" (7.2.3.)
oro: "Existence of *-oro- as a 2 p sg pronominal object" (7.3.)

opo: "Existence of *-opo- as a 2 p pl pronominal
    object" (7.3.)
hs: "Existence of *s-esé > hesé etc." (see 7.4.1.)
ixu: "Existence of (i)xu- etc. < *i-cupe, *i-cui"
    (see 7.4.2.)
a'e: "Existence of a 3 p pronoun *a'e" (see 7.4.3.)
ŋa: "Existence of a 3 p pronoun based on ŋa etc.
    (see 7.4.3.)
sm: "Sex marking in 3 p pronouns" (see 7.5.)
SM: "Differentiation between male and female
    speech" (7.4.4.)

	uka	ro	mo	car	poro	oro	opo	hs	ixu	a'e	ŋa	sm	SM
Tb	+	+	+	+	+	+	+	+	+	±	-	-	-
Av	+	+	+	+	+	+	+	+	+	+	-	-	-
Ap	+	+	+	+	?	+	+	+	+	±	-	-	-
Mb	+	+	+	+	+	+	±	+	+	+	-	-	-
Kw	+	+	+	+	+	+	+	+	+	+	≥	-	-
Gk	±	-	-	-	-	-	-	-	-	±	-	-	
Ch/CT	+	+	+	+	+	+	+	+	+	+	-	-	-
Gy	+	+	+	+	+	+	+	+	+	+	-	-	-
Si	+	+	+	+	-	-	+	-	+				
Wa	-	+	+	+	+	+	-	+	±	-	±	-	-
WJ	-	+	+	+	+	+	+	+	±	-	±	-	-
Em	?	?	+	?	+	+	?	-	+	±	+	-	-
AsT	+	+	+	+	+	+	±	+	+	±	±	-	-
AsX	-	+	+	?	+	+	±	-	-	+	+	-	-
Te	+	+	+	+	+	+	+	+	+	+	-	-	±
Gj	+	+	+	+	?	+	+	+	+	+	-	-	-
Ub	-	+	+	+	?	-	-	+	-	+	+	-	-
Tp	+	+	+	+	+	+	+	+	+	+	±	-	+
Kb	+	+	+	+	+	-	-	+	-	+	+	-	+
Pt	+	+	+	+	+	+	+	+	-	-	+	+	-
Jm	?	+	+	?	?	?	?	+	-	+	+	+	-
Km	+	+	+	+	+	+	+	+	±	+	-	-	-
Co	≥	-	≥	+	-	-	-	-	±	+	-	-	+
Aw	?	?	?	+	?	-	-	?	-	-	+	-	+
SM	?	?	?	+	+	-	-	-	-	-	-	-	-

8. RESULTS OF GRAMMATICAL AND MORPHO-LOGICAL COMPARISON

8.1. Counting the agreements between all morphological and grammatical criteria for each language we will get the rate of the corresponding coherence of Tupi-Guarani languages. This time we gave one point for each fulfilment of the criterion, half a point for partial fulfilment (± vs + or −), 0.3 points for a remote reflex (≥ vs +), 0.7 points for ≥ vs −, and 0.8 points whenever ± and ≥ had to be compared. Differences up to 0.2 points are not always listed separately, in order to reduce as much as possible the extent of the following tables. The possible maximum rate would be 39 points, whereas the actual highest rate is 37.5 points (between Av and Kw), which is near grammatical identity. The figures for Em, Aw, SM, and, to some extent, Wa and Jm may only be compared with others using extreme care, as they are generally lower on account of the lack of information for several criteria. The lowest moderate rates are found in Gk and Co, and Si and Ub also show sub-average rates.

Tupinambá	Avañe'ẽ	Apapocuva
	37.5 Kw	
35.5 Km	36.5 Gy	
35 Av	35 Tb/Mb	35 Mb
34.5 Kw/Gy	34.5 Km	34.5 Km
33.8 Gj	34 Ap/Te	34 Av
33.5 Te		33.5 Kw
	33 Ch/CT	
	32.5 Gj	32.5 Gy
32 Ap/Mb/Tp/Pt	32 AsT	32 Tb
31.5 AsT		
	31 Tp	31 Te
		30.5 Gj
30 Gj		30 AsT/Km
	29 Pt	29 Ch/CT/Tp
28.5 Ch/CT		
28 WJ	28 WJ	
27.5 Wa	27.5 Wa	27.5 Pt
27 Kb		27 WJ
		26.5 Wa
25.8 Em		
	24.5 AsX	
	24 Kb	
	23.5 Em/Ub	
22.5 AsX		
21.5 Ub		21.5 AsX/Kb
		21.2 Em
20.5 Jm	20.5 Si	
20 Si		
	19 Jm	19.5 Si/Ub
18 Co		
17.8 Gk		
17.5 SM		17.5 Jm
		17 SM
	16.5 SM	16.5 Gk
15.5 Gk	16 Co	15 Co
13.5 Aw	15.5 Gk	12 Aw
	11.5 Aw	

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Mbyá	Kaiwá	Guayakí
	37.5 Av	
	36 Gy	
35 Av/Ap	35 Km	
34.5 Kw/Gy	34.5 Tb/Mb	
	33.5 Ap/Te	
33 AsT	32.8 AsT	
32 Tb	31.8 Gj	
31.5 Km	31.5 Ch/CT	
31 Te	31.3 Tp	
	30.3 Pt	
29.5 Gj	29.3 WJ	29.3 Co
29 Ch/CT	28.7 Wa	
28 Tp/WJ	27.8 AsX	
27.7 Wa		
27 Pt		
25.5 AsX/Kb	26 Kb	
	24.6 Em	25 Si
	23 Ub	23 Ub
22.3 Em		22.5 CT
21.5 Si		21.5 SM
21 Ub		
	20 Si	20 AsX
	19.8 Jm	19.5 Aw
		18.5 WJ
17.5 SM		17.8 Tb/18 Km
		17.5 Ch/AsT/Kb
17 Co	17 Gk	17 Kw/Gy
	16.5 SM	16.5 Av/Te/Wa/Em/Pt
16 Gk/Jm		16 Mb/Gj
	14.5 Co	15.5 Ap
12 Aw	12.5 Aw	13.5 Tp/11.5 Jm

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Chiriguano	Guarayo	Siriono
	36.5 Av	
	36 Kw	
	34.5 Tb/Mb	
33.5 Gy	33.5 Ch/CT	
33 Av		
	32.5 Ap/Km	
31.5 Kw/Km	31.7 Te	
	31.5 AsT	
30.3 Gj		
30 Te		
29 Ap/Mb/AsT	28.5 WJ/Tp	
28.5 Tb	28.3 Gj/Pt	
27 Wa/WJ		26.5 Co
	26.2 Wa	26 Ub
25 Tp/Pt	25 AsX	25 Gk
24 Si		24 Ch/CT/Km
23.5 Ub	23.5 Kb	23.5 WJ
22.5 AsX	22.5 Em	
	22 Si	22 Gy/Wa
	21.5 Ub	21.5 Mb
20.8 Em		21 AsT/AsX/Te
20.5 Av/Kb		20.5 Av
		20 Tb/Kw
		19.5 Ap/Kb
19 Kb	19 Jm	19.3 Gj
		18.3 SM
		18 Pt
17.5 Gk	17.5 Co	
17 Co	17 Gk/SM	
		16.5 Em/Aw
15.5 Jm		15.5 Tp
12.5 SM		14.5 Jm
9.5 Aw	12 Aw	

Wayãpi		Wayãpi Jari		Asurini Trocará	
36.8	WJ	36.8	Wa		
				33	Mb
				32.5	Kw
				32	Av
		31.5	AsT/Km	31.5	Tb/Gy/Te
		31	Gj	31	Gj/Km
		30.8	Pt	30.5	WJ
30	Pt	30.3	Kw	30	Ap/Tp
29.5	Gj/Km	29.5	Gy/Te		
29.2	Te/29 AsT	29	Tb/Av/Mb	29	Ch/CT/Pt/Wa
28.7	Kw				
28.3	Em				
27.7	Mb	28	Ap/Ch/CT		
27.5	Tb/Av			27.5	AsX
27	Ch/CT/Tp	27	Em/AsX/Tp		
26.5	Ap/AsX			26.5	Kb
26.2	Gy				
24.5	Ub	24.5	Si/Kb	24.7	Em
				24	Ub
		23.5	Ub		
22	Si				
				21	Si
20.7	Kb				
19.2	Jm				
18.5	SM	18.5	Gk/SM		
		17.8	Jm	18	SM
17	Co	17	Co	17.5	Gk/Jm
16.5	Gk			16	Co
15.5	Aw	14.5	Aw	13.5	Aw

Asurini Xingu	Emérillon	Tembé
		34 Av
		33.5 Tb/Kw
		33.2 Km
		32.7 Gj
		31.7 Gy
		31.5 AsT
		31 Ap/Mb
		30.2 Tp
		30 Ch/CT
		29.5 Pt/WJ
		29.2 Wa
28 WJ	28.3 Wa	
27.8 Kw		
27.5 AsT		
	27 WJ/Pt	
26.5 Wa	26.6 Wa	
25.5 Mb/Ub/Km	25.8 Tb	25.4 Kb
25 Gy	24.6 Kw/AsT	
24.5 Tb/Av	24.3 Km	
23.8 Te/Pt	24 Gj	23.8 AsX
	23.5 Av	
23 Tp	23.3 Te	23.3 Em
22.5 Ch/CT/Em	22.5 Gy/AsX	22.5 Si
22.2 Gj	22.3 Mb	
	22 Kb	
21.5 Ap/Kb	21.6 Tp	
21 Si	21.2 Ap	
	20.8 Ch/CT	
20 Gk		20 Ub
19 SM		
18.5 Co		18.6 Co
	18.1 Ub	17.9 Jm
17.3 Jm	17.5 SM	
	16.9 Jm	
	16.5 Gk/Si	16.5 Gk/SM
14 Aw	14.5 Co/14 Aw	15 Aw

Guajajara	Urubú	Tapirapé
32.7 Te		
32.5 Av		
31.8 Kw		32 Tb
		31.3 Kw
31 AsT/Km		31 Av/Pt
30.5 Ap/Ch/CT		30.2 Te
30 Tb/WJ		30 AsT/Kb
29.8 Tp		29.8 Gj
29.5 Mb/Wa		
28.7 Pt		29 Ap
28.3 Gy		28.5 Gy
		28 Mb
		27.5 Km
		27 Wa
	26 Si	26 WJ
	25.5 AsX	
	24.5 Wa/WJ	25 Ch/CT
24 Em	24 AsT	
	23.5 Av/Ch/CT/Co	
23.2 Kb	23 Kw/Gk/Km	23 AsX
22.2 AsX	21.5 Tb/Gy	21.6 Em
	21 Mb/Kb	
20.2 Ub	20.2 Gj	
	20 Te	
19.3 Si	19.5 Ap/Tp	19.5 Ub/Jm
18.7 Jm	18.8 Pt	
	18.5 SM	
	18.3 Jm	
	18.1 Em	
16 Gk/SM	16.5 Aw	16 Co
		15.5 Si
		14.5 SM
14 Co/Aw		13.5 Gk/Aw

Parintintin	Kayabí	Kamayurá
		35.5 Tb
		35 Kw
		34.5 Av/Ap
		33.2 Te
		32.5 Gy
32 Tb		31.5 Mb/Ch/CT/WJ
31 Tp		31 AsT/Gj
		30.3 Pt
30.3 Kw/Km		29.5 Wa
30 Wa/29.8 WJ	30 Tp	
29.4 Te		
29 Av/AsT/Kb	29 Pt	
28.7 Gj		
28.3 Gy		
27.5 Ap		27.5 Tp
27 Mb/Em	27 Tb	
	26.5 AsT	
	26 Kw/Km	26 Kb
	25.5 Mb/Te	25.5 AsX
25 Ch/CT/Jm		
	24.5 WJ	24.3 Em
23.8 AsX	24 Av	24 Si
	23.5 Gy	
	23.2 Gj	23 Ub
	22 Em	
	21.5 Ap/AsX	
	21 Ub	
	20.7 Wa	
	20.5 Si	
	19.5 SM	19.5 SM
18.8 Ub	19 Ch/CT/Co	18.7 Jm
	18.5 Gk/Aw	18.5 Co
18 Si	17.5 Jm	18 Gk
16.5 Gk/SM		
15.5 Aw		
13.6 Co	14 Em	11.5 Aw

Cocama	Awetí	Juma
29.3 Gk		
26.5 Si		
		25 Pt
23.5 Ub		
20.3 SM		20.5 Tb
		19.8 Kw
	19.5 Gk	19.5 Tp
		19.2 Wa
19 Kb/Aw	19 Co	19 Av/Gy
18.6 Te		18.7 Gj/Km
18.5 AsX/Km	18.5 Kb	18.3 Ub
18 Tb	18 SM	17.8 WJ/Te
17.5 Gy/WJ		17.5 Ap/AsT/Kb
17 Mb/Ch/CT/Wa		17.3 AsX
	16.5 Si/Ub	16.9 Em
16 Av/AsT/Tp		16 Mb
	15.5 Pt/Wa	15.5 Ch/CT
15 Ap	14.9 Te	
14.5 Kw/Em	14.5 WJ	14.5 Si
14 Gj	14 Em/AsX	
13.6 Pt	13.5 Tb/AsT/Gj/Tp	
13 Jm		13 Co
	12.5 Kw/Jm	12.5 Aw
	12 Ap/Mb/Gy	
	11.5 Av/Km	11.5 Gk
	9.5 Ch/CT	8.5 SM

Sateré-Mawé

21.5 Gk
20.3 Co

19.5 Kb/Km
19   AsX
18.5 WJ/Ub/Wa
18.3 Si
18   AsT/Aw
17.5 Tb/Mb/Em
17   Gy
16.5 Av/Kw/Te/Pt
16   Gj

14.5 Tp

12.5 Ch/CT
12   Ap

8.5 Jm

8.2.1. The comparison of morphological and gram-
matical features shows less differentiation between
Southern and Northern (Amazonian) languages than
in the phonic field. But once again (see 4.2.) we

can see a clear contrast between high rate, moderate rate, and low rate languages. High rates mean a high degree of grammatical similarity and a clear polarity to languages of lower ranks, whereas low rates express considerable morphological diversity not only from high rate languages, but also from other low rate languages. Low rates, as are shown by Gk and Co, do not imply similarity between these languages, but an individual aberrant behavior in grammar and syntax. It is true that Gk and Co show a rather high rate of 29.3 points between one another, but the majority of the rates are from 20 downwards. The single high rate must be explained by the high number of negative characteristics both languages show with regard to other languages, so that 29.3 points are the rate of negative similarity. Moderate rate languages are defined as those which do not show higher rates of similarity than 26 to 28 points and thus are not polarized to high rate languages, but may be regarded as less marked Tupi-Guarani languages in the grammatical field.

It is interesting to note that the polarized character of high rate languages is also marked generally by at least one gap in the descending numerical order of the rates, so that there may be a block of high rates separated by a gap from another block of low rates (see Av, Ap, or Te) or by an irregular column of low figures (see the case of Kw, which has a block of high rates between 37.5 and 30.3 and then a column with many gaps between 27.8 and 12.5). On the other hand, moderate rate languages, like Ub and Kb, do not show these types of gaps, which indicates some grammatical deficiencies in comparison with traditional, conservative languages and, by this, a tendency towards or a link with low rate languages.

8.2.2. As a result of morphological and grammatical comparison we have a grouping of this kind:

I) Tb, Av, Ap, Mb, Kw, Ch/CT, Gy, Wa, WJ, AsT, Te, Gj, Tp, Pt, and Km are more or less high rate languages which show a considerable similarity. Generally, the coherence between Southern languages is slightly closer than between Northern languages, as we can see in the case of Te, AsT, or Km, where the highest rates are those of the comparison with Southern languages, though the grammatical similarity between high rate Northern languages is not far from that between Southern and Northern high rate languages. On the other hand, Gk and Co are always at or near the end of the scale. Within this group there is a graduation that goes from extreme languages, like Kaiwá, Avañe'ẽ, Guarayo, and Tupinambá, to less conservative ones, as for example the Chiriguano complex with a majority of rates between 31.5 and 27 points, but with two closer cognates (Gy with 33.5 and Av with 33 points). Wa and WJ are very close to each other, but keep a remarkable distance to their next cognates (AsT and Km with 31.5 points for WJ and Pt with 30 points for Wa).

II) Si, Em, AsX, Ub, Kb, and Jm are far from forming a homogeneous group, but they all show lower average rates than the first group. Asurini of the Xingu River seems to be less stable and conservative in traditional Tupi–Guarani grammar than its dialect of Trocará, with which it shares especially the lexicon and the phonic shape. Even in this group, at the end of the scale, we find Gk and Co, and Si is not much higher. Emérillon is not at the maximum of its possible rates, but this is due to the lack of information in several cases. In grammatical respects this language is relatively
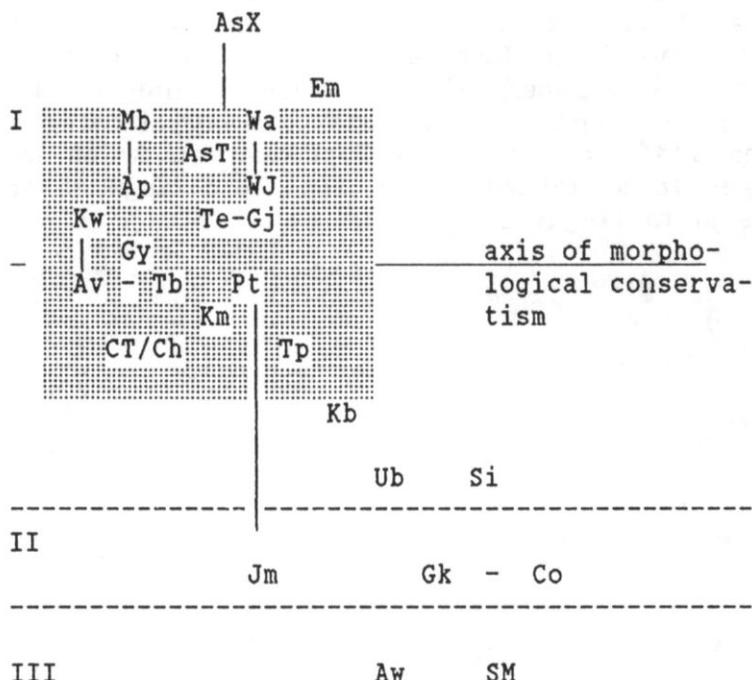
close to Wa, Pt, and WJ, and is also to Tb, Kw, AsT, Km, and Gj. Kayabí is at the top of the ranking in this group, because it shows a maximum of 30 and 29 points, but most of its rates are between 27 and 18 points. Kayabí shows a clear tendency towards Amazonian languages. Urubú and Siriono are two peculiar languages, but not positively similar to one another. They both show a small group of rates over 25 points, but the majority is between 24 and 18. Actually, Juma must be put in this group, though it seems that this result is mainly due to the lack of information about its grammatical shape; but all we know leads us to presume that Juma is not only closely related to Parintintin, but to the conservative high rate languages in general.

III) Gk, Co, Aw, and SM are to be considered as low rate languages, though not for the same reasons. Gk, Si, and Co are at the bottom of the scale. The low rates of Aw and SM are partly due to lack of information. The closest relationship of Aw seems to be with Gk and Co and, in the case of SM, with Km, AsX, and Kb. Of course, these are only negative relationships, which means that these languages have only very few common grammatical categories and morphemes, but are similar in many cases regarding the lack of grammatical categories and morphemes. As argued by A. D. Rodrigues (1984/ 85:35, 1986:41-46), these languages belong to the Tupi stock, which includes several language families, one of which is the Tupi-Guarani family, to which, however they certainly do not belong. Guayakí and Cocama should be on the very periphery of the Tupi-Guarani family because of the common lexicon. Actually they do not share more common grammatical morphemes with Tupi-Guarani languages than do Awetí and Sateré-Mawé,

as far as we can see. In the case of Guayakí and Cocama, this is perhaps a result of strong substrate influences. Siriono, too, must have been formed by such foreign influences, but its grammatical shape is clearly that of a Tupi-Guarani language. Siriono shares 12.5 positive morphemes with conservative Tupi-Guarani languages whereas Guayakí and Cocama have only 5.5., Awetí 5, and Sateré-Mawé 6.5. However, it is important to prove that even members of other other families of the Tupí stock share a few basic grammatical categories and morphemes with Tupi-Guarani, which we argue to be inherited from the proto-language or the proto-languages.

8.2.3. Simplifying and systematizing the morphological ranking we come to the following grouping of Tupi-Guarani languages:

▓ = conservative languages

```
                    AsX
                     |
                          Em
    I   ░░░Mb░░░░░░Wa░░░
        ░░|░░AsT░░|░░░
        ░░Ap░░░░░░WJ░░
        Kw░░░░Te-Gj░░
        ░|░Gy░░░░░░░░░          axis of morpho-
  _     Av░-░Tb░░░Pt░░░  _____  logical conserva-
        ░░░░░░░Km░░░░░            tism
        ░░CT/Ch░░░░Tp░░
        ░░░░░░░░░░░░░
                       Kb

                    Ub    Si
   ---------------|------------------------------
   II
            Jm          Gk  -  Co
   ---------------------------------------------

   III                  Aw    SM
```

As the majority of the languages belongs to the first group we arrange them around an axis of morphological conservatism. Moving upwards as well as downwards from this axis means an increasing innovatory character, which is emphasized in the second and still more in the third group. On the other hand, moving from left to

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right we notice an increasing distance from Southern grammatical shape and a less traditional morphology, which characterizes especially some Amazonian languages.

The configuration of grammatical and morphological relations is similar to the phonetical and phonological one in the case of Kaiwá and Avañe'ẽ, Apapocuva and Mbyá, both kinds of Chiriguano, both kinds of Wayãpi, and of Tembé and Guajajara. Grammatical coherence between Kamayurá and Southern languages is closer than in the phonic field, where only Parintintin and Juma have lots of "Southern" characteristics. On the whole, it is surprising to see that so many Amazonian languages (Km, Te, Gj, AsT, WJ, Tp) are most conservative with regard to traditional Tupi–Guarani morphology. Siriono and Urubú, which are situated at different places between Southern and Amazonian languages in the phonic ranking, are obviously less conservative in the grammatical field. Their peculiarity lies in an equal distance from clearly Southern, Amazonian, and conservative languages. On the other hand, Kayabí is clearly Amazonian, but rather an innovatory language. The low figures of Juma and Emérillon may be explained by the lack of data in some cases.

9.   RESULTS OF COMBINED PHONOLOGICAL
      AND MORPHOLOGICAL COMPARISON

9.1. Combining the results of phonic and grammatical comparisons we will get the following rates of similarity (for Xt, Ps, and Cn see the results of phonic comparison in chapters 4.3. and 4.4.):

Tupinambá	Avañe'ẽ	Apapocuva
	72.5 Kw	
66 Kw		
65 Av	65 Tb	
		63 Mb
62 Gy	61.5 CT	
	60.5 Ap	60.5 Av/Kw
59 Pt		60 Gy
	58.5 Mb/Te	
57.5 Ap	57.5 Ch	57.5 Tb
56.5 Km	56 Pt	
54.5 Mb/Te	54.5 Km	55 CT/Pt
54 CT	54 Gj	
	53 AsT	52.5 Te/Km
52 Ch		
	51 WJ/Ub/Tp	51 Ch
50.5 AsT		50.5 WJ
50 WJ		50 AsT/Tp
49.5 Wa/Tp/Kb	49.5 Wa	
47.5 Gj		47.5 Gj
		46.5 Wa
45 Ub/Jm	45.5 Jm	
44.8 Em	44 AsX	
	43.5 Em	43.5 Kb
42.5 Si/AsX	42.5 Kb	42.7 Em
	42 Si	
41 SM		41 Jm
		40 Gk
		39.5 Si/AsX/Ub
		36.5 SM
36 Gk/Aw		36 Aw
	32.5 Gk	34.5 Co
33 Co	32 Aw/SM	
	31.5 Co	
(18.5 Cn)	(22.5 Ps)	(24 Cn)
(17 Ps)	(18.5 Cn)	(20 Ps)
(14.5 Xt)	(17.5 Xt)	(18 Xt)

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Mbyá	Kaiwá	Guayakí
	72.5 Av	
	66 Tb	
63 Ap	63 Gy	
	61.8 Pt	
	61.5 CT	
60.5 Gy	60.5 Ap	
	59.5 Ch	
58.5 Av/Kw	58.5 Mb	
58 AsT	58 Km	
	57.5 Te	
54.5 Tb/Pt		
54 Tp/Km	53.8 AsT	
53.5 WJ	52.8 WJ/Wa	
52 CT	51.8 Gj	
51 Te/Gj	50.8 Tp	
50.2 Wa		50.3 Co
48.5 Kb		
48 AsX		
46.5 Ch	47 Ub	
	45.8 AsX/Jm	45.5 Ub
44.8 Em	44.5 Kb	
	44.1 Em	44 CT/Aw
		43.5 Si
		42.5 AsX
42 Ub	42 Si	41.5 Mb/WJ
41.5 Gk		41 Kb
		40 Ch
40.5 Jm		39 Ap
		39.3 Km
		38.5 Wa/Te
		38 Tp
		37.5 Em
		37 Gy/SM
		36.3 Tb

Mbyá		Kaiwá		Guayakí	
35.5	Co			35.5	AsT
				35	Gj/Pt
		34.5	Gk	34.5	Kw
		33	SM	33.5	Av
32	SM				
31	Aw	32.5	Aw	31	Jm
(25	Cn)	28.5	Co	(25.5	Xt)
(24	Xt)	(22.5	Ps)	(24.5	Cn)
(17.5	Ps)	(18.5	Cn/18 Xt)	(23	Ps)

Chiriguano-Ava		Chiriguano-Tapyi		Guarayo	
66.5	CT	66.5	Ch		
				63	Av/Kw
		61.5	Av/Kw	62	Tb
				60.5	Mb
59.5	Kw			60	Ap
		58.5	Gy	58.5	CT
58	Av				
55.5	Gy	56	Km	55.5	Ch/Pt
55	Km	55	Ap/WJ	55	Km
54.3	Gj	54	Tb		
53.5	WJ	53.5	Pt	53.7	Te
53	Te	52.8	Gj	53	WJ
		52.5	Te	52.5	AsT
52	Tb	52	Mb		
51.5	Wa	51.5	Wa		
51	Ap	51	AsT		
50.5	Ub				
		50	Ub	49.7	Wa
49.5	AsT/Pt			49.5	Tp
48	Si				
47.5	Mb	47	Si		
46.5	Em	46.5	Tp	46.8	Gj
46	Tp	45.5	AsX	46	Em/AsX

Chiriguano-Ava	Chiriguano-Tapyi	Guarayo
45 AsX		
	43 Jm	43 Ub
		42.5 Kb
		42 Si
40 Gk	40.5 Kb	40.5 Jm
	39 Gk	
38.5 Jm		
38 Kb		
37 SM		37 Gk
	36.5 SM	36.5 SM
36 Co		36 Co
	34.5 Co	
		34 Aw
(28.5 Ps)	27.5 Aw	
25.5 Aw	(26.5 Ps)	(25 Cn)
(25 Xt)	(24 Xt)	(23.5 Ps)
(20 Cn)	(21.5 Cn)	(21 Xt)

Siriono	Wayãpi	Wayãpi Jari
	67.8 WJ	67.8 Wa
		60 AsT
		58.5 Km
		56.8 Pt
		56 CT/Gj
	55.5 Km	55 Tp
		54.8 Kw
		54.5 Mb/Ch/Te
		54 Gy/Em
	53.5 AsT	53.5 AsX
	52.5 Gj	
	52.3 Em	
	52 AsX/Tp/Pt	52 Av

Siriono	Wayāpi	Wayāpi Jari
	51.5 Ch/CT	51.5 Ap
	51.2 Te	51 Tb/Kb
	50.7 Kw	
	50.2 Kb/Mb/Ub	50 Ub
	49.5 Tb/Av/Gy	
	48.5 Ap	
48 Ch/Wa/WJ/Ub	48 Si	48 Si
47 CT		
46 Co	45.7 Jm	
45 Gk		
		43.3 Jm
42.5 Tb	42.5 SM	
42 Av/Kw/Gy		
		41.5 Gk
	41 Aw	
40.5 Mb/Kb		
40 Km		
39.5 Ap		
38.5 Aw	38.5 Gk	38.5 SM
38 AsX/Pt		
37.5 Em		
	37 Co	
36.5 AsT		
35.8 Gj		36 Co
35.5 Te		
35.3 SM		
35 Jm		
		34.5 Aw
31.5 Tp		
	(26 Ps)	(27.5 Cn)
(23.5 Ps)	(25.5 Cn)	(25.5 Xt/Ps)
(19.5 Xt/Cn)	(19.5 Xt)	

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Emérillon	Asurini Troc.	Asurini Xingu
	60 Gj	
	59 WJ/Te/Tp	
	58.5 AsX	58.5 AsT
	58 Mb	
	57.5 Pt	
	56.5 Km	
54.2 AsT	54.2 Em	54 WJ
54 WJ	53.5 Kw/Wa	
53 Gj	53 Av	53 Km
52.3 Km	52.5 Gy	52 Wa
51 Pt		51.8 Te
50.8 Te	51 CT	51 Tp
50.6 Wa	50.5 Tb/Kb	50.7 Gj/Ub
50 AsX	50 Ap	50 Em
	49.5 Ch	
		48.3 Pt
47.1 Tp		48 Mb
46.3 Ch/Kb		46.8 Kw/46.5 Kb
46 Gy		45.5 CT
44.8 Tb/Mb	45 Ub	45 Tb/44.8 Jm
44.3 CT		44.5 Ch/Gy
44.1 Kw		44 Av
43.5 Av		43.5 SM
42.6 Ap/Ub	42.5 Jm	42.5 Gk
41 Jm/SM		
	39.5 SM	39.5 Ap
38.5 Aw		39 Co
37.5 Gk/Si/Co		38 Si
	36.5 Si	36 Aw
	35.5 Gk	
	34.5 Co	
	30.5 Aw	
(31.5 Cn)	(27 Ps)	(28 Cn)
(26 Ps)	(26 Cn)	(25.5 Ps)
(23.5 Xt)	(21.5 Xt)	(21 Xt)

Tembé	Guajajara	Urubú
65.2 Gj	65.2 Te	
60.7 Km	61 Km	
	60 AsT	
59 AsT		
58.5 Av/Pt		
57.5 Kw		
56.2 Tp	56.3 Tp	
	55.2 Pt/55 WJ	
54.5 Tb/WJ	54.5 Av/Ch	
53.7 Gy		
53 Ch	53 CT	
52.5 Ap/CT	52.5 Wa	
51.8 AsX	51.8 Kw	
51.2 Wa/51 Mb	51 Mb	51 Av/WJ
50.8 Em	50.7 AsX	50.5 Ch/AsX/Km
49.5 Kb		50 CT/Wa
	47.7 Kb	48 Si
	47.5 Tb/Ap	47 Kw
46.4 Jm	46.8 Gy	46.5 Tp/46 Te
46 Ub	45.7 Ub/Jm	45.7 Tb/Gj/Jm
45 SM		45.5 Gk/45.3 Pt
		45 AsT
		43.5 SM
	43 SM	43 Kb/Gy
		42.6 Em
		42 Mb
41.1 Co		40 Co
39.5 Aw		39.5 Ap/Aw
38.5 Gk		
37 Si		
	35.8 Si/35.5 Aw	
	35 Gk/34 Co	
(28 Ps)	(28.5 Ps)	
(27 Cn)	(26.5 Cn)	(27 Ps)
(18.5 Xt)	(24.5 Xt)	(24 Xt/Cn)

Tapirapé	Parintintin	Kayabí
	61.8 Kw	
59 AsT	59 Tb	
	58.4 Te	
	57.5 AsT	
57 Kb/Km	56.3 Km	57 Tp
56.3 Te/Gj	56 Av/WJ/Jm	
55.5 Pt	55.5 Tp/55.3 Gy	55.5 Km
	55 Ap/54.7 Gj	
54 Mb/WJ	54.5 Mb	
	53.5 CT	
52 Wa	52 Wa	
51 Av/Kw/AsX	51 Em	51 WJ
50.5 Ap		50.5 AsT
50 Gy	50 Ch	50.2 Wa
49.5 Tb	49.5 Kb	49.5 Tb/Te/Pt
	48.3 AsX	48.5 Mb/AsX
47.1 Em		47.7 Gj
46.5 CT/Ub		46.5 Em
46 Ch/Jm		
	45.3 Ub	45 SM
		44.5 Aw/44 Kw
		43.5 Ap
		43 Ub
		42.5 Av/Gy
		42 Gk/41.5 Si
		41 Jm
	39.5 SM	39 CT
		38.5 Co
38 Gk	37.5 Si	38 Ch
36 SM	37 Aw	
34.5 Aw	35 Gk	
33.5 Co		
31.5 Si		
	30.6 Co	
(28) Cn)	(24.5 Ps/Cn)	(27 Cn)
(25 Xt)	(21 Xt)	(23.5 Ps)
(22.5 Ps)		(16.5 Xt)

Kamayurá	Cocama	Juma
61 Gj		
60.7 Te		
59 Kw		
58.5 Av/WJ		
57 Ap/CT		
56.5 Tb/AsT/56.3 Pt		
56 Gy		56 Pt
55.5 Wa/Kb		
55 Mb/Ch/Tp		
53 AsX		
52.3 Em		
50 Ub	50.3 Gk	
46.7 Jm		46.8 Kw/46.7 Km
46.5 SM		46.5 Av/46.3 Te
	46 Si	46 Tb/Tp
		45.7 Wa/Gj
		44.8 AsX
		44 AsT/43.8 WJ
	43.5 Aw	43 CT
	42 SM	42 Ap
		41.5 Mb/Gy
41 Si	41.1 Te	41 Em/Kb
39.5 Gk	40 Ub	
	39 AsX	39 Ch
	38.5 Kb	
	37.5 Em/37 Wa	37.5 Aw
	36.5 WJ/36 Ch/Gy	
	35.5 Mb	35 Si
34.5 Aw	34.5 Ap/CT/AsT	34.5 SM
34 Co	34 Gj/Km	
	33.5 Tp	
	33 Tb	

Kamayurá	Cocama	Juma
	32 Jm	32 Co
	31.5 Av	
	30.6 Pt	31 Gk
	28.5 Kw	
(26.5 Cn)	(23 Ps)	(23.5 Cn)
(26 Ps)	(21.5 Cn)	(23 Ps)
(21.5 Xt)	(19.5 Xt)	(19 Xt)

Awetí   **Sateré-Mawe**

Awetí	Sateré-Mawe
	46.5 Km
	45 Te/Kb
44.5 Kb/SM	44.5 Aw
44 Gk	
43.5 Co	43.5 AsX/Ub
	43 Gj
	42.5 Wa/42.3 Co
41 Wa	41 Gk/Em
	40.5 Pt
39.5 Te/Ub	39.5 AsT
38.5 Si/Em	38.5 WJ
38 Jm	
	37.5 Gy
37 Pt	37 Ch

Aweti		Sateré-Mawe	
36.5	Ap	36.5	CT
36	Tb/AsX	36	Tp
35	Gj	35.3	Si
34.5	WJ/Km	34.5	Jm
34	Gy/Tp		
		33	Kw/Mb
32.5	Kw	32.5	Ap
32	Av	32	Av
31	Mb		
30.5	AsT		
27.5	CT		
25.5	Ch		
(25	Cn)	(27	Ps)
(21.5	Ps)	(20.5	Cn)
(15	Xt)	(15.5	Xt)

9.2.1. The classification which results from these rates of phonic and grammatical comparison must, here again, be based upon the observation that there are high rate languages with a majority of high points of similarity and few entries below 50 points and/or a less close numerical order below around 50 points (Kw, Av, Tb, Gy, Km, Pt, Te, AsT, WJ, less strictly Mb, Ap, CT, Ch, Wa, Tp, Kb, Gj). Moderate rate languages with a majority of points between 52 and 40 (Ub, Kb, AsX, Em, and Si), and low rate languages with a majority of points below 45 (Co, Aw, SM, and Gk). High rates mean high degrees of coherence, but also conservatism with respect to language change, especially grammatical change. Low rates mean low degrees of coherence, not only with higher rate languages, but also with other low rate languages, as well as innovation together with a reduction or the imper-

fect adoption of traditional Tupi-Guarani morphology and grammar. Moderate rates mean intermediate stages between the extremes. Undoubtfully, these languages are old Tupi-Guarani languages, but with a certain number of innovations and deficiencies in the traditional grammatical and phonic shape.

9.2.2. Simplifying and systematizing our ranking we come to the following approximative grouping of Tupi-Guarani languages (we cannot show all the existing relations represented by the figures):

S O U T H E R N   A M A Z O N I A N

```
                Gy
               /
          Tb——————————————→ Pt - Jm
         /
        Kw                    Km
  I      |      CT - Ch  ——— Te - Gj
        Av                      Tp - Kb
         Ap                 AsT  - AsX
           Mb               WJ - Wa
                             Em - Cn
                Xt
```
_____
                              Ub
  II   Ps

                    Si
_____

                              SM
  III   Gk   Aw
                                        Co

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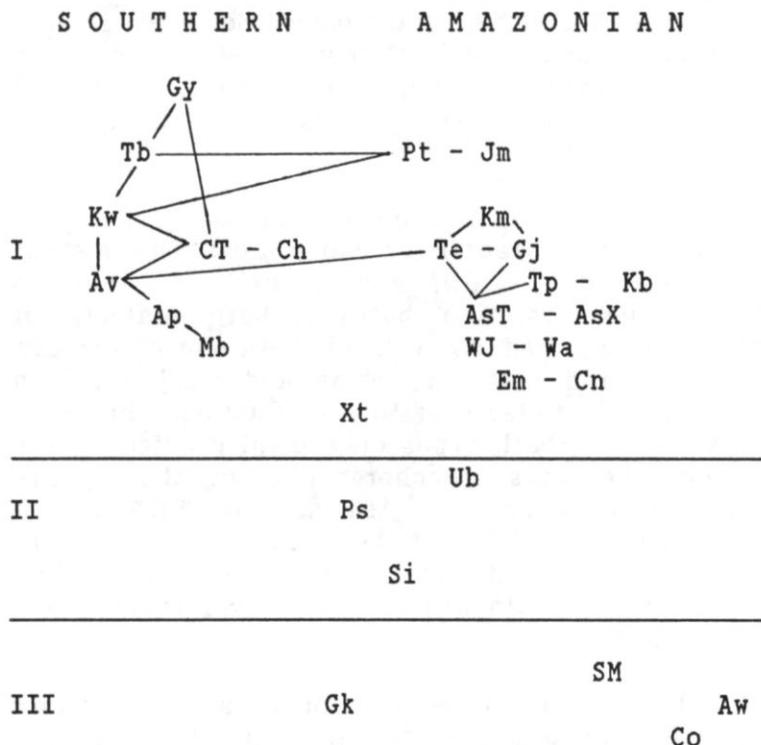
9.2.3. This scheme shows three stages of similarity, according to our differentiation between high, moderate, and low rates of coherence. Moving downward on the page means increasing innovatory and defective traditional character, thus, for example, Siriono is less stable than Urubú. Yet, within the first stage, there is a central axis of conservative characteristics around which we arranged the languages according to their relative distance from this axis (compare page 98). Moving from the left to the right side of the page marks an increasing Amazonian character, which is simply expressed by a higher number of close similarities with other Amazonian languages and an inferior rate of coherence with Southern languages. So Mbyá is less "Southern" than Kaiwá, Chiriguano-Ava less than Chiriguano-Tapyi, whereas Parintintin, Tembé, and Kamayurá are less strictly "Amazonian" than Tapi-rapé or Kayabí.

On the other hand, considering another aspect, we can see the character of subgroups: The closest one is formed by Kaiwá and Avañe'ẽ, but there is also a close relation between both dialects of Chiriguano studied as well as between Apapocuva and Mbyá and between Tembé and Guajajara and between both dialects of Wayãpi studied. The similarity between both types of Asurini studied is less evident, the rates of coherence being slightly inferior to those between AsT and Gj, WJ, Te, and Tp. Canoeiro, which has been included only with regard to its phonic shape, is close to Emérillon. This language again has its closest relations to WJ, AsT, and Gj.

9.2.4. First of all, it is amazing to see that Tupi-Guarani languages are not only related to one another by a common lexicon and a reconstructable

phonologic structure, but that they have also inherited a common basic grammatical shape, which has been preserved by the majority of these languages for centuries, even by the smallest groups scattered all over a great part of the continent.

Southern Tupi-Guarani languages exhibit, on the whole, more coherence with one another than Amazonian Tupi-Guarani languages with one another. But it is noteworthy, too, though logical, that the highest rates of similarity between Southern and Amazonian languages are with those which show high rates among the Amazonian languages, as Parintintin, Tembé, Guajajara, Asurini of Trocará, Kamayurá, Wayãpi of the Jari River. These Amazonian languages have more rates of similarity with Southern Tupi-Guarani languages, than, for example, Kayabí, Tapirapé, Asurini of the Xingu River, and Emérillon. Yet, on the other hand, it is only Parintintin that has a slightly greater inclination toward two Southern languages (Kw and Tb) than toward Amazonian languages, like Te, AsT, WJ, and Km. On the contrary, Te, Gj, AsT, Km, and WJ are closer to high rate Amazonian than to Southern languages. However, these languages also show comparatively high rates of similarity with Southern languages, whereas these rates are lower in more strictly Amazonian languages, like Kayabí and Tapirapé.

Within the group of conservative Southern languages, Mbyá is less extreme than Kaiwá and Avañe'ẽ, showing more features of similarity with Amazonian languages like AsT, Pt, Tp, and Km than these. Xetá certainly is the most divergent Southern language. Provisonally it was put at the bottom of the first rank, because it shows some affinity to Ch, Gk, WJ, Tp, and Mb, but we do not have suf-

ficient morphological data to say anything conclusive. In any case, it does not seem to be a highly divergent language with regard to morphology.

9.2.5. Bolivian Tupi-Guarani languages are not uniform. Guarayo and the Chiriguano group undoubtfully belong more to the Southern group than to the Amazonian languages, though especially Chiriguano-Ava is less stable than Chiriguano-Tapyi (Izoceño) and Guarayo. Yet, Pauserna-Guaraŝugwä and Siriono are not only very innovatory, but also show a plain propensity for the Amazonian type of Tupi-Guarani languages. They can certainly be regarded as links between the old Paraguayan area and the languages of the Amazonian basin. Siriono is so defective in its grammatical structure, so peculiar in its phonological structure and vocabulary that it is near the third category, which means low rate languages. Siriono is, however, undoubtedly a full member of the Tupi-Guarani language family, though thoroughly changed, but with a basic common vocabulary, phonological and grammatical structure.

9.2.6. Low rate languages are put in our third category. They lack most of the traditional grammatical categories and have a different phonological shape in many instances. The highest rates in the ranking of low rate languages do not mean positive similarity, but communality in negative features. Therefore, the lowest rates here are shown by high rate languages, like Kw, Av, and Pt, and the highest rates are those of other low rate languages. In the center of the column we find the rates of less conservative languages, like AsX and Kb. This is exemplified by the table of Gk, for example (see p. 101-102: Gk is more closely related to Southern languages, with rates of 41.5 for Mb

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and 40 for Ch, whereas Co has its first rates of Southern languages at 36 points and below. Sateré-Mawé is not too far from Amazonian languages like Km and Te, and closer to Aw than to Co, whereas Awetí is as far from Co from Kb, SM,Gk, and Wa.

Guayakí and Cocama may be members of the Tupi-Guarani language family, but these languages are to such an extent mixed up with features atypical of Tupi-Guarani languages that they must have been taken over by people who were originally speakers of languages belonging to other language stocks, or they must have been extensively influenced by such speakers. We don't have enough evidence for Awetí and Sateré-Mawé to say anything conclusive about these languages, but it seems that they do not belong to the Tupi-Guarani family, but to Tupi stock (compare 8.2.2.III).

9.3. Our classification comes to conclusions which differ from those of Lemle (1971) and Rodrigues (1984-85) on several accounts. Tupinambá and Co-cama do not share characteristics which allow them to be put into the same subgroup (Lemle 1971:128; Rodrigues 1984-85:39). Guajajara, which forms a subgroup with Asurini in Lemle (1971:128) and with Tembé in Rodrigues (1984 -85:39), is closely related to both languages, a bit closer to Tembé and even to Kamayurá than to Asurini of Trocará. Siriono does not form a subgroup together with Guarayo (Lemle 1971:128; Rodrigues 1984-84:38), but only shows some vague relations to Wayãpi and Chiriguano and is mainly characterized in a negative manner. Siriono forms a subgroup of its own. Uru-bú does not form a subgroup together with Wayãpi and Emérillon (Rodrigues 1984-85:42), but is a low rate language without clear relations to other languages. Kayabí is much closer to Tapirapé and Ka-

mayurá than to Asurini of Xingu (Rodrigues 1984–85:40).

9.4. What, then, is the final result of this internal classification? We can see that the comparison does not lead to a classification in the sense of a constitution of classes of languages, but only to a network of relations between languages. There are no actual classes, but groups of not more than two or three close cognate languages and groups of languages which share a number of phonic and morphological characteristics. There are geographical areas of conformity, but there are also languages which share a lot of characteristics with the languages of a different area.

What we can show is the individual relation the languages have with each other and especially with hypothetical previous stages of a proto-language or of proto-languages (Proto-Tupi-Guarani). In the sense of Wilhelm von Humboldt's typology, there are no classes of languages, but only individual languages, each of which represents its own type (which he calls "form" of a language). But, of course, our aim was not a typology, but an internal classification which was to show us the above mentioned network of affinities. This can be rather a solid base for further studies in the history of these languages and in the historical relations between them, which until now are far from being clear.

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Abbreviations:

IJAL   *International Journal of American Lin-
        guistics*, Baltimore/Chicago

JSA   *Journal de la Société des Américanistes*,
        Paris

ZE   *Zeitschrift für Ethnologie*, Berlin.

SUMÁRIO

Novo intento de classificação interna das línguas tupi-guarani

1.1. Este estudo propõe-se elaborar uma classificação interna de 29 línguas e dialetos tupi-guarani na base de 17 critérios fonéticos e fonológicos e de 34 critérios morfológicos. As classificações anteriores, de Aryon Rodrigues, Miriam Lemle e Yonne Leite, baseavam-se unicamente em critérios fonéticos ou em comparações lexicais.

1.2. O acréscimo de dados publicados sobre a estrutura de muitas línguas da família tupi-guarani e até algumas do tronco tupi (em termos de A. Rodrigues) permite agora uma comparação mais exata do que antes das correspondências fônicas assim como do sistema morfológico das línguas respetivas. A escolha das línguas e dos dialetos foi feita segundo o critério dos dados accessíveis. Foram consideradas as línguas tupinambá, avañe'ẽ (guarani do Paraguai), apapocuva (corresponde ao txiripá ou nhandeva moderno?), mbyá, kaiwá (ou caiguá), xetá, guayakí, chiriguano-ava, chiriguano-tapyi, guarayo, guarasug'wä (ou pauserna), siriono, wayãpi (oiampi) da Guiana Francesa e do Rio Jari, émérillon, canoeiro, assurini de Trocará (Rio Tocantins) e do Rio Xingu, tembé, guajajara, urubu, tapirapé, parintintin, kaiabi, kamaiurá, cocama, aweti, juma e sateré-mawé. No entanto, é evidente que os dados são mais extensos para algumas línguas e escassíssimas para outras. Não foram suficientes para uma análise morfológica do xetá, do pauserna-guarasug'wä e do canoeiro, e deficientes no caso do aweti, sateré-mawé, juma e, parcialmente, também para o apapocuva.

1.3. Os critérios fônicos e morfológicos foram escolhidos na medida que nos assinalassem o grau de parentesco de cada uma das línguas comparadas, isto é o grau de conservadorismo com o proto-tupi-guarani reconstruido e o caráter inovador daquelas línguas que, por diferentes razões, mais se afastaram da hipotética língua comum primitiva, que, com certeza, não era uma língua fixa e unitária. O nosso critério de comparação é, portanto, a estrutura fonética, fonológica, gramatical e, com isto, morfológica do proto-tupi-guarani.

1.4. Ao mesmo tempo, a comparação, embora feita com relação ao critério mencionado, faz ver agrupamentos internos das línguas tupi-guarani. Em primeiro lugar e fora de todo estudo comparativo observa-se um agrupamento geográfico em línguas "meridionais", de tipo tupi-guarani puro, em línguas amazônicas e em línguas bolivianas, geográfica e tipológicamente intermédias entre os primeiros dois grupos. Além da repartição geográfica observam-se agrupamentos que se constituem no interior dum grupo geográfico ou que excedem o próprio grupo geográfico. Há, além disso, línguas excêntricas, que não correspondem ao tipo tradicional das línguas da família tupi-guarani, mas que parecem ser alteradas por um substrato estrangeiro.

2.1. A maioria dos critérios fônicos são fonéticos, não fonológicos (no sentido funcional da escola de Praga). O critério das consoantes finais mostra o mantimento destas não só numa língua antiga como o tupinambá, mas em muitas línguas amazônicas. embora muitas vezes de maneira imperfeita, e a sua queda em todas as línguas meridionais, na maioria das bolivianas e em wayãpi, língua amazônica. O acento agudo das palavras é típico do tupi antigo, do guarani paraguaio e seus parentes mais próximos

(mbyá, kaiwá, apapocuva), assim que de muitas línguas amazônicas. A comparação mostra, porém, que o acento grave não é uma rara exceção, por exemplo no caso do chiriguano, onde se tem pensado numa influência do quíchua, mas é um fenômeno que se encontra em 13 das 29 línguas estudadas: em todas as línguas bolivianas, mas também em línguas amazônicas (wayãpi, assurini, cocama) e numa língua meridional (xetá). Este fato demonstra que, na proto-língua, o acento provavelmente não era fixado numa determinada sílaba e que tanto o acento agudo como o acento grave são possíveis nas línguas tupi-guarani.

2.2. Os demais critérios são a estabilidade das sílabas oposta a diversos graus de síncope, a existência e função da nasalidade, a distinção combinatória entre oclusivas prenasalizadas e nasais ([mb-m], [nd-n], [ng-n]), a distinção igualmente combinatória entre [j] e [ñ], entre [gw] e [w], o mantimento de */j/ como [j], de */p/ e a existência da oclusão glotal [ʔ].

A evolução de */č/ e */c/ nas posições intervocálica e inicial mostra uma grande diversidade de soluções. O nexo *[ti] é mantido nas línguas meridionais, com a exceção do mbyá e xetá, em chiriguano, tembé, parintintin, juma, cocama, aweti e sateré-mawé e é palatalizado e assibilado em [si], [ci] ou [ci] nas demais línguas. Outros critérios fônicos são a existência de /h/, a evolução do nexo */i/ + */č/ ou */c/, do nexo */pw/, de */k/ e a estabilidade das vogais primitivas.

2.3 A comparação de todos os critérios fônicos aplicados a cada língua estudada mostra uma grande coerência entre o avañe'ẽ e kaiwá, o parintintin e juma, o apapocuva e mbyá, entre ambos dialetos

estudados do chiriguano, do wayãpi, do assurini, entre o émérillon e canoeiro, o guajajara e tembé e, em nível algo inferior, entre o tapirapé e o kamaiurá, o kamaiurá e o guajajara e entre o kaiabi, o wayãpi e o kamaiurá. Em geral, as semelhanças existem mormente entre as línguas dos grupos regionais, isto é entre as línguas meridionais da uma e entre as línguas amazônicas da outra. Entre as últimas só o parintintin e juma e, em menor medida, o urubu, tendem para o grupo merdional. Entre as línguas bolivianas o guarayo e, em menor medida, o chiriguano fazem claramente parte do grupo meridional. Siriono e pauserna-guaraŝug'wä ocupam postos intermédios, divergentes de todos os grupos. Ainda mais divergentes são o guayakí, xetá, cocama, awetí e sateré-mawé.

3.1. Os critérios morfológicos demonstram a existência ou perda das respetivas funções gramaticais e, com isto, o caráter conservador ou inovador das línguas. As consoantes iniciais variáveis segundo a função sintática (t-, r-, h- ou variantes), conservadas, pelo menos parcialmente, em todas as línguas menos em guayakí, cocama e aweti, diferençam as línguas de tipo tupi-guarani de línguas de origem provavelmente não tupi-guarani, que adotaram uma parte do léxico tradicional tupi-guarani e, com isto, certos aspetos da sua fonética, mas não a estrutura gramatical básica. Outro critério, com respeito às línguas que conservam a alternância das consoantes iniciais variáveis, é a forma da distinção entre a função atributiva (em geral r-) e a função predicativa (em geral h-). A maioria das línguas conserva a distinção entre reflexivo e não-reflexivo nas terceiras pessoas das formas nominais. Só no assurini, tapirapé, kaiabi e, parcialmente, o sateré-mawé estenderam esta distinção a todas as pessoas gramaticais, traço caraterístico de línguas

amazônicas não-tupi-guarani.

3.2. Os demais critérios morfológicos são o sistema mesmo das pessoas gramaticais, a distinção entre marcadores pessoais para nomes e para verbos, a distinção entre os marcadores verbais de pessoa simples e aqueles caraterizados por um infixo -i- (ai-, (e)rei-, oi-, ...), a existência da forma ti- para marcar a 1ª p. inclusiva do plural nos verbos transitivos, as formas da negação, a existência do modo optativo em t-, as formas do futuro verbal, a existência de diferenciações aspetuais nos nomes e a conservação ou perda das formas tradicionais dos sufixos nominalizadores e da jerarquização sintática; a existência das vozes reflexiva, recíproca, fatitiva e fatitiva-sociativa. A formação de palavras tradicional testemunha-se pelo mantimento dos morfemas *-mo- e *-car-; a morfologia dos objetos direitos pronominais pelos infixos *-poro-, *-oro- e *-opo-; a tradiconal morfologia pronominal pela existência de formas correspondentes a *sese/hese, *ixu- (-pe, -gwi) e *a'e, forma tradicional do pronome da 3ª pessoa, sustituida nalgumas línguas amazônicas pela inovação ŋa. Os últimos dois critérios referem-se à existência duma distinção de sexo nos pronomes da 3ª pessoa e à distinção mais geral entre formas linguísticas distintas para mulheres e homens, categoria pouco difundida nas línguas tupi-guarani.

4.1. A comparação das línguas com respeito aos critérios gramaticais faz ver menos diferenciação entre línguas amazônicas e línguas meridionais do que no domínio fônico. Mas, mais uma vez, se observa uma clara distinção entre línguas tipológicamente bem marcadas como conservadoras, como inovadoras e como intermédias. Neste conjunto precisa-se entender o termo "inovador" antes como

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'relativo a uma língua de origem não-tupi-guarani que só imperfeitamente adotou a estrutura gramatical e morfológica do tupi-guarani. A comparação morfológica mostra sobretudo que até as mais remotas línguas tupi-guarani, que estão separadas as umas das outras àz vezes por milhares de quilômetros, apresentam, na sua grande maioria, um quadro surpreendente de uniformidade gramatical, a pesar das particularidades morfológicas e sintáticas de cada uma delas. O aweti e sateré-mawé ocupam postos ainda mais extremos de divergência com as línguas conservadoras, debido à escassez de dados accessíveis, que o guayakí e o cocama. Extravagantes são também o urubu e siriono, marginais o kaiabi e o émérillon.

4.2. A comparação integral com respeito aos critérios fônicos e morfológicos confirma mais ou menos o agrupamento em línguas meridionais, com grandes semelhanças mútuas, embora o mbyá e muito mais ainda o xetá divergirem da norma (veja-se o esquema na pág. 111), e línguas amazônicas, com subgrupos formados pelo parintintin e juma, pelo tembé e guajajara, junto com o kamaiurá, pelos dois dialetos do wayãpi e, em medida menos evidente, do assurini e pelo émérillon e canoeiro. Confirma também as relações entre certas línguas amazônicas e merdionais (tembé e avañe'ẽ, parintintin e kaiwá/tupinambá. Confirma, mais além, a distinção entre o caráter conservador da maioria das línguas, o caráter muito menos conservador do urubu, pauserna-guaraŝug'wä e siriono e o caráter nitidamente alheio do guayaki, cocama, sateré-mawé e aweti, que fazem parte do tronco tupi, mas não da família tupi-guarani (em termos de A. Rodrigues). As línguas bolivianas finalmente não formam um grupo particular, mas diferençam-se em línguas de tipo conservador (guarayo e chiriguano-tapyi, mais que

o chiriguano–ava) e em línguas inovadoras como o pauserna–guaraŝug'wä e mais ainda o siriono. Para o cocama e o siriono os resultados diferem dos obtidos nas classificações de Lemle e Rodrigues.

5. Na tipologia de Humboldt cada língua tem o seu tipo individual. Não foi este que se buscou neste estudo, mas uma classificação interna dum grupo de línguas segundo o parentesco. Os nossos resultados podem ser um fundamento para ulteriores pesquisas sobre a história e as relações históricas entre estas línguas que ainda são longe de estar claras.

Aesop in Mexico

Die Fabeln des Aesop in aztekischer Sprache	A 16th Century Aztec Version of Aesop's Fables
Text mit deutscher und englischer Übersetzung	Text with German and English Translation
Aus dem Nachlaß von Gerdt Kutscher herausgegeben von	From the Papers of Gerdt Kutscher Edited by

Gordon Brotherston & Günter Vollmer

Es gibt eine große Zahl von Handschriften und Codices, in denen mexikanische Indianer über ihre Geschichte, ihre Kultur oder ihre Lebensumstände berichten. Es ist auch versucht worden, den Indianern abendländisches Gedankengut zu vermitteln. Was aber in ihre Sprache übersetzt wurde, waren in der Regel Bibeltexte, Katechismen, Gesetze und Vorschriften. Das Interesse, ihnen Dichtung und Kunst nahezubringen, war gering. Trotzdem haben Motive und Werke der europäischen Literatur Eingang in die Welt der Azteken gefunden.

Vor vierhundert Jahren wurden 47 Fabeln Aesops ins Náhuatl übersetzt. Aber es war mehr als eine Übersetzung. Es war eine Anpassung der antiken Texte an die indianischen Verhältnisse im 16. Jahrhundert. Das mußte so sein. Fabeln sind Beispiele, und sie haben nur dann Wirkung, wenn der Leser sich oder seine Umwelt in ihnen wiedererkennt.

Gerdt Kutscher hat eine Rückübersetzung dieser Texte hinterlassen. Das Ergebnis ist erstaunlich: Es ist immer noch Aesop, aber doch ist vieles anders. Der Fuchs wurde zum Coyoten, der Löwe zum Jaguar; der Coyote ist nicht immer schlau, und der Jaguar hat manchmal Angst. Grundprinzipien der Fabel werden aufgegeben, und die indianische Redekunst sprengt die klassische Form. Der „aztekische Aesop" liefert Verhaltensmuster für Eingeborene in einer kolonialen Gesellschaft, und die Akzente sind dementsprechend anders gesetzt als im überlieferten Vorbild.

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The Aztecs and other native Mexican peoples are authors of a considerable corpus of texts, in their own and in alphabetic script, which deal with such matters as history, poetry, and cosmogony. After the European invasion, the Aztec language, Nahuatl, also became the vehicle for various propagandizing works, part of the Christian mission in the New World. At the same time, the Aztecs themselves on occasion chose to translate and adapt Western texts, incorporating them into their own literary tradition.

Four hundred years ago Aesop's Fables found their way into Nahuatl. The result was more than a translation: the Old World text was fully integrated into its New World environment. The fox became a coyote, the lion a jaguar, and the peacock a quetzal, a bird of profound significance in Mesoamerican ritual and philosophy. Indeed, the whole purpose and morality of the Fables were transformed, to the extent that the Nahuatl text came to stand in its own right as an example of native American literature.

Initially conceived by the late Gerdt Kutscher, the present edition provides the complete Nahuatl text, published here for the first time, as well as accompanying German and English translations, a host of illustrations from 16th century Mexico, and explanatory notes.

259 pages · 85 illustrations · 39,80 DM

GESCHICHTE DER AZTEKEN
Codex Aubin und verwandte Dokumente
Übersetzt und erläutert von Walter Lehmann und Gerdt Kutscher
Abgeschlossen und eingeleitet von Günter Vollmer

Wo geschichtliche Abläufe eines geschriebenen Berichtes entbehren, muß nicht selten die bildliche Überlieferung — und deren Interpretation — ersetzen, was sich mit dem Wort eindeutiger identifizieren ließe. Dies trifft auch für die Geschichte der Azteken zu, jenes großen indianischen Volkes, das 1168 aus seiner Urheimat Aztlan aufbrach und im 14. Jahrhundert ein gewaltiges Königreich im Hochland von Mexiko errichtete. Mit der spanischen Eroberung 1519 - 21 war das Ende des Reiches gekommen.

Im „Codex Aubin" des Britischen Museums und in drei weiteren Handschriften (Paris) sind die Annalen der Azteken aufgezeichnet. Die anonymen, aus der 2. Hälfte des 16. Jahrhunderts stammenden Bildhandschriften gehen vermutlich auf ein gemeinsames, nicht bekanntes Urbild zurück. Hieroglyphen und Texte ergeben ein eindrucksvolles Bild sowohl der tradierten Frühgeschichte als auch der ersten Jahrzehnte unter spanischer Herrschaft.

Erstmals werden in der vorliegenden Publikation die vier Bilderhandschriften vollständig reproduziert. Außer der Faksimile-Wiedergabe der Originale enthält der Band eine Transkription der aztekischen Texte und eine vollständige deutsche Übersetzung. Umfangreiche Anmerkungen geben auch dem nicht fachkundigen Leser erwünschte Erläuterungen zum Verständnis eines Epos, mit dem die ferne Geschichte eines Volkes und Reiches in aufregende Nähe gerückt ist.

Die sorgfältige Edition geht auf Walter Lehmann bis in das Jahr 1905 zurück.

INDIANA. BEIHEFTE

El presente estudio – una investigación lingüística comparativa de las lenguas tupí-guaraní – intenta esclarecer las relaciones genéticas entre los diferentes idiomas de esta familia de lenguas indígenas sudamericanas. En la comparación de datos recientes y últimos de 29 de estas lenguas, el autor se apoya en 17 criterios fonéticos y fonológicos así como en 34 morfológico-gramaticales, seleccionados cada vez según su facultad de exposición respecto a la proximidad "conservadora" al, respectivamente su distanciamiento "innovatorio" del 'proto-tupi-guaraní' reconstruido. Este, a su vez, no es concebido como una lengua específica o uniforme, tomándose en cuenta también las influencias y los efectos posteriores sobre lenguas de otra procedencia. En un examen comparativo detallado de diversos criterios y diferentes lenguas, llega el autor a una nueva clasificación interna, en la cual se va confirmando entre otros también una clara estructuración en un grupo sureño y otro amazónico.