

THE AMAZONIAN LANGUAGES

edited by

R. M. W. DIXON

and

ALEXANDRA Y. AIKHENVALD

Research Centre for Linguistic Typology

La Trobe University, Melbourne

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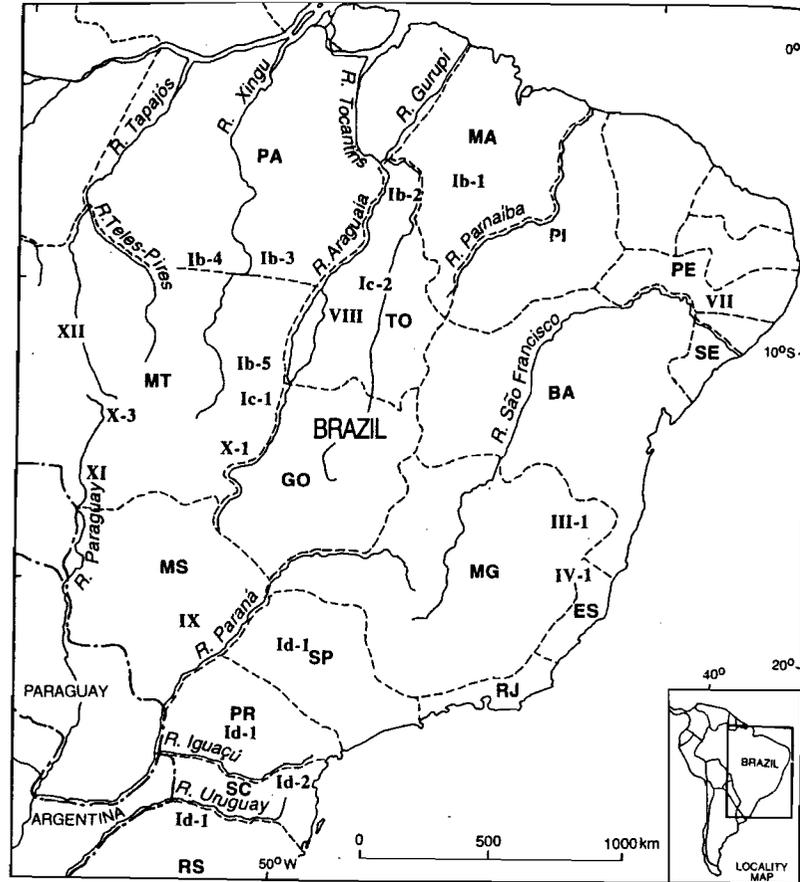
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Macro-Jê

ARYON D. RODRIGUES

1 HISTORICAL SURVEY

Macro-Jê is the name that was proposed about fifty years ago by Mason (1950: 287) for a large array of South American languages (all spoken in Brazil) thought to be related to the Jê linguistic family. W. Schmidt (1926: 234–8) had earlier employed the name Ges-Tapuya, and Loukotka (1944 [1942]: 2–6) the name Tapuya-žê in the same sense. The possible genetic relationship among the many languages ascribed to the Macro-Jê stock is a working hypothesis whose details have varied according to different scholars. Loukotka included in it the following eight 'language families': Žê (Jê), Opaie (Ofayé), Kaingán (Kaingáng), Coroado (Purí), Mašakali (Maxakali), Patašó (Pataxó), Botokudo (Krenák) and Kamakan (Kamakã) (names or spellings added in parentheses are those now currently used by Brazilian linguists and anthropologists and adopted in the present chapter). Nimuendajú (Métraux and Nimuendajú 1946: 542; Nimuendajú 1945 [1980]) considered Malalí an independent linguistic family, whereas Mason (1950) added Malalí and Coropó (Koropó) to Macro-Jê, but took out Ofayé as well as Iatê (Yatê). The latter had already been separated from the stock by Loukotka (1942). Later, on the basis of good comparative work, Davis (1966) demonstrated that Kaingáng is truly a member of the Jê genetic family and not another family in itself. In another paper, Davis (1968) gave evidence of regular phonological correspondences between Jê and Maxakali as well as between Jê and Karajá and mentioned possible wider relationships of Macro-Jê with Boróro, Tupí, and Fulniô (Yatê). As for Boróro, Guérios (1939) presented as indicative of genetic relationship the similarities he had found between Eastern Boróro and two Northern Jê languages, Timbira ('Merrime' = Canela) and Kayapó. Gudschinsky (1971), comparing Ofayé with Davis' reconstruction of proto-Jê, showed that it is more likely to be a member of Macro-Jê. Boswood (1973) gave some lexical evidence in favour of the inclusion of Rikbaksá in this stock. Rodrigues (1986) included in it Karirí and Guató, but dealt with Pataxó as a member of the Maxakali family, the same being true of Malalí, which had already been put in this family (and not as a main branch of Macro-Jê) by Loukotka. For Greenberg (1987), all the aforementioned languages or language families (except for Karirí) belong to Macro-Jê, as do



Map 5 Macro-Jê languages with approximate locations

Chiquito, Otí and Yabutí (Jabutí). Although Greenberg (1987: 86) states that 'these three languages are as validly Macro-Ge as the others', the meagre data he presents for Otí and Yabutí do not substantiate his claim. Kaufman, in his recent revision of the classification of South American languages (1990, 1994), left out of Macro-Jê these two languages as well as Karirí, but retained Chiquito. In the present chapter Karirí, but not Chiquito, is considered a possible member of Macro-Jê.

A good part of the languages involved in the Macro-Jê hypothesis are already dead and most of them have been very poorly documented. Thus it is very difficult to work out their relationships with the best-known members of the stock. Table 6.1 lists the language families and the single languages that will be considered here as possible members of Macro-Jê (for which there is some documentation, albeit very scarce in some cases). For some selected lexical and phonological evidence of the consistency of the whole group see §7 below. Table 6.1 also gives information on the locations of the languages and the number of speakers. Names of dead languages are preceded by †. The approximate locations of the extant Macro-Jê languages are shown on map 5.

2 DISTRIBUTION

Although several Macro-Jê languages are spoken in Brazilian Amazonia, the geographical distribution of this linguistic stock is rather circum-Amazonian, encircling Amazonia on its eastern and southern sides. Most members of the Macro-Jê linguistic stock have been spoken in eastern and northeastern Brazil, but a few language families are found in central and southwestern Brazil. With the exception of Otúke of the Boróro family, spoken west of the Paraguay river in Bolivia, the whole Macro-Jê stock is found entirely in what is today Brazilian territory. In the sixteenth century, when the Europeans (mainly Portuguese and French) started trading or settling on the Atlantic coast of South America, most of this coast was occupied by Indians speaking languages of the Tupí-Guaraní family. In some places people speaking Macro-Jê languages used to go to the seashore seasonally in order to gather seafood. This was probably the case with the Maromomim or Guarulho on the coast of present-day São Paulo State and with the Waitaká on the coast of northern Rio de Janeiro and Espírito Santo, but it is likely that many other peoples would have done the same. Both the Maromomim and Waitaká spoke languages that probably belonged to the Puri family of Macro-Jê, but both languages became extinct and no record of them has been preserved or, at least, has not so far been found. Of the language of the Maromomim there is clear historical information that a grammar and a dictionary as well as a Christian doctrine, were written in the sixteenth century by the Jesuit Manuel Viegas in cooperation with Joseph de Anchieta, the linguistically skilled author of the first grammar of the Tupí-Guaraní language Tupinambá.

From a geographical point of view the Macro-Jê languages may be divided into

Table 6.1 *Macro-Jê languages*

I	Jê family
a	North-eastern Jê
1	†Jaikó (south-eastern Piauí)
b	Northern Jê
1	Timbira (including Canela Ramkokamekrã, Canela Apanyekrã, Gavião Piokobjé, Gavião Parakatejé, Krinkati, Krahô, Krenjé; Maranhão, Pará, Tocantins; 2,800)
2	Apinajé (northern Tocantins; 720)
3	Kayapó (including A'ukrê, Gorotire, Kararaô, Kikretum, Kokraimôro, Kubenkrankên, Menkrangnoti, Mentuktire, Xikrin; eastern Mato Grosso, south-eastern Pará; 5,000)
4	Panará (Kren-akarôre) (Área Indígena Panará, northern Mato Grosso and south-western Pará; 160)
5	Suyá (including Tapayuna; Xingu Indigenous Park in Mato Grosso; 213 S., 58 T.)
c	Central Jê
1	Xavánte (south-eastern Mato Grosso, formerly western and northern Goiás; 9,000)
2	Xerênte (Tocantins; 1,550)
3	†? Xakriabá (Minas Gerais; 5,700 ethnic, probably no speakers)
4	† Akroá (eastern Goiás, southern Maranhão)
d	Southern Jê
1	Kaingáng (including São Paulo K., Paraná K., Central K., South-western K., and South-eastern K.; São Paulo, Paraná, Santa Catarina, Rio Grande do Sul; 20,000)
2	Xoklêng (Santa Catarina; 1,650)
3	† Ingain (north-eastern Argentina, south-eastern Paraguay)
II	Kamakã family
1	† Kamakã (south-eastern Bahia, north-eastern Espírito Santo)
2	† Mongoyó (south-eastern Bahia)
3	† Meniën (south-eastern Bahia)
4	† Kotoxó (south-eastern Bahia)
5	† Masakarã (north-eastern Bahia)
III	Maxakali family
1	Maxakali (north-eastern Minas Gerais, northern Espírito Santo; 854)
2	† Kapoxó (including Kumanaxó and Panháme; north-eastern Minas Gerais and south-eastern Bahia)
3	† Monoxó (north-eastern Minas Gerais and south-eastern Bahia)
4	† Makoní (north-eastern Minas Gerais)
5	† Malali (north-eastern Minas Gerais)
6	† Pataxó (including Hähähãe; south-eastern Bahia; 4,600 ethnic)
IV	Krenák family
1	Krenák (formerly called Botocudo, including Nakrehé, Nakpié, Naknyanúk, Nakyapmã, Nyepnyep, Etwet, Minyãyrún, Yiporók, Pojixã, Potén, Krekmun, Bakuén, Aranã; north-eastern Minas Gerais and northern and central Espírito Santo, formerly also south-eastern Bahia; some families now also in central São Paulo; 100 ethnic, about 10 speakers)
2	† Guerén (south-eastern Bahia)
V	Puri family
1	† Puri (Espírito Santo, Rio de Janeiro, north-eastern São Paulo, south-eastern Minas Gerais)

Table 6.1 (cont.)

	2 † Koropó (Espírito Santo)
	3 † Coroado (Espírito Santo)
VI	Karirí family
	1 † Kipeá (also known as Kirirí; north-eastern Bahia and Sergipe; 1,830 ethnic)
	2 † Dzubukuá (on the islands of the São Francisco river, in northern Bahia)
	3 † Sabuyá or Sapoyá (central Bahia)
	4 † Kamurú or Pedra Branca (eastern Bahia)
VII	Yatê family
	1 Yatê (the people are named Fulniô, formerly known as Carnijó; Pernambuco; 3,000)
VIII	Karajá family
	1 Karajá (including Southern K., Northern K., Javaé and Xambiwá; eastern Mato Grosso, western Tocantins; 2,900)
IX	Ofayé family
	1 Ofayé (including Ivinheima O. and Vacaria O.; also known as Opayé and Ofayé-Xavánte; eastern Mato Grosso do Sul; 87 ethnic, about 25 speakers)
X	Boróro family
	1 Eastern Boróro (southern Mato Grosso; 1,072 ethnic, some of which no longer speak Boróro)
	2 † Western Boróro (eastern Mato Grosso)
	3 Umutina (western Mato Grosso; 100 ethnic, 1 speaker)
	4 † Otúke (including Kovare[ka] and Kurumina[ka]; eastern Bolivia)
XI	Guató
	1 Guató (south-western Mato Grosso; 380 ethnic, only about 5 speakers)
XII	Rikbaktsá family
	1 Rikbaktsá (northern Mato Grosso; 990)

eastern, central and western, extending diagonally across the South American lowlands from the eastern and north-eastern Atlantic coast to the upper Paraguay river. The central group comprises the Karajá and Jê families, the latter spreading northwards and southwards along the savanna (*cerrados* and *campos*) plains to Piauí and Maranhão in the north and to Rio Grande do Sul in the south. Karajá extends also on a north-south axis, but is restricted to the valley of the Araguaia river, including Bananal island.

Eastern Macro-Jê languages are those belonging to the Purí, Krenák, Maxakalí, Kamakã, Karirí and Yatê families. The western families are Ofayé, Boróro, Rikbaktsá and Guató. The distribution of the eastern Macro-Jê language families extending from eastern to north-eastern Brazil was as follows (taking the modern Brazilian states and some main rivers as geographical references). Purí was along the whole extent of the Paraíba do Sul river and spreading northwards until the Doce river, in north-eastern São Paulo, Rio de Janeiro, south-eastern Minas Gerais, and southern Espírito Santo. Krenák extended from the Doce river to the Paraguaçu river in north-eastern Minas Gerais, central and northern Espírito

Santo, and south-eastern Bahia. Maxakalí went from the Sapucaí and São Mateus rivers to the Jequitinhonha river in eastern Minas Gerais, northern Espírito Santo and south-eastern Bahia. Kamakã was between the Jequitinhonha and Contas rivers in south-eastern Bahia. Karirí was located mainly between the Itapicuru and the middle and lower São Francisco river, in central and north-eastern Bahia and southern Sergipe, and with some extensions northwards and southwards, probably due to the Portuguese invasion of their territory in the seventeenth century. Yatê was north of the lower São Francisco, in eastern Pernambuco.

Of the western families, Boróro spread from the sources of the Araguaia river into eastern Bolivia, and Guató was found on the upper Paraguay, immediately to the southwest of Boróro. Ofayé occupied a stretch of the upper Paraná river from the mouth of the Tietê downwards, passing the mouth of the Parapanema and extended to the west to the headwaters of the right-bank tributaries of the Paraná, reaching also the headwaters of some tributaries of the Paraguay river. Rikbaktsá is located far to the north, on the upper Juruena river, one of the headwaters of the Tapajós. Rikbaktsá is the only language of the Macro-Jê linguistic family to be found exclusively in Amazonia. However, some peoples speaking languages of the Jê family also live in Amazonia, such as the Panará, the Suyá, the Tapayuna and the Kayapó. It is likely that all of the latter entered Amazonia coming from the east under the pressure of the Portuguese invasion of the savannas in central Brazil. In the eighteenth century the Panará mainly lived around the headwaters of the Paraná river, such as the Paranaíba and the Grande, in present-day southern Goiás, south-western Minas Gerais and northwestern São Paulo, where they came to be known as Kayapó. After their disappearance due to the war waged against them by the Portuguese, this name was applied to another Jê people, whose language is similar to, but not the same as, that of the Panará. Very recently (1968) a large population of Panará was discovered on the Peixoto de Azevedo river, another headwater of the Tapajós, where they had taken refuge and managed to live for more than two centuries in freedom and peace. Shortly after having been forced into a new contact with white people in the early 1970s, the Panará population was drastically reduced by epidemics. The survivors were transported to the Xingu Indigenous Park where they have since lived, but they are now managing to get back to a part of their former territory. The modern Kayapó moved into eastern Amazonia during the first half of the twentieth century, but they were preceded in this move by the Suyá, who were already on the Upper Xingu in the second half of the nineteenth century.

3 LINGUISTIC SCHOLARSHIP

A significant number of Macro-Jê languages became extinct as a consequence of the European settlement in Brazil. The worst-hit language families were those located in

eastern Brazil, since they were most affected by the Portuguese gold-seeking and slave-hunting expeditions. Although the very first victims of the European expansion were the Tupi-Guarani-speaking Tupinambá, who during the sixteenth century were wiped out on large stretches of the Atlantic coast, some Macro-Jê-speaking peoples became the objects of Portuguese attacks around this time – for example, the Aimoré in southeastern Bahia (whose language probably belonged to the Krenák family). At the beginning of the nineteenth century there were still small groups of Indians in eastern Brazil who spoke languages of all the families here ascribed to Macro-Jê, but many other languages were already extinct and we do not know whether they were indeed Macro-Jê or not. The first years of the nineteenth century were characterized by the beginning of the study of Brazilian natural history by European scientists, mainly Germans and French. Many botanists, zoologists and geologists crossed the country gathering samples of the flora, the fauna and the soils and also gathered samples of the languages spoken by the Indians they met on their way. At that time there were no specialists in the study of languages and the model of language documentation was the collection of short comparative lists of words, such as those published in the eighteenth century by Adelung and by Hervás. The scientific curiosity of the naturalists has saved from complete oblivion scores of words of many languages that, during the following years, became extinct.

All the languages of the Puri, Kamakã and Kariri families are now dead. Two languages of the Kariri family are quite well known thanks to the work of seventeenth-century missionaries. An Italian Jesuit published a fine grammar and a catechism in Kipeá (Mamiani 1698, 1699) and a French Capuchin published a catechism in Dzubukuá (Bernardo de Nantes 1709). Knowledge of the Puri languages is limited to the scanty data in lists gathered by European naturalists and by a Brazilian engineer (for the linguistic data see Loukotka 1937). The Kamakã language was the last of the family with the same name to disappear; it was still possible to elicit words and phrases from the last speakers in the 1930s and 1940s (Guérios 1945, Nimuendajú and Guérios 1948; for earlier data see Loukotka 1932). For the Krenák family there are today no more than ten speakers representing two or three dialects of the one language (information on published and unpublished sources in Seki 1990; see also Silva 1986 and Sebestyén 1981). Some of these, speaking the Nakrehé dialect, live far from their original home, in the interior of the State of São Paulo, to where they were deported by the Brazilian administration about forty years ago. The Maxakali language is the only surviving member of the Maxakali family, the other five languages now being dead (recent studies are Pereira 1992; Popovich 1967, 1971, 1985, 1986; Gudschinsky, Popovich and Popovich 1970; Rodrigues 1981; Wetzels 1996; Wetzels and Sluyters 1996; for earlier data see Loukotka 1931 and 1939). Yatê is the only indigenous language to survive in northeastern Brazil, in a region where there are remnants of several other indigenous peoples who now speak only

Portuguese. It is not known whether the extinct languages of some of these peoples belonged to the same family as Yatê or even whether they were members of the Macro-Jê stock (studies on Yatê are Lapenda 1968; Pinto 1956: 265–76 and *passim*; Meland 1968; Meland and Meland 1967, 1968; Barbosa 1991).

The languages of the Jê family were better preserved due to the inland location of their speakers. Apparently only one main branch of the family disappeared completely, namely Jaikó, whose living area in the backlands of Piauí was one of the first to be used by the Portuguese for intensive cattle-raising. The other three sub-groups still have some healthy languages, despite suffering heavy population losses. For Jaikó the only source is a small word list gathered and published by Von Martius (1867: 143); for northern Jê the main contributions are Popjes and Popjes (1986), Souza (1989) (Timbira); Callow (1962), Ham (1961, 1967), Ham, Waller and Koopman (1979) (Apinajé); Stout and Thomson (1974a,b), Thomson and Stout (1974), Jefferson (1989), M. de N. de O. F. Borges (1995) (Kayapó); Dourado (1990, 1993a,b) (Panará); Guedes (1993), Santos (1997) (Suyá); for central Jê: Mattos (1973) (Xerente); Hall (1979), Hall, McLeod and Mitchell (1987), McLeod (1974), McLeod and Mitchell (1977), Lachnitt (1987, 1988) (Xavante); for southern Jê: Guérios (1942), Mullen (1965, 1966), Wiesemann (1971, 1972, 1978), Rodrigues and Cavalcante (1982), Cavalcante (1987), Teixeira (1988) (Kaingang); Henry (1935, 1948), Urban (1985), Bublitz (1994) (Xokleng).

The main literature on Karajá comprises Ehrenreich (1894), Kunike (1916, 1919), Fortune (1973), Fortune and Fortune (1975), Maia (1986), Cavalcante (1992), Ribeiro (1996), Borges (1997). The only analytical essay on Ofayé is Gudschinsky (1974), which makes reference to previous sources. For the Boróro family there is a grammatical essay and a monumental encyclopaedic dictionary plus the text collections by the members of the Salesian Mission (Colbacchini 1925; Colbacchini and Albisetti 1942, Albisetti and Venturelli 1962, 1969, 1976), as well as Crowell's grammar (1979), all for Eastern Boróro. For Umutina see M. Schmidt (1941), Schultz (1952) and Lima (1995); Rodrigues (1962) provides a comparison of Umutina with Eastern Boróro. Guató was analysed by Palácio (1984, 1986), who gives information on previous data. For Rikbaktsá see Boswood (1974a,b, 1978) and Tremaine (1981).

4 PHONOLOGY

4.1 Vocalic systems

As in other language families of Lowland South America, a very common feature in many languages of the Macro-Jê stock is the presence of phonologically contrastive nasal vowels. Often it is the nasal vowels that condition the variation of the

Table 6.2 *Vowel system of the Paraná dialect of Kaingáng (after Wiesemann 1972)*

oral			nasal		
front unrounded	central unrounded	rounded	front unrounded	central unrounded	back rounded
i	ɨ	u	ĩ		ũ
e	ə	o		ẽ	
ɛ	a	ɔ	ẽ	ã	

Table 6.3 *Vowel system of Apinajé (after Ham 1967)*

oral			nasal		
front unrounded	central unrounded	rounded	front unrounded	central unrounded	back rounded
i	ɨ	u	ĩ	ĩ	ũ
e	ə	o			õ
ɛ	ʌ	ɔ	ẽ	ã	
	a			ã	

consonants and not the reverse (as happens in other languages). In general the number of nasal vowels is less than the number of oral ones. The Paraná dialect of Kaingáng (Jê), for instance, has nine oral and five nasal vowels, as may be seen in table 6.2. In this language the low central nasal vowel oscillates from rounded back [ũ] to unrounded central [ã]. All the languages of the Jê family have vowel systems as large as that of Kaingáng or with one or two more vowels. Apinajé, which distinguishes four instead of three degrees of height for central unrounded, has ten oral and seven nasal vowels as shown in table 6.3.

The system of nine or ten oral vowels and a lesser number of nasal vowels is typical of the languages of the Jê family; Davis (1966) reconstructed a system of nine oral and six nasal vowels for proto-Jê. A system comparable in the number of oral vowels is found in the Makú family (see chapter 9). The languages of the other families of Macro-Jê vary between nine and five oral vowels, but in general preserve the distinction of three tongue positions (front, central and back). Some of them have contrasting length. Karajá has nine oral vowels like Kaingáng, but has only two nasal vowels, ẽ and õ. Phonetically there is also [ã], which is an automatic realization of the phoneme /a/ when it either stands at the beginning of a word or is preceded by /h/ or by a voiced stop, as in the following examples: *adi* [ãdi] 'your

Table 6.4 *Vowel system of Kipeá*

oral			nasal		
front	central	back	front	central	back
i	ɨ	u			õ
e		o	ẽ		
æ	a		ã	ã	ũ

Table 6.5 *Vowel system of Maxakali*

oral			nasal		
front	central	back	front	central	back
i	ɨ		ĩ	ĩ	
e		o	ẽ		õ
	a			ã	

Table 6.6 *Vowel system of Ofayé*

oral						nasal					
short		long				short			long		
front	central	back									
i	ɨ	u	i:	ɨ:	u:	ĩ	ĩ		ĩ:	ĩ:	
e		o	e:		o:			õ			õ:
ɛ	a		ɛ:	a:		ã				ã:	

mother', *aθi* [ãθi] 'grass', *habu* [hãbu] 'man', *ʒha* [ʒhã] 'armadillo', *bahadu* [mãhãdu] 'group', *dadi* [nãdi] 'my mother', *ʒhada* [ʒhãdã] 'face'.

Kipeá, of the Karirí family, has seven oral and five nasal vowels, as shown in table 6.4 (after Azevedo 1965), whereas Maxakali has only five in each category, as may be seen in table 6.5 (after Gudschinsky, Popovich and Popovich 1970).

According to Gudschinsky (1974), Ofayé has seven oral and four nasal short vowels and as many long vowels (see table 6.6, after Gudschinsky 1974), Guató has eight oral and five nasal (table 6.7, after Palácio 1984), and Rikbaksá has six oral and six nasal vowels (table 6.8, after Boswood 1973).

Yatê and Boróro have no nasal vowels and have only seven oral vowels each, but

Table 6.7 *Vowel system of Guató*

oral			nasal		
front	central	back	front	central	back
i	ɨ	u	ĩ	ɨ̃	ũ
e		o	ẽ	ã	
ɛ	a	ɔ			

Table 6.8 *Vowel system of Rikbaktá*

oral			nasal		
front	central	back	front	central	back
i	ɨ	u	ĩ	ɨ̃	ũ
e	a	o	ẽ	ã	õ

Table 6.9 *Vowel system of Yatê*

front	central	back
i		u
e		o
ɛ	a	ɔ

Table 6.10 *Vowel system of Boróro*

front	central	back
i	ɨ	u
e	ɜ	o
	a	

both partially preserve the three-column distinction as well as the three-row distinction of the fuller Macro-Jê systems, as may be seen in table 6.9 (after Meland and Meland 1967) and table 6.10 (after Crowell 1979).

4.2 Consonantal systems

The consonantal systems of Macro-Jê languages are of medium size. Only Yatê has slightly more than twenty consonants incorporating a full set of aspirated and unas-

Table 6.11 *Consonantal system of Yatê (after Meland and Meland 1967)*

	labial	dental	alveolar	alveo-palatal	velar	glottal
voiceless unaspirated stop	p	t	ts	tʃ	k	
voiceless aspirated stop	p ^h	t ^h	ts ^h	tʃ ^h	k ^h	
voiced stop		d		dʒ		
voiceless fricative	f		s	ʃ		h
voiced fricative			z			
nasal	m	n				
approximant	w	l		j		

Table 6.12 *Consonantal system of Kipeá (after Azevedo 1965)*

	labial	dental	alveolar	alveo-palatal	velar	glottal
voiceless stop	p	t	ts	tʃ	k	ʔ
voiced stop	b	d	dz	dʒ	g	
fricative			s			h
nasal	m	n		ɲ	ŋ	
approximant	w	r		j		

Table 6.13 *Consonantal system of Guató (after Palácio 1984)*

	labial	dental	alveo-palatal	velar	labio-velar	glottal
voiceless stop	p	t	tʃ	k	k ^w	
voiced stop	b	d	dʒ	g	g ^w	
fricative	f					h
nasal	m	n				
approximant	w	r	j			

pirated voiceless stops. Besides these it has two voiced stops and five fricatives, two nasals and three approximants, as shown in table 6.11. Kipeá (Karirí family), Yatê's neighbour to the south, had no aspirated stops, but had a full series of voiced stops and also a glottal stop, only two fricatives, but four nasals and three approximants. Note that Yatê has a lateral approximant, whereas Kipeá has a central flap, like most Macro-Jê languages (see table 6.12).

The consonantal system of Guató resembles those of Yatê and Kipeá, but has no series of aspirated stops and no alveolar stops or fricatives; it adds to its inventory two labio-velar stops, as may be seen in table 6.13. Like Kipeá and Guató, Boróro

Table 6.14 Consonantal system of Boróro (after Crowell 1979)

	labial	dental	alveo-palatal	velar
voiceless stop	p	t	tʃ	k
voiced stop	b	d	dʒ	g
nasal	m	n		
approximant	w	r	j	

Table 6.15 Consonantal system of Maxakali (based on Gudschinsky, Popovich and Popovich 1970)

	labial	dental	alveo-palatal	velar	glottal
voiceless stop	p	t	tʃ	k	ʔ
voiced stop	b	d	j	g	
fricative					h

Table 6.16 Consonantal system of Karajá (after Fortune 1973)

	labial	dental	alveo-palatal	velar	glottal
voiceless stop			tʃ	k	
voiced stop	b	d	dʒ		
voiced implosive		ɖ			
voiceless fricative		θ	ʃ		h
lateral		l			
approximant	w	r			

has a series of voiced stops parallel to the voiceless ones, but it distinguishes only four points of articulation and has no fricatives at all, as shown in table 6.14.

Maxakali has a remarkably reduced inventory of ten consonantal phonemes, and also ten vocalic phonemes. It has a full series of voiced and of voiceless stops, each in four points of articulation, and two glottal sounds, a stop and a fricative, as may be seen in table 6.15.

The consonantal system of Karajá is also remarkable not only for its reduced inventory of twelve phonemes, but also for its concentration on dental and alveo-palatal sounds and its great dissymmetry. Table 6.16 displays this system.

The voiced stops /b/ and /d/ have fully nasal allophones, [m] and [n], occurring before nasal vowels.

Another phonological peculiarity of Karajá is the systematic differentiation of

Table 6.17 Differences between men's speech and women's speech in Karajá (data from Fortune 1973 and Borges 1997)

women's speech	men's speech	meaning
kɔɖu	ɔɖu	'turtle'
kihi	ihi	'wind'
ifikura	ifiura	'necklace'
kɔlukɔ	ɔluɔ	'labret'
karihokɔdekre	arihoɔdekre	'I will borrow'
ritʃokɔ	ritʃoo	'doll'
karitʃakre	ariakre	'I will walk'
kɔɔkuda	ɔɔda	'feather'
ɖaki	ɖii	'bark'
hawɔkɔ	hawɔ	'canoe'
beraku	bero	'river'
itʃɔrɔθa	idʒɔrɔθa	'dog'
adɔda	aɔda	'thing'
kawaru	awaru	'horse' (from Portuguese <i>cavalo</i>)
kabe	abe	'coffee' (from Portuguese <i>café</i>)
dɔbiku	dɔbiu	'Sunday' (from Portuguese <i>domingo</i>)

the phonological shape of words between men's speech and women's speech (Ehrenreich 1894, Krause 1911, Kunike 1916, Fortune and Fortune 1975, Borges 1997). Men's speech regularly lacks the velar stops present in the speech of women, as well as the instances of the voiceless alveo-palatal affricate that are historically derived from velar stops palatalized by a preceding *i*. As a consequence of the dropping of the velar and alveo-palatal consonants, several vowel contractions may result, thus making the shape of the words and sentences uttered by men more distinct from those pronounced by women. Even borrowings from Portuguese are subject to the dropping of the velar stop. Table 6.17 presents some examples of women's and men's speech in Karajá.

It is not easy to conceive of a situation in which this gender-based systematic differentiation between the phonological shape of the words might have originated. Perhaps in the past the women of one dialectal group of Karajá could have been subjugated by warriors speaking another language, say one lacking velar stops but having glottal stops. Such warriors could have killed all Karajá male adults, taken their place as husbands and learned the Karajá language from their new wives, but substituted their glottal stops for the velar stops of the women. This bad pronunciation by the new masters of the group would then have been maintained through the following generations and spread to other dialectal groups. In the course of time, the articulation of the glottal stop would have weakened and finally disappeared, giving place to

Table 6.18 Consonantal phonemes of Xavánte (after McLeod 1974)

	labial	dental	alveo-palatal	glottal
voiceless stop	p	t	tʃ	ʔ
voiced stop	b	d	dʒ	
approximant	w	r		h

vowel sequences and contractions (as shown in table 6.16, the Karajá language has no glottal stop phoneme). It happens that the neighbouring language Xavánte has historically undergone the systematic change of velar consonants into glottal stops (compare Xerénte *dakrã* with Xavánte *daʔrã* 'somebody's head', Xe. *dakwa* with Xa. *daʔwa* 'somebody's tooth', and Xe. *kuɜə* with Xa. *ʔudʒə* 'fire'). This language, which does not show a similar difference correlated with the sex of the speakers, may well be the source of the difference between Karajá men's and women's speech (at least the main difference – the dropping of velar consonants in men's speech).

Table 6.18 shows the consonantal system of Xavánte, in which there is no velar phoneme. This is the only Macro-Jê language lacking velars.

The consonantal systems of the other languages of the Jê family are in general simple, with a series of four voiceless stops (labial, dental, alveo-palatal and velar) and another of four corresponding nasals, and three approximants; Davis (1966) reconstructed such a system for proto-Jê (the approximants being *w*, *r* and *z*, the latter being an arbitrary symbol for a phonetically undefined proto-phoneme). Some languages also include a glottal stop and/or a glottal fricative. Timbira has an aspirated velar stop contrasting with the plain one. Kaingáng adds to this system a bilabial fricative, that is voiceless (*ɸ*) in most dialects, but is voiced (*β*) in the dialect of São Paulo. Xokléng, which is more similar to Kaingáng, has a voiced interdental fricative corresponding etymologically to the bilabial fricative of Kaingáng, e.g. Kaingáng *ɸi*, Xokléng *ðʃ* 'seed'; K *ɸa*, X *ðɔ* 'bitter'; K *paɸa*, 'to take the breast', X *peðə*, 'to give the breast'; K *ɸər*, X *ðel* 'skin'. Xokléng also has a lateral approximant where Kaingáng has a central flap, as in the last example and in the following: K *rã*, X *la* 'sun'; K *kupri*, X *kupli* 'white'; K *kri*, X *klẽ* 'head'. The Jê language with the most complex system is Kayapó (table 6.19), which has a complete series of voiced stops, contrasting with the voiceless ones and the nasals, as may be seen in the following examples: *pĩ* 'wood', *bĩ* 'to kill', *mĩ* 'alligator'.

Some Macro-Jê languages have internally complex phonemes – that is to say, phonemes that are realized by a sequence of sounds (or, in physiological terms, produced by a sequence of articulatory movements). The Southern Jê language Kaingáng is one of the most striking cases. In this language nasal conso-

Table 6.19 Consonantal system of Kayapó (after Stout and Thomson 1974a)

	labial	dental	alveo-palatal	velar	glottal
voiceless stop	p	t	tʃ	k	ʔ
voiced stop	b	d	dʒ	g	
nasal	m	n	ɲ	ŋ	
approximant	w	r	j		

nantal phonemes are pronounced in up to three phases of articulation, [-nasal][+nasal][-nasal] (Rodrigues and Cavalcante 1982, Cavalcante 1987; cf. Anderson 1974, 1976). The word *kaner* 'smooth' is pronounced [kadnɛr]: between oral vowels the nasal phoneme *n* starts as an oral stop [d], changes to the nasal [n], and changes back to an oral [d]. The inner phase is fully nasal, whereas the first and third phases are assimilated to the oral vowels bordering the consonant. If one of the vowels is nasal, only the phase contiguous to the oral vowel is oral: *kanẽ* 'eye' is pronounced [kadnẽ], whereas *ẽme* 'blue sky' is [ʔẽmbe]. If both vowels are nasal, the consonant is fully nasal: *ẽmĩ* 'bread' [ʔẽmĩ], *pãní* 'back' [pãní]. Pause or silence before and after the nasal consonant has the same effect as a nasal vowel: *nɛn* 'thing' [ndɛdn], *nĩm* 'to give a long object' [nĩm], but word boundaries inside an utterance are no obstacle for the assimilation of the first and third phases of the nasal consonants: *no* [ndo] 'arrow', *ti no* [tidndo] 'his arrow', *no nĩm* [ndodnĩm] 'to give arrows'. The first example above, *kaner*, illustrates another complex phoneme. The phoneme *r* starts as a vowel at the beginning of a word, as in *ra* [ɛra] 'thin', *rã* [ãrã] 'sun'; and ends as a vowel with the same features as the vowel that precedes it at the word end, as in *kar* ['kara] 'all', *ɸɔr* ['ɸɔrɔ] 'full', *ɸẽr* ['ɸẽrɛ] 'feather, wing'. The approximants *w* and *j* show the same behaviour as *r*, but only in final position: *tɔw* ['tɔwɔ] 'broken', *tãw* ['tãwã] 'covering', *tej* ['tejɛ] 'long', *rɔj* [ɔ'rɔjɔ] 'ripe', *wij* ['wiji] 'bow', *jãjər* [jã'jərɔ] 'hook'.

Another notorious case of complex phonemes is Maxakalí, whose stop consonants may be realized with fully vocalic phases and, according to the phonological environment, may actualize only the vocalic phase, as in *pipkíp* [pipkiẽpʔ] 'nail', *tʃak* [tʃaĩ] 'to cut', *battik gāj* [mbaãtĩĩ gāj] 'angry toad', *tapet* [tapɛãt] 'paper' (*p* is realized as [ẽpʔ] in the first example, *k* as [ĩ] in the second and third, *b* as [mb] in the third, and *t* as [ã] in the third and as [ãt] in the fourth) (see Gudschinsky, Popovich and Popovich 1970 for the details of the allophonic variation of Maxakalí consonants, Rodrigues 1981 for the nasalization of the consonants, and Wetzels 1996 for an autosegmental interpretation of the data).

Consonantal clusters in most Macro-Jê languages are limited to the combination of grave (labial and velar) stops followed by a central or a lateral approximant, as in Kipeá *pri* 'blood', *kru* 'tail', or in the following Kaingáng examples: *pra* 'to bite', *mrür* 'vine', *kre* 'burrow', *gren* 'to dance'. An exception is Yatê, which presents a large variety of sequences of two, three and four consonants – for example: *kwlélja* 'rotten', *ehklendonklja* 'car', *kéfkja* 'hearing', *è^hoh^hfkja* 'admiring', *è^hst^hkilkja* 'bad odour', *èskwa* 'pulling out', *èstfòka* 'cleaning', *è^hst^hè^hse* 'blanket', *k^hlæ^ha* 'nose', *kfælnésa* 'toy', *t^hnija* 'star', *hle* 'now', *f^hánhan* 'alone', *dmáhného* 'beautiful', *t^hlæka* 'tree', *tsfówa* 'louse', *knáfrika* 'advising', *kmáskja* 'asking', *t^hlówa* 'knife', *fmàja* 'wind', *ktsálène* 'message', *fdzāka* 'snake', *fnáhtfo* 'pepper' (Meland and Meland 1967). Another exception is the Central Jê language Xerênte, which has developed very complex consonantal clusters: *psedi* 'it is good', *bdædi* 'path', *kdē* [knē] 'stone', *tbe* 'fish', *kbure* 'all', *sbīka* [smīka] 'ashes', *shə* 'to cut', *sā* 'hill', *zraku* 'to the other river bank', *rbeta* 'iron', *krsasari* 'to hunt', *krδbrōbdō* [krnmrōmnō] 'to live', *bā to tktikrē* 'he got thin' (Mattos 1973).

4.3 Tone

Two Macro-Jê languages have been described as being tonal, Yatê in the Brazilian northeast and Guató in the Brazilian southwest. Yatê has two distinctive levels of tone, but word-finally the tone tends to be middle; according to Meland and Meland (1967) there is morphophonological 'tone perturbation'. Examples of words contrasting only in tone are (tones marked as follows: *á* high, *a* middle, *à* low): *ifkja* 'wide', *ífkja* 'fast'; *úsija* 'a kind of pigeon', *úsija* 'centipede'; *idnika* 'denouncing', *idnika* 'tasting'; *èfi* 'to suck', *èfi* 'to scratch'. Guató (Palácio 1986) also has only two distinctive levels of tone: *mótl* 'piranha', *mótl* 'word'; *míkí* 'mat', *míkí* 'pot'; *mábò* 'foot', *mábò* 'tobacco', *mábò* 'dove'. Although none of the best-analysed Jê languages have been reported to be tonal, it is said that Krahô (Timbira) speakers may communicate at distance by means of 'sentence whistling' (Sueli M. de Souza, p. c.).

5 MORPHOLOGY

Macro-Jê languages are agglutinating and mildly synthetic; they combine elements of head- and of dependent marking.

5.1 Inflection for contiguity of a determiner

The morphology of most Macro-Jê languages is not very complex. Word classes are distinguished more by syntactic strategies than by affixation. A pervasive inflec-

tional device in Macro-Jê languages is the marking of the head of a nominal, verbal or postpositional phrase for textual contiguity (CNT) or non-contiguity (NCNT) of the determiner (or dependent), as in examples (1), (2) and (3) from Panará (Dourado, p. c.), in (4) and (5) from Timbira (Popjes and Popjes 1986), and in (6) and (7) from Ofayé (Gudschinsky 1974: 210, 194). When the possessor is stated we find the CNT marker, and when it is absent the NCNT marker.

- (1) soti j-akoa
animal CNT-mouth
'the mouth of the animal'
- (2) soti j-ōto
animal CNT-tongue
'the tongue of the animal'
- (3) s-ōto s-akoa amā
NCNT-tongue NCNT-mouth in
'Its tongue is in its mouth.'
- (4) i te pī.co j-ū?k^hər
1sg ERG.PAST tree.fruit CNT-buy
'I bought fruit.'
- (5) i te h-ū?k^hər
1sg ERG.PAST NCNT-buy
'I bought it.'
- (6) pikitiē j-ēnfih
caiman CNT-heart
'the heart of the caiman'
- (7) h-ēnfih
NCNT- heart
'its heart'

This device must be a very old one in the Macro-Jê stock. It is also present in the Amazonian languages of the Tupí family as well in those of the Carib family and may well be an ancient areal feature. But in some Macro-Jê languages it is only a relic of a disappearing system, restricted to very few 'irregular' words, as in Kaingáng (Paraná dialect):

- (8) ?iŋ j-ōŋ j-apō
1sg CNT-father CNT-field
'my father's field'
- (9) ?-ēpō tō
NCNT-field in
'in the field'

Table 6.20 Possessive paradigm of a Yatê noun ('father')

1sg	i-tfe	'my father'
2sg	a-tfe	'your father'
3sg	e-tfe	'his/her father'
1pl	ja-tfe	'our father'
2pl	wa-tfe	'your father'
3pl	t ^h a-tfe	'their father'
3 REFL	sa-tfe	'his/her/their own father'
3 INDEF	se-tfe	'somebody's father, a father'

or in Karajá:

(10) habu l-awɔ
man CNT-canoe
'the man's canoe'

(11) h-awɔ
NCNT-canoe
'the canoe'

In Kipeá the prefixes marking contiguity of the determiner are restricted to occurring only after the personal pronouns: *hi dz-ebaja* 'my fingernail', *e dz-ebaja* 'your fingernail'. Boróro has reflexes of them in the allomorphy of its person-marking-paradigms (Rodrigues 1993), as in *i t-o* (I CNT-tooth) 'my tooth', *ø-o* (NCNT-tooth) 'his tooth'. They are not found in Guató and Yatê.

5.2 Inflection for possession

Some Macro-Jê languages inflect nouns for the person of the possessor, for example Yatê, which has a set of eight personal prefixes, as shown in table 6.20. However, many other languages use cliticized pronouns instead of prefixes for marking personal possession, e.g. Kaingáng *?iɲ regre* 'my brother', Boróro *pa mana* 'our (incl.) elder brother', Karajá *wa mairhe* 'my machete'. Several languages have forms inflected with personal prefixes only for some persons, most frequently for 3rd reflexive and for 1st inclusive, as Kipeá *di-padzɔ* 'his/her own father', *ku-padzɔ a* 'our (incl.) father' (*a* is a pluralizer), *d-ambe* 'his/her own payment', *k-ambe a* 'our (incl.) payment', but *e j-ambe a* (you CNT-payment PL) 'your (pl.) payment'. Timbira has no reflexive prefix and has a prefix only for the 1st plural inclusive: *panɔ* 'our (incl.) eyes', but *i ø-tɔ* (I CNT-eye) 'my eyes', *ø-tɔ* (you CNT-eye) 'your (sg.) eyes', *rɔp ø-tɔ* (dog CNT-eye) 'the eyes of the dog'. Karajá, on the other hand, only has a prefix for the reflexive 3rd person: *dá-øe* 'his/her/their own mother'. Both Kipeá and Timbira, and likewise Karajá and Maxakalí, make reference to a (non-

reflexive) third person possessor only by means of the markers of contiguity or non-contiguity, e.g. Kipeá *s-ambe* (NCNT-payment) 'his/her payment', Timbira *i-nɔ* (NCNT-eye) 'his/her/their eyes'. Guató has prefixes for all the persons it distinguishes, but for the 1st sg. it also has a suffix that occurs simultaneously with the corresponding prefix: *a-tɔra-ru* 'my son', but *e-tɔra* 'his son', *bi-tɔra* 'their son'. (The alienable/inalienable distinction is discussed in §6.3.)

5.3 Number

Plurality of the noun is not morphologically expressed in the Jê family, but is diversely manifested in other families of the Macro-Jê stock. Boróro, for instance, has several ways of pluralizing nouns. One of these applies mainly to nouns referring to animals and consists in adding the suffix *-e* to the nouns, often with the dropping of the final vowel of the stem, e.g. *dɔmo* 'otter', pl. *dɔmoe*; *apɔgɔ* 'small anteater', pl. *apɔgæ*; *meri* 'sting ray', pl. *merie*; *apɔdɔ*, 'tucanuçu, a kind of toucan', pl. *apɔde*; *karɔ* 'fish', pl. *kare*; *pai* 'howler monkey', pl. *pae*; *orari* 'painted catfish', pl. *orare*. Some kinship terms take the suffix *-mage*, e.g. *mana* 'elder brother', pl. *manamage*; *wagedo* 'son-in-law', pl. *wagedomage*; *ta dɛe* 'your (pl.) mother', *ta dɛemage* 'your (pl.) mothers'. Nominalizations ending in *-wi*, as well as those ending in *-epa*, when referring to animates, take the suffix *-ge* in the plural: *wɛwewi* 'one from here', *wɛwewige* pl. 'the ones from here'; *uturawi* 'the one who went', *uturawige* 'the ones who went'; *dɔrɔbɔkuruepa* 'doctor, nurse', pl. *dɔrɔbɔkuruepage*. The most universal pluralizing suffix is *-doge*: *bɔiga* 'bow', pl. *bɔigadoge*; *arigao* 'dog', pl. *arigadoge*; *kaiamo* 'Xavante Indian', pl. *kaiamodoge*; *paga* 'creek', pl. *pagadoge*. Boróro also has a singulative suffix *-di*, which is added to nouns with a collective meaning for expressing one individual: *ime* 'men', sg. *imedi* 'a man'; *ipare* 'young men', *iparedi* 'a young man'; *areme* 'women', sg. *aredi* 'a woman'; *barae* 'white men', sg. *baraedi* 'one white man'; *kaiamodoge* 'the Xavante Indians', *kaiamodogedi* 'one Xavante'.

Some languages, although they have no marker of pluralization on nouns, have plural pronouns or personal prefixes on the verb for agreement with plural subjects and some of them also for plural objects. In the Jê family one such language is Kaingáng (Paraná dialect), which has personal pronouns for 3rd person plural masculine and feminine: *ɔaɲ* 'they (masc.)', *ɔaɲ* 'they (fem.)'. Kaingáng also has plural verbs for agreeing with plural S or O, even though the nouns are not marked for number. In this language there are several morphological devices for marking plurality on verbs: prefixation, infixation, reduplication, a combination of two of these with or without ablaut, and also suppletion. See table 6.21 for some examples from the Paraná dialect.

Table 6.21 Number-marking in Kaingáng (Paraná dialect) (from Cavalcante 1987)

SG (S or O)	PL (S or O)	gloss
1 pra	kípra	'to bite'
2 fānān	fāḡnān	'to use almost all'
3 fī	kíḡfī	'to weave'
4 kajām	kíḡjām	'to pay, to buy'
5 kōm	kōmkōm	'to dig'
6 kōḡun	kōḡunḡun	'to wither'
7 mraḡ	mḡḡmraḡ	'to break'
8 nī	nīḡnī	'to sit'
9 we	wiḡwe	'to see'
10 rā	ḡe	'to go in'

In table 6.21 the following devices are exemplified: (1) prefixation of *ki-*, (2) infixation of *-ḡ-*, (3) prefixation and infixation, (4) infixation and ablaut (*a* → *i*), (5) reduplication of a monosyllabic verb, (6) reduplication of a disyllabic verb, (7) reduplication and ablaut, (8) reduplication and infixation, (9) reduplication, infixation and ablaut (*e* → *i*), (10) suppletion. Although most Kaingáng verbs are invariable, there are about 150 that have a plural form in one of the patterns illustrated in table 6.21. Even a verb that is probably a loan from Portuguese, *paſa* 'to promenade' (Portuguese *passar* [paſja]), pluralizes in one of these patterns, namely *piḡſa* (infixation and ablaut).

Xavante (Central Jê) also expresses the number distinction of nominal arguments (S and O) by means of verbal agreement, but it systematically distinguishes three numbers, singular, dual and plural. About a score of verbs have three different stems, one for each number of S or O, such as sg. *wara*, du. *atfabrō(i)*, pl. *tfitfaʔre* 'to run'; sg. *wí*, du. *ajmatfitfi*, pl. *ajhutu* 'to arrive'; sg. *wī(ri)*, du. *parī*, pl. *tifibrō* 'to kill'; sg. *bē(i)*, du. *wabdzu(ri)*, pl. *tabrā* 'to throw' (some stems have two allomorphs, one of them short, the other long, with the extra syllable put in parentheses in the examples above). In most verbs, however, the number distinction is made by means of a complex interplay of particles in the verb phrase.

5.4 Noun classification

The category of noun classes is not typical of Macro-Jê; these are only reported for the languages of the Karirí family. There are twelve prefixes that are attached to quantifiers and descriptive adjectives of dimension, consistency and colour, accord-

Table 6.22 Class agreement in quantifying and qualifying phrases in Kipeá

	spherical objects ufe 'sun, day'	conical objects udza 'knife'	sinuous objects wo 'snake'	convex objects pika 'stool'
'long'	ufe kro-fi	udza ja-fi	wo ho-fi	pika be-fi
'bright'	ufe kro-dzodzo	udza ja-dzodzo	wo ho-dzodzo	pika be-dzodzo
'one'	kro-bihe ufe	ja-bihe udza	ho-bihe wo	be-bihe pika
'many'	kro-jo ufe	ja-jo udza	ho-jo wo	be-jo pika

ing to the shape of the noun's referents. The nouns themselves have no overt marking for class. According to Mamiani (1699), the twelve prefixes in Kipeá are the following: *be-* for hills, dishes, stools, foreheads, etc.; *kro-* for birds, stones, stars and round objects, such as beads, fruit, eyes, etc.; *kru-* for liquids and rivers; *epru-* for clusters and bunches; *he-* for sticks, legs and wooden objects; *ho-*, *hoi-* for ropes, vines, threads, snakes; *ja-* for iron objects, bones and pointed things; *mu-*, *mui-* for edible roots; *nu-* for holes, wells, mouths, fields, valleys, fenced spaces; *ro-* for clothes, fabric and furs; *woro-* for roads, conversations, speeches, stories; *bu-* for houses, arrows, containers, corn-cobs and living beings (except birds), as well as for any other nouns not specified for the other prefixes.

The classifier prefix occurs with adjectives (which follow the head noun) and with quantifiers (which precede it), as exemplified in table 6.22.

There is a masculine/feminine gender distinction in 3rd person pronouns in the Southern Jê languages (i.e. Kaingáng and Xoklêng). Rikbaktá (Wiesemann 1986: 361) and Yatê (Lapenda 1968: 91) have a gender distinction in all three persons, and the latter language marks masculine and feminine genders on adjectives (see §6.6), as well as on demonstratives (Meland 1968: 18, 19b).

5.5 Agreement marking on the verb

Many Macro-Jê languages have no agreement markers on the verb. Some of them, however, do mark the subject (most often, if it is third person) in agreement with the corresponding nominal phrase in the clause. Kaingáng (Jê) exemplifies the complete absence of markers in (12) and (13), whereas Kipeá (Karirí) shows 3rd person and 1st inclusive agreement in (14) and (15):

- (12) ?iḡ rēḡre wī jē
1sg brother S stand
'My brother is standing.'

- (13) mīŋ wī kāŋrēŋ tãŋ tī
jaguar A tayra kill ASPECT
'The jaguar killed a tayra (*T. barbara*).'
- (14) more si-te karai
soon 3-come white.man
'The white man comes soon.'
- (15) ku-te di
1pl.incl-come FUT
'We (incl.) will come.'

Some languages use a marker on the verb only if the subject nominal phrase does not immediately precede an intransitive verb, for example Maxakali in (16) and (17) (Pereira 1992: 83):

- (16) pitʃap tʃipep (17) ʔi-tʃipep pitʃap
duck arrive 3-arrive duck
'The duck arrives.' 'The duck arrives.'

The same marking occurs in Maxakali for the direct object of transitive verbs, as in (18) and (19) (Pereira 1992: 88), and is fundamentally the same device as that shown in §5.1 above as the marking of non-contiguity versus contiguity of a determiner.

- (18) tik te ʔi-tʃit kipiʔik
man ERG 3-sharpen axe
'The man sharpens the axe.'
- (19) tik te kipik tʃit
man ERG axe sharpen
'The man sharpens the axe.'

An example with transitive verbs in Timbira (Popjes and Popjes 1986: 163) is (20):

- (20) jakɔ te pɔ pupun ne iʔ-kuran
Jacó ERG.PAST deer see and 3-kill
'Jacó saw the deer and killed it.'

Yaté, Karajá and Guató have more complex verb morphologies and manifest verb agreement not only with the subject, but also with the object. Guató is particularly complex; it has not only personal prefixes like other Macro-Jê languages, but also personal suffixes. Moreover, Guató verb morphology is a compound of 'three different inflectional patterns: one for first person singular, a neutralization of

Table 6.23 Personal affixes in the Guató verb

	A	S	O
1sg	-jo	-jo	-jo
2sg/pl	g ^w a-	-he	-he
3sg	ɛ-~i-	-ø	-ø
1du.incl	ga-	ga-	ge-
1non-sg	dʒa-	dʒa-	dʒe-
3pl	be-	be-	ø-

systems; another for second and third persons singular, which follows an ergative/absolutive system; and still a third for plural, which behaves according to a nominative/accusative system' (Palácio 1986: 369). Palácio's chart 6 is reproduced here as table 6.23. (Note that 1non-singular covers 1 dual exclusive, 1 plural inclusive and 1 plural exclusive.)

Examples of this person marking system in a transitive verb are the following:

- (21) na-g^wa-bagáki-(j)ɔ (22) n(a)-ɛ-bagáki-he
INDIC-2A-hit-1sgO INDIC-3sgA-hit-2O
'You hit me.' 'He hits you.'

It is probable that the object prefixes *ge-* and *dʒe-* are the result of a contraction of the expected sequences *ɛ-ga-* and *ɛ-dʒa-* (cf. Palácio 1984: 68; 1986: 370). Third person prefixes are obligatory even when the corresponding nominal phrases are fully expressed in the clause, as in (23); therefore they are truly agreement markers.

- (23) n(a)-ɛ-bagáki-ø go-dé g-óhadʒa
INDIC-3sgA-hit-3sgO DET-man DET-woman
'The man hits the woman.'

6 SYNTAX

6.1 Constituent order in declarative sentences

The languages of the Jê family have SV and AOV as the most frequent constituent orders in their declarative clauses. Examples (24) and (25) from the Canela dialect of Timbira illustrate these orders for one-argument and two-argument verbs respectively.

- (24) kapi ɟapɪc
Capi climb
'Capi climbed.'
- (25) i k^hra te ɾɔpti pupun
1sg son ERG.PAST jaguar see
'My son saw a jaguar.'

The same pattern also prevails in Maxakalí, Krenák, Yatê, Karajá, Boróro and Rikbaktsá.

Data on Kamakã, Purí and Ofayé are so limited that no statement on their clause syntax is possible. This is an irremediable situation for the languages of the first two families, which are now dead, but it is not so for Ofayé, from whose last survivors (about a score) linguistic data could still be recorded.

Karirí and Guató represent strong departures from the pattern illustrated above. In both language families clauses are normally verb-initial. In Kipeá of the Karirí family and in Guató, clauses with one-argument verbs show the same order VS, but those with two-argument verbs differ in the relative position of the arguments. In Kipeá (see examples 26 and 27) we get VOA (where the A is marked by the ergative preposition *no*). In Guató we find VAO, as shown in (28) and (29):

- (26) si-te karai
3-come white.man
'The white man comes.'
- (27) si-pa kradzo no karai
3-kill cow ERG white.man
'The white man kills the cow.'
- (28) na-kini g-eti
INDIC-sleep DET-boy
'The boy sleeps.'
- (29) ma-e-ro g-épagu g-éki
IMPERFV-3-eat DET-jaguar DET-rabbit
'The jaguar ate the rabbit.'

6.2 Adpositional phrases

All Macro-Jê languages except Karirí and Guató have postpositions and not prepositions, as may be seen in the following examples.

Kayapó

- (30) pur kām ba a māl pijo re
garden in 1sg you to fruit pick
'I pick up fruits for you in the garden.'

Maxakall

- (31) piticnāŋ ʔi-cip mīm ti
bird 3-be tree on
'The bird is on the tree.'

The Karirí languages and Guató, which have verb-initial clauses, have prepositions and not postpositions:

Kipeá

- (32) pa kri do udza
kill PERFV with knife
'It was killed with a knife.'

Guató

- (33) jo go-dzékĩ
in DET-river
'in the river'

If an adposition in Kipeá relates to a noun, it precedes it as in (32); if it relates to a pronoun, this may be prefixed to the adposition.

- (34) i-na kri ku-bo
3-die PERFV 1pl.incl-for
'He died for us.'
- (35) di kri do i-de
give PERFV to 3-mother
'He has given to his mother.'
- (36) di kri i-djoho
give PERFV 3-to
'He has given to her.'
- (37) nio kri no karai
make PERFV by white.man
'It was made by the white man.'
- (38) nio kri e na
make PERFV you by
'It was made by you.'

As seen in the last four examples, some adpositions have different allomorphs when they follow a pronoun or pronominal prefix.

6.3 Genitive phrases

With the exception of Karirí and Guató, the Macro-Jê languages have the possessor preceding the possessed noun (with no overt marker of possession):

<i>Timbira</i>		<i>Maxakali</i>	
(39)	kapi k ^h ra Capi child 'Capi's child'	(40)	?i tit fikpot 3 mother grave 'his mother's grave'

Guató and Karirí are again the languages that behave differently, having an inverted order for their genitive phrases. In these two Macro-Jê families the heads of noun phrases precede their determiners (or dependents). If the relation between head and determiner is one of possession, the head is inflected for 3rd person (or non-contiguous) possession as shown in the following examples from Guató:

- (41) i-pána g-ák^wo
3-tail DET-monkey
'the tail of the monkey'
(lit. 'its tail the monkey')
- (42) ε-tóra a-dúnihi-ru
3-son 1-brother-1
'the son of my brother'
(lit. 'his son my brother')

Note that Kipeá has the reverse order in compounds:

- | | | | |
|------|---|------|-------------------------------|
| (43) | s-era ware
3-house priest
'the house of the priest' | (44) | boro-po
arm-eye
'elbow' |
|------|---|------|-------------------------------|

Many languages of the Macro-Jê stock distinguish alienable from inalienable possession. In general, alienable possession is expressed by means of an inalienable generic noun, meaning 'thing' or 'belongings' or 'possession'. In some languages there are two or more generic nouns, distinguishing classes of possessable things. The Jê languages Timbira, Kayapó and Panará have only one generic form, *-õ*, as in examples (45) and (46) from the Canela dialect of Timbira.

- (45) kapi j-õ pur
Capi CNT-POSSESSION field
'Capi's field'

- (46) h-õ wapo
NCNT-POSSESSION knife
'his knife'

Boróro has two generic nouns for expressing alienable possession, *-aku* 'domesticated animal' and *-o* 'thing', as illustrated by examples (47) and (48).

- (47) ø-aku kogariga
3-DOMESTIC.ANIMAL chicken
'his chicken' (lit. 'his-domesticated-animal chicken')
- (48) ø-o tori
3-thing stone
'his stone' (lit. 'his-thing stone')

In Kipeá, of the Karirí family (see §5.4), there are twelve generic nouns which refer mainly to as many different classes of alienably possessable objects, including animals, according to the way in which they were acquired. The generic noun is possessed in the same way as any other noun and is linked to the specific noun of the possessed object by means of the preposition *do*. Three generic nouns are illustrated here:

- (49) hi ejki do kradzo
1sg DOMESTIC.ANIMAL of cow
'my (raised) cow'
- (50) dz-uapru do murawo
1-game of wild.pig
'my (hunted) wild pig'
- (51) dz-uito do udza
1-find of knife
'my (found) knife'

According to the way in which its referent was acquired, a noun may occur with different generic nouns, as in examples (52)–(54).

- (52) hi ejki do sabuka
1sg DOMESTIC.ANIMAL of chicken
'my (raised) chicken'
- (53) dz-ukisi do sabuka
1-portion of chicken
'my chicken (received in a partition of goods)'

- (54) dz-uba do sabuka
 1-present of chicken
 'my chicken (received as a present)'

With the exception of *eyki* 'domesticated animal', all possessable generic names of Kipeá begin with *u-*; this *u-* is probably a morpheme cognate with Boróro *o* 'domesticated animal', Timbira *-ō* 'belongings', Maxakali *ʔō ~ ʔōŋ ~ jōŋ* 'belongings', and probably also Karajá *dhō* 'domesticated animal'.

6.4 Demonstrative phrases

Demonstratives follow the head noun in some languages and precede it in others. Canela (of the Jê family) and Krenák illustrate the first situation, as in example (55), whereas Kipeá of the Karirí family, Boróro and Guató show the reverse, as in example (56).

- | | |
|--|---|
| <p><i>Canela</i></p> <p>(55) rɔp ita
 dog this
 'this dog'</p> | <p><i>Kipeá</i></p> <p>(56) igi era
 this house
 'this house'</p> |
|--|---|

6.5 Numeral phrases

In the Karirí and Guató families numerals precede the head noun, whereas in the other language families they normally follow it, as in examples (57)–(61). In the Karirí languages the numerals carry a classifying prefix in agreement with the class of the phrase head (see §5.4 above), as in (57), but they take no prefix if the head noun is unclassified, as in (58). In Yatê the numeral for 'one' forms a compound with the noun, and this compound is marked for gender as in (60).

- | | |
|--|---|
| <p><i>Kipeá</i></p> <p>(57) bu-bihe erumu
 CL-one squash
 'one squash'</p> | <p>(58) bihe tupā
 one god
 'one god'</p> |
| <p><i>Guató</i></p> <p>(59) tʃúmu i-tana
 three 3-root
 'three roots'</p> | <p><i>Yatê</i></p> <p>(60) tʃáji-ft^ha-ne
 woman-one-FEM
 'one woman'</p> |

Boróro

- (61) u-re kogariga-re mitɔ-di maki in-ai
 3sg-NEUT chicken-NEUT one-NMLZR give 1-to
 'He gave me one chicken.'

6.6 Adjectival phrases

In Macro-Jê languages the adjective follows the noun. This is true of the languages with constituent order AOV as well as of those with orders VOA and VAO. Only in the Yatê family is there gender agreement of the adjective with the noun, see (62) and (63). In the Karirí family the small set of adjectives of dimension, colour, and quantity shows class agreement with the head nouns, as in (64)–(66) from Kipeá (see §5.4 above). In Guató the adjective takes the same marker for determination as its head noun, as in (67).

- | | |
|---|---|
| <p>(62) ʔtska kaka-ø
 man good-MASC
 'a good man'</p> | <p>(63) tʃáji kaka-ne
 woman good-FEM
 'a good woman'</p> |
| <p>(64) kro-jo ufe
 CL-many sun
 'many days'</p> | <p>(65) udza ja-fi
 knife CL-long
 'a long knife'</p> |
| <p>(66) udza ja-ne
 knife CL-sharp
 'a sharp knife'</p> | <p>(67) g-ódá g-itavi
 DET-basket DET-heavy
 'the heavy basket'</p> |

6.7 Ergativity

There are some techniques for linking S and O that are universal and do not indicate that a language in which they occur has ergative properties. For instance, if a verb marks the number of a core argument this will always be S in an intransitive and O in a transitive clause, as reported for Kaingáng and Xavánte in §5.3.

There is ergativity in Jê languages where an A NP can, at least in some contexts, take a preposition that appears to have ergative function, as in the following example from Timbira:

- (68) i tɛ rɔp kak^hwĩn
 1sg ERG + PAST dog beat
 'I (recently) beat the dog.'

In Maxakali any transitive sentence has its subject marked by the ergative post-position *te*, as in examples (69) and (70).

- (69) tik te kipiktjit
man ERG axe sharpen
'The man sharpens the axe.'
- (70) kipik te mīm kaʔok mep
axe ERG wood hard cut
'The axe cuts hard wood.'

Kipeá (Kariri family) has VS, VOA constituent order with the A argument marked by an ergative preposition *no*:

- (71) peho i-wo dzu mo imera
flow 3-way water in field
'The river flowed on the fields.'
- (72) sō hietsā no wo
bite 1sg ERG snake
'A snake bit me.'

This now-extinct language was described by Father Mamiani (1699) who struggled to fit it into a classical grammatical framework. He characterized all transitive verbs as inherently 'passive' (with no corresponding active form).

But, besides the semantics of the verbs, there is a morphosyntactic device that reveals the ergative character of Mamiani's 'passive' verbs. Every Kipeá verb may derive a nominalization of its absolutive (S or O) argument (the 'subject' according to Mamiani), by means of the absolutive prefix *di-* ~ *d-* and the nominalizing suffix *-ri*, as in the following examples:

- | | | | |
|------|---|------|---|
| (73) | di-te-ri
ABS-COME-NMLZR
'the one who comes' | (74) | di-pa-ri
ABS-KILL-NMLZR
'the one that was killed' |
|------|---|------|---|
- (75) udza di-di-ri no ware
knife ABS-give-NMLZR by priest
'the knife that was given by the priest'

Only Mamiani's 'passive' verbs, however, have a second nominalization, referring to the agent of the action, therefore the A argument. This nominalization takes the ergative prefix *du-* and the same nominalizing suffix *-ri*, as in the following examples:

- (76) ware du-di-ri udza
priest ERG-give-NMLZR knife
'the priest who gave the knife'
- (77) koho du-nio-ri arākie
that ERG-make-NMLZR sky
'he was who made the sky'

There is further discussion of the ergative character of Kipeá in Larsen (1984), who also indicates an S/O syntactic pivot for subordinate clauses. (Larsen's discussion also suggests a class of 'extended intransitive' verbs in Kipeá.)

6.8 Valency-changing processes

6.8.1 Reflexives and reciprocals

Both morphological and syntactic devices are found in the Macro-Jê languages for reflexives and, in some cases, also for reciprocals (not every language clearly distinguishes these two processes). Morphological devices may be seen as the derivation of an intransitive verb from a transitive one, whereas syntactic devices involve a reflexive or reciprocal use of a generic pronoun (and maintain transitivity). This is the case with languages of the Jê family, such as Timbira (Canela dialect) with the generic reflexive object *amji* and the reciprocal *ajpēn*:

- (78) i te amji pitar
1sg PAST REFL defend
'I defended myself.'
- (79) ku-te amji mā pī jak^hep
3-ERG.PAST REFL for wood cut
'He cut wood for himself.'
- (80) jakō me kapi aipēn mā pī jak^hep
Jacó and Capi RECIP for wood cut
'Jacó and Capi cut wood for each other.'

Xavánte, a Central Jê language, has a reflexive prefix *tsi-*: *?mada* 'to look at', *tsi-?mada* 'to look at oneself, to take care of oneself'. Analogously, Yatê has a prefix *sa-*: *^huli* 'to cut', *sa-^huli* 'to cut oneself'.

6.8.2 Causativization

Some languages in the Macro-Jê stock have morphological devices for the formation of causative verbs, whereas other languages have only syntactic means of

causativization, involving verbs such as 'to make' or 'to cause'. Morphological devices consist essentially in deriving a transitive stem from an intransitive one. Among the languages that have morphological derivation of causatives, some can causativize only intransitive verbs while in others they can also derive transitive verbal stems from nominals.

The Jê language Timbira causativizes syntactically by means of the verb *tɔ/tɔn* 'to make', to which the causativized verb is linked by the particle *na* (cf. Popjes and Popjes 1986: 142-3):

- (81) kapi tɛ i jõt na i tɔ
Capi ERG.PAST 1SG sleep na 1SG make
'Capi made me sleep.'
- (82) i tɛ i prõ j-ɔpen na ɔ-tɔn
1SG ERG.PAST 1SG wife CNT-work na NCNT-make
'I made my wife work.'

An interesting example of a syntactic causative involves Boróro. In this language there are two causative morphemes, *dɔ* 'to cause' (simple causative) and *gɔ* 'to cause to begin' (inceptive causative):

- (83) a re boe e ridiwa-dɔ
you NEUT people they know-CAUS
'You caused people to know.'
- (84) a-re boe e ridiwa-gɔ
you-NEUT people they know-INCEPTIVE.caus
'You caused people to begin to know.'

dɔ and *gɔ* are not suffixes as examples (83) and (84) might suggest. They are clitics that occur after intransitive verbs (as above), but also after the subject of causativized transitive verbs, as in (85):

- (85) i re a-dɔ bola barigu imedi ae
1SG NEUT you-CAUS ball throw man to
'I caused you to throw the ball to the man.'

Looking now at morphological devices, some languages use prefixation and others exhibit suffixation. Kipeá (Kariri) has a causative prefix *mi-* added to intransitive verbs: *pere* 'to go out', *mi-pere* 'to cause to go out'; *te* 'to come', *mi-te* 'to bring'. Kaingáng (Jê) has a suffix *-n* which occurs with both intransitive and transitive verbs: *fi* 'to be old', *fi-n* 'to cause to be old'; *rã* 'to be ripe', *rã-n* 'to make ripe'; *we* 'to see', *we-n* 'to show'.

6.9 Switch-reference

Some Macro-Jê languages distinguish coordinate clauses with the same subject from those with different subjects. In Kipeá this distinction is made by using different prefixes on the verb of the coordinated clause. When the subject of this clause has the same reference as the subject of the first one, it is marked by *di-ld-* whereas the non-contiguity marker *si-/s-li-* is used for subjects differing from that of the first clause (Mamiani 1968: 61, 49):

- (86) doro si-te bo arãkje mo rada do di-wi do
then 3-come from heaven in earth for SS-become to
tšõho do di-nja nodehẽ
people for SS-die also
'Then he came from the heavens to the earth in order to become people and also to die.'
- (87) mo s-unu-te Adam si-pei-kri i-mesu
in NCNT-sleep-NMLZR Adam NCNT-take.out-PERFV NCNT-rib
no tupã i-bo bo si-nio i-bujẽwoho Eva
ERG God NCNT-from for NCNT-make NCNT-body Eve
'During Adam's sleep God took out his rib for making Eve's body.'

Another switch-reference strategy is found in some Jê languages and in Maxakalí. Different connective particles or conjunctions distinguish clauses with different subjects from those with the same subject, as shown in examples (88) and (89) for the Canela dialect of Timbira (Popjes and Popjes 1986: 147) as well as in (90) and (91) for Maxakalí (Popovich 1986: 355).

- (88) kapi tɛ pɔ kuran ne ke ha ku-k^hu
Capi ERG.PAST deer kill and 3.SS FUT 3-eat
'Capi killed a deer and will eat it.'
- (89) kapi apu ajkahu mã hitsi apu nõ
Capi CONT run and.DS his.wife CONT lie.down
ne ɲõr
and.SS sleep
'Capi is running and his wife is lying down and sleeping.'
- (90) ʔi-mõŋ ti ʔ-nĩn
3-go and.SS 3-come
'He went and returned.'

- (91) ʔī-mōŋ ha ʔ-nīn
3-go and.DS 3-come
'He_i went and he_j returned.'

Detailed studies of Macro-Jê languages are rather scarce, so that no fully systematic coverage of their convergent and divergent morphological and syntactic properties can be undertaken. The above survey of selected aspects of some of the better-known languages may give an idea of the kind of structural phenomena manifested in this huge language group and will hopefully stimulate research in the languages that are still alive, most of which have been – and still are – exposed to strong adverse sociocultural pressures and are seriously endangered.

7 ABOUT THE CONSISTENCY OF MACRO-JÊ AS A GENETIC GROUP

7.1 A brief appraisal of the grammatical affinity

The grammatical survey in §5 and §6 above, even though rather superficial, shows that there are striking typological similarities among all the twelve branches of the Macro-Jê stock. It shows also that two branches, Karirí and Guató, neatly diverge in syntactic typology from the other ten branches; whereas the latter are predominantly verb-final and postpositional, with genitive-noun phrases, Karirí and Guató are both verb-initial and prepositional, with noun-genitive phrases. It is remarkable that Karirí and Guató are not geographical neighbours but, on the contrary, Karirí lies in the northeast of the Macro-Jê area, on the lower São Francisco river, whereas Guató is found in the extreme southwest of the area, on the Paraguay river. As yet it is too early to decide whether these constitute cases of marginal conservatism in a large area of linguistic spread or whether Karirí and Guató may be viewed as independent examples of the same sort of typological rearrangement. To judge from internal evidence in Karirí, the rearrangement hypothesis is more likely for this family, since its languages show residual traces of the typological alignment prevailing in other Macro-Jê languages (e. g., postpositional use of the prepositions when their objects are pronominalized, genitive-noun order in compound words, see §6.2 and §6.3 above).

7.2 Phonological equations

The Macro-Jê stock of languages has so far been a mere hypothesis, or rather a bundle of hypotheses, about a possible remote common origin for the languages involved. The spatial distribution of its members is very large and the lexical

differentiation among them is too deep for delivering an easy-to-discover series of possible cognate words. About ten years ago the present author stated that the words for 'foot' were the only series of probable cognates he had found across all the twelve families of Macro-Jê (Rodrigues 1986: 50ff.). Although very few new lexical contributions have appeared in the meantime (only two small dictionaries of Xavánte: Hall, McLeod and Mitchell 1987 and Lachnitt 1987), a closer scrutiny of the available data has delivered more lexical correspondences and more phonological equations across the putative Macro-Jê stock. A sample of these correspondences and equations is presented here in order to enable the reader to have an idea of the likelihood of the genetic relationship of the languages involved. Table 6.24 displays the phonological correspondences and the numbers for the examples presented following the table.

Table 6.24 *Phonological correspondences among the Macro-Jê language families*

Language families												proto-MJ	Exemplifying lexical items
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
p	w	p	p		b	f	w	p	b	p	p	*p	1, 2, 12, 34
m/p	w	m/p	p				b	p/w	w	p		*mp	3, 5, 16, 17, 21, 26
m	m	m	m	m	b	m	b		m			*m	37, 35, 36
k/k ^h	k	k/tʃ	k/tʃ	k/tʃ		k ^h		k	k	k	k	*k	7, 14, 19, 31, 33
kr	her	pt	kr				r	kit			har	*kr	15, 25
ŋr	gr	kt	ŋr	ŋr	kr	k ^h	θ	kír	kír	k ^h	kar	*ŋr	8, 10, 30
r	r		r		r/d	l	r	r	r	r	r	*r	4, 9, 20, 22, 26, 27, 29
ɔ	o	o	o	o	o	ɔ	o	o	o	o	o	*o	1, 4, 11, 34
õ	õ	õ	ũ	o	u/o	õ	õ	o	u/o		u	*õ	7, 13, 28, 32
a	a	ã	a		e	a	a	e	a	e	a	*a	21, 23, 38, 39
a	a	a	o/ɔ		o/i	e	a	ɛ/a	i	ɔ	i	*ɔ	1, 12
ã		ẽ	ã	e	a	a	ə/a		e	e	e	*ã	24, 36

- 1 arm: Ia *pã*, Ib *pa*, Ic *pa*, Id *pẽ*, IV *po*, VI *bo*, VII *fe* 'armpit', IX *pɛ*, XI *pó*
- 2 arrow: Ic *po*, Id *pup*, II *wāj*, III *poj*, V *pan*, *pun*, VI *buj-ku*, VIII *wihí*, X *bëiga* 'bow' < **bëj-ika* '*arrow-bow'
- 3 axe: Ib *krã-mɛp*, Id *mɛp*, III *ki-pík*, IV *kra-pok*, V *kra-maŋ*
- 4 back: VI *woro*, VIII *bɔrɔ*, IX *-hor*, X *porí*
- 5 caiman: Ib *mĩ-ti*, II *wɛj-e*, III *maʔãŋ*, *mãi*, X *wai*
- 6 come: Ib *tẽ*, Ic *dẽ*, Id *tĩ* 'to go', II *nĩ*, III *nĩn*, IV *ne*, V *nĩ*, VI *te*, VII *tʃi*
- 7 drink: Ib *kõm*, *k^hõ*, III *tʃoʔop*, *tʃom*, IV *tʃop*, V *some*, VII *k^ho*, VIII *õ*, X *ku*, XI *ókí*, XII *ku*
- 8 dry: Ib *ŋrɔ*, Ic *ʔrɛ*, VI *kra*, X *kirewë*
- 9 eat: Id *rɔŋ* 'to swallow', VI *do*, VIII *ro* 'to eat meat', IX *rõ*, XI *ro*

- 10 egg: Ib *ɣre*, Ic *?re*, Id *krē*, II *sa-kre*, III *kir*, VIII *θi*, IX *kite*, XI *kʰi*, XII *kare*
- 11 eye: Ib *nɔ*, *tɔ*, Ic *tɔ*, II *to*, VII *tʰo*, VIII *ruē*
- 12 foot: Ia *peno*, Ib *par*, Ic *para*, Id *pēn*, II *wade*, III *pata*, IV *pɔ*, VI *bi*, *biri*-, VII *fe-he*, *fet*-, VIII *wa*, IX *par*, X *bire*, XI *àbɔ*, XII *piri*
- 13 give: Ib *ɣō*, Ic *tsō*, III *hōm*, IV *-ūp*, *hum*, VII *ko*, VIII *ō*, IX *no*
- 14 hair: Ia *fe*, Ib *kī*, *kʰī*, II *ke*, III *tfe*, IV *ke*, V *ke*, *tfe*, XI *kī*
- 15 head: Ia *krā-*, Ib *krā*, Ic *?rā*, Id *krī*, II *hero*, *xaro*, IV *krēn*, VIII *ra*, IX *kite*, XII *-hara-*
- 16 hear: Ib *ma*, Ic *wa-pa*, Id *mēŋ*, IV *paw*, IX *paj*, X *mea-ridi*
- 17 honey: Ib *mɛŋ*, Id *māŋ*, III *paŋ*, IV *pəŋ*, IX *pik*, XI *pagua*
- 18 I: Ib *i*, Ic *?i*, Id *?iŋ*, III *?ik*, VI *hi*, VII *i*, X *i*, XII *ik*
- 19 in: Id *ki*, VII *ke*, VIII *ki*, X *gi*
- 20 leaf: Ia *arā-tife*, II *ere*, VI *xrā*, X *ari* 'leaf', *aro* 'small leaves'
- 21 liver: Ib *ma*, Ic *pa*, Id *tā-mē*, III *ta-ma-ŋaī*, VIII *ba*, IX *pa*, XI *pe*
- 22 long: Ib *ri*, Id *rira* 'to push', II *roro*, IV *ron*, VIII *rehe*, IX *ra*, X *raire*, XII *(ze-ze)*
- 23 maize: V *maki*, *maeki*, VI *masiki/masitfi*, VII *maltfī*, VIII *maki*, XII *natfi*
- 24 mother: Ia *na*, Ib *nā*, Ic *dā*, Id *nī*, III *tē*, *te*, *ta*, V *tā*, VI *de*, VII *sa*, VIII *na-di*, X *tfe*, XII *je*
- 25 mount: Id *krī*, II *heri*, *kere*, III *ŋī-ktij*
- 26 night: Ic *bāra*, II *hvera*, V *meri*, IX *wɛ:r*
- 27 penis/male: Ia *rē*, VI *ræ* 'male'
- 28 possession: Ib *ō*, III *ō*, *ōŋ*, *jōŋ*, VI *u-*, X *o*
- 29 short: Id *ru*, VII *lulija*, X *ro-gu*
- 30 sing/dance: Ib *ɣre*, Ic *?rē*, 'dance', Id *ɣren* 'dance', II *gre*, III *ktej*, IV *ɣri*, V *ɣgre*, VII *kʰlæ-tʰa*, VIII *θe*, IX *kirih*, XII *kari* 'to dance'
- 31 skin/bark: Ib *ka*, Ic *hə*, II *ka*, III *tsaj*, *kaj*, IV *kat*, VII *kʰà-tʰa*, IX *ha*, X *-ka*
- 32 sleep: Ia *rjō*, Ib *ɣōr* (*nō*, *nōr* 'to lie'), Ic *jōdō* (*dō* 'to lie'), Id *nōr*, II *jundū*, *hondō*, III *ɣōn*, *hōn*, *?ōn*, VI *umu*, VIII *rō*, IX *no*, *noro* 'to sit', X *nudu*, XII *uru*
- 33 stone₁: Ib *kēn*, *kʰen*, Ic *?ēdē*, II *kēa*, VI *kro*, IX *keteh*
- 34 stone₂: Id *pɔ*, VII *fōwa*, XI *àfō* 'ground'
- 35 sun: Ib *mī*, Ic *bədə*, VI *bati* 'star', VII *fetfa*, X *meri*
- 36 to: Ib *mā*, Ic *bā*, Id *mā*, VII *ma*, VIII *bā*
- 37 walk/go: Ib *mō/mōr*, Ic *bōlbōri*, Id *mū* 'go pl.', II *maŋ*, *mān*, III *mōŋ* 'to go', IV *mūŋ*, *mū*, V *mu*, *mon* 'to go', VI *wo*, X *meru*

- 38 we (incl.): Ib *pa-*, Ic *wa-*, II *pa-nike*, VIII *wa*, X *pa*
- 39 you (sg.): Ib *a-*, Ic *?a*, Id *?ā*, II *a*, III *?ā*, IV *a*, VI *e*, VII *a*, VIII *a*, IX *e*, X *a*, XII *a*

The proto-phonemes (marked with an asterisk) to the right of each series of phonological correspondences in table 6.24 are very tentative. There remain many inconsistencies in the correspondence of vowels and consonants across the twelve Macro-Jê families, and the relative scarcity of data makes it very difficult to find examples that would substantiate each series of possible cognate words. Another difficulty, well known in historical linguistics, comes from the fact that most comparable words or morphemes in these languages are very short ones, consisting in general of only one or two syllables and therefore without the phonological redundancy that makes a genetic connection really plausible. However, there is a reasonable consistency in a good part of the series of correspondences that go across the whole Macro-Jê stock. Moreover, most of the meanings in these series belong to those sections of the lexicon (universal concepts) that are less exposed to cultural influences and, therefore, are less likely to be loans from one language to another. These factors make us reasonably confident that the Macro-Jê hypothesis – namely the hypothesis of a common genetic origin for the Macro-Jê languages – may be proved correct in the future – if not for all the language families included here, at least for most of them.

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7

Tucano

JANET BARNES

I INTRODUCTION¹

A listing of the various languages in the Tucano language family that are currently in use first requires a decision as to which languages are sufficiently distinct to warrant a separate listing. Thus it may be noted that some entries in table 7.1 have two names. Barasano (also known as Pãnerã) and Taiwano (also known as Eduria) differ mainly in pitch-stress on words (Jones and Jones 1991: 2) and so are grouped together. Retuarã and Tanimuca differ mainly in a few lexical items (Strom 1992: 1). Although I consider Barã to be distinct from Waimajã, there is not sufficient data on Barã to list it separately. Pisamira would be included if there were sufficient data available. Waltz and Wheeler (1972: 128) group Pisamira with Tuyuca and Barã under the name Pápiwa, and indeed a taped word list that a Tuyuca lady and I listened to indicates that it has much in common with Tuyuca.

The Eastern and Central Tucano languages are spoken in the northwestern Amazon Basin in the state of Vaupés, Colombia, and in the state of Amazonas, Brazil. The Western Tucano languages are spoken in southwestern Colombia along the Putumayo and Caquetá rivers, and along the Putumayo and Napo rivers in Ecuador and Peru. In table 7.1, the letters E, W and C represent Eastern, Western and Central. The subgroupings in table 7.1 are taken from Waltz and Wheeler (1972), and are based on phonological and lexical affinities between the Tucano languages. Malone (1987), on the basis of her study of the development of the current languages from the proto-language, has the same groupings, with the exception that she pulls E6 and E7 out of the Eastern category and puts them in a fourth major category, tentatively also including E11 and E12 in that category. The approximate locations of the Tucano languages are shown on map 6.

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