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The Tupi: explaining origin and expansions in terms of archaeology and of historical linguistics

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Interest in explaining scientifically the enormous territorial expansion of the Tupi has been an issue since 1838, now with a consensus: a com-

mon centre of origin existed, from which the Tupi fanned out, differentiating through distinct historic and cultural processes whilst keeping sev-

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eral common cultural features. But there is no consensus as to where the centre was located and where passed the routes of expansion.

Scholars have often asserted this hypothesis, but contributed very little scientific proof. Since 1960, archaeological (site location, radiocarbon and thermoluminescent dating) and linguistic data (glottochronology, relationships among languages) have been brought to the scene. In this article, I also intend to show:

- Enough elements now link prehistoric to historic Tupian groups, setting the ground for understanding origins, continuities, changes and/or extinction;
- Chronology can now be based on archaeological and linguistic evidence rather than on Martius', Métraux's and other speculations, which distort prehistoric events.

In his study of the Indo-European question (1987), Renfrew concluded that linguists and archaeologists had for a long time used archaeological and linguistic results acritically; it was time for methodologies integrating both approaches. The same is true of research on the Tupi. Underlying the debate are two hypotheses:

- material differentiations followed linguistic derivations;
- material and technological differentiations did not occur in isolation, but stemmed from culturally chained phenomena.

Between 1838 and 1946, the hypotheses were developed with historical and ethnographic data, and influenced by theories ranging from degenerationism to racial and geographic determinism to evolutionism. Most were based on the historic location of known Tupian peoples.

From 1946 to the present, with the publication of the *Handbook of South American Indians*, archaeological information was interpreted in frameworks of ecological determinism and diffusionism. During the same period, historical linguistic methods were introduced (Dyen 1956; Rodrigues 1963; 1986; Swadesh 1971; Ehret 1976; Camara, Jr 1979a; 1979b), especially to identify the relationships among kin languages.

The Tupi

The word Tupi is used to denominate a linguistic stock that encompasses approximately 41 languages which spread, several millennia ago, throughout eastern South America (Brazil, Peru, Bolivia, Paraguay, Argentina and Uru-

guay). Tupi is also used to refer to the speakers of these languages. Of those 41 languages, the two most frequently mentioned since the arrival of Europeans have been Guaraní and Tupinambá.¹

Migration or expansion?

Terminology used for population shifts of the Tupi has regarded these simply as migrations (see Anthony (1990) for general principles in studying migrations). Etymologically, the term migration means a moving from one place to another, a leaving of the original region. This term is appropriate for the movement the Tupi undertook when pressed by other peoples, for instance the migrations after 1500 — regarded as escape movements from Europeans (Métraux 1927).

The term 'migration' does not cover adequately those Tupian peoples who moved in other ways, possibly for other reasons — demographic growth, the breaking-up of villages, forestry management, etc. According to archaeological studies, the Tupi held possession of their domains for long periods, expanding to new territories without abandoning old ones (Brochado 1984; Scatamacchia 1990; Noelli 1993b). Studies in ethnobiology and Native South American history demonstrate that territories under the domain of some Tupian peoples were slowly conquered, managed and tapped for a long time in an important aspect to expansion (Noelli 1993a; 1993b). The better term for these population shifts is expansion, meaning distention and spreading, a conquering of new regions without abandoning previous ones.

Martius and Métraux: defining the Tupi issue

In a lecture delivered in 1838 about 'The past and future of American humanity', Karl F.Ph. von Martius (1867 I: 1–42) proposed, for the first time, the hypothesis of a centre of origin for the Tupi; he located it between Paraguay and the south of Bolivia, the region he considered the probable gateway through which peo-

1 The term Tupi has been used wrongly to designate just the Tupinambá language. In many archaeological publications, all 40 non-Guarani are grouped as if they were a single people called 'Tupi', overlooking their differentiations (see list of languages in Montserrat 1994: 98). The expression Tupi-Guarani, which defines one of the seven linguistic families of the Tupian stock, has also been wrongly used to designate a language.

ples from the Andes headed to the east of South America. Martius believed the expansion was recent, shortly prior to the arrival of the Europeans (before 1500), with higher cultures preceding tribal ones. Seeing Native American peoples as having gone through a continuing decadence, he deduced that several languages derived from a few original ones, by a disorganized mixture of different peoples resulting in new languages and dialects. (This argument was repeated in his thesis 'How the history of Brazil should be written': Martius 1845.)

In 1839, following Martius and using linguistic and physical criteria, as well as the geographical location of Tupian speakers, Alcides D'Orbigny suggested a region between Paraguay and Brazil as the Tupi's 'primitive homeland' ([1839] 1944: 37, 368). He called all the Tupi 'Brasilio-Guarani' or simply 'Guarani'.

In 1886, Karl von den Steinen (1886: 353) proposed that the sources of the Xingu river were situated in the region 'where the geographical central radiation point of the Tupi is probably located'. Von den Steinen (1886: 323) coined the term 'Tupi-Guarani', we can infer to eliminate confusion at a time when the Tupi were called interchangeably 'Tupi' or 'Guarani' (discussion in Edelweiss 1947).

Paul Ehrenreich (1891), member of von den Steinen's second expedition to the Xingu in 1887, used linguistic and ethnographic arguments more explicit than those of his predecessors in claiming, 'all the evidence indicate that we should look for their point of exodus where these tribes are more tightly concentrated, that is, in Paraguay and its surroundings'. He understood that the 'widespread distribution of these peoples, as we can see in a map, is explained by the radiation from a centre' (Ehrenreich 1891).² In Ehrenreich one sees both Martius and D'Orbigny's suggested locations of an origin, and von den Steinen's central radiation. These four scientists provided the foundations for other researchers.

Wilhelm Schmidt (1913), a creator of the *Kulturkreise* theory, and the one who first applied it to South America, compared several cultural aspects among the Tupi and between these and the peoples belonging to other cultural groups to locate a Tupi centre of origin in the sources of the Amazon. Other authors sug-

gested other locations: Afonso A. de Freitas (1914), the region between the sources of the Madeira river, Lake Titicaca, Beni and Araguaia rivers (critique in Baldus 1954: 251–2); Rodolfo Garcia (1922, based on Ehrenreich), the region between the Paraguay and Paraná river basins; Fritz Krause (1925), the area of the Omagua and Kokáma, between the Napo and Juruá rivers.

Of all these researchers, Alfred Métraux (1927; 1928; 1948a; 1948b) was the first to justify this hypothesis with systematically organized and compared elements. He was also the most quoted and the one whose hypotheses about the centre of origin and expansion routes were least contested (critiques in Brochado 1984: 331–4; Laraia 1986: 22). In a remarkable immunity, his proposals about prehistoric 'migrations', made obsolete by archaeology, are still alive (Laraia 1988; Brandão 1990; Fausto 1992; Santos 1992; Porro 1992: 74–6).

Although his first exhaustive work dealt with the historical Tupian migrations³ (Métraux 1927), it was in studying this group's material culture that Métraux (1928) advanced his hypothesis about the centre of origin. Inspired by Nordenskjöld and Schmidt's comparative methods, Métraux compared material and technological elements geographically, deducing that the centre of origin was located close enough to Amazonia because the Tupi showed northern and Amazonian influences (Métraux 1928: 310). Métraux thought it unlikely that the 'primitive Tupian motherland' was located on the northern banks of the Amazon river; it should be somewhere in the Tapajós or Xingu river basins. He concluded (Métraux 1928: 312):

No important prehistoric Tupi-Guarani tribe was settled on the left banks of the Amazon river and the occupation of its [Brazilian] coast took place at a later period, thus forcing us to place the dispersion centre of the tribes of this race within the area bound in the north by the Amazon river, in the south by the Paraguay river, in the east by the Tocantins and in the west by the Madeira river.

Branislava Susnik (1975: 57), after an ethnological review as extensive as Métraux's, suggested the Colombian plains as the centre, with expansion driven by four factors: demographic growth, with the original nuclei breaking up;

2 Nimuendajú's map (1981) shows the historic location of the Tupi.

3 The Tupian Stock had not been linguistically defined in 1927–8; Métraux called it 'Tupi-guarani'.

need for new croplands; peripheral pressure by non-Tupian groups; and collective abandonment of ecologically unsuitable areas.

Linguistic approaches

Linguists also based their hypotheses on Martius, von den Steinen and Ehrenreich.

Moisés Bertoni (1916; 1922) suggested a single language, Carib-Guarani, dominating Central and South America. Calling the Tupian stock 'Guarani', this author favoured an Asian origin for the Tupi, who had come to the Americas culturally formed. Bertoni (1922: 298), reproducing Max Uhle, saw the Tupi as directly influenced by the high Mexican and Central-American cultures. After comparing several languages, Paul Rivet (1924), influenced by Martius and Ehrenreich, set the centre of origin between the Paraguay and Paraná rivers, at the latitude of Paraguay (endorsed by Stella 1928; Guérios 1935; Rodrigues 1945; Mason 1950). Aryon Rodrigues (1964: 103), using the lexico-statistic method and the notion that a concentration of language families suggested the centre of a protolanguage, placed it in the Guaporé river region. Other linguists proposed different centres of origin: Loukotka (1929: map; 1935; 1950), between the Juruena and the Arinos rivers; Childe (1940), the sources of the Xingu and the Upper Araguaia; Migliazza (1982), between the Ji-Paraná and the Aripuanã, tributaries of the Madeira; Urban (1992), for the Tupian stock between the Madeira and the Xingu, closer to the sources than to the valleys, for the Tupi-Guarani family between the Madeira and the Xingu. Magalhães (1993) merged Loukotka's proposals with Meggers's expansion routes (see below).

Archaeological approaches

A third group hypothesizing the centre of origin are the archaeologists.

A first stage of archaeological research compared pottery, attempting to verify the relationship of Tupinambá and Guarani pottery to that of Amazonia (Netto 1885; Torres 1911; 1934; Linné 1925; Costa 1934; Howard 1947; 1948; Willey 1949). In 1934, Angyone Costa (1934: map VI) set the centre of origin in central Mato Grosso. Martius and Métraux's covert influences were noticeable (Lothrop 1932; Willey 1949), mainly in hypotheses of a later dispersion and a centre located in the middle Paraná.

The archaeological issue was highlighted during the 1960s when PRONAPA⁴ accumulated data for the development of a 'cultural sequence and for recognizing the directions of the influences, migration and diffusion' (Evans 1967: 9). From previous research premisses⁵ (Meggers 1951; 1954; 1957; 1963; Meggers & Evans 1957; Silva & Meggers 1963), the programme anticipated the invention of pottery outside Amazonia, where a cultural decadence was caused by adverse environmental conditions of the tropical rain forest and a recent Tupian diffusion. A similarity with Martius' proposals was evident. During the five years of PRONAPA, three general syntheses (Brochado *et al.* 1969; PRONAPA 1970; Meggers 1985) were drawn, and two concerning the 'Tupiguarani' tradition (Brochado 1973; Meggers & Evans 1973).

The 'pronapians' suggested the abandonment of old ethnographic denominations for archaeological remains (Guarani & Tupinambá), proposing (Brochado *et al.* 1969: 10; PRONAPA 1970: 12):

After consideration of possible alternatives, it was decided to retain the label 'Tupiguarani' (but to be written as a single word) for this widely disseminated late ceramic tradition, in spite of its linguistic connotations; the term is well established in the literature, and ethnohistoric information substantiates the correlation of the protohistoric and early historic archaeological remains with speakers of Tupi and Guarani languages along most of the Brazilian Coast.

The concept of a 'Tupiguarani' tradition, based on Willey & Phillips' proposal (1958: 22), was defined ('Terminologia' 1969: 8; 1976: 146) as:

A cultural tradition characterized principally by polychromatic pottery (red and/or black on white and/or red slip), corrugated and brushed, secondary burials in urns, polished stone axes and the use of tembetás [lip plugs].

By this PRONAPA approach, the use of historic and linguistic information was to be abandoned in favour of the archaeological. Yet the

4 Programa Nacional de Pesquisas Arqueológicas (National Programme of Archaeology Research), 1965–1970. Continued in the Legal Brazilian Amazonia since 1977 as PRONAPABA, Programa Nacional de Pesquisas Arqueológicas da Bacia Amazônica (cf. general analysis in: Brochado 1984; Alves 1991; Noelli 1993b).

5 Now outdated (Morán 1990; Roosevelt 1991a; 1991b; 1992).

'pronapians' used models to deal with prehistoric events that were established by Martius and others without archaeological data. An oblivion for the identity and material culture differences recognizable among the Tupi started among archaeologists, who framed, in a single category, peoples historically known for their similarities as well as for their differences and oppositions.

This 'pronapian' proposal depended on the similarity in surface treatment of pottery by several Tupian peoples, including those thousands of kilometres away. So the analysis of paste composition was privileged over the relationship between the shape and the use of pots, described in profusion in the first-contact chronicles and dictionaries of the 16th and 17th centuries. By considering the whole relationship, with shape and function, the similarities and differences among the Tupian pottery can be clarified, whereas the paste is a limited marker, depending on the pottery-maker's choice or on the geological singularities of their region.

Meggers (1972: 129), using PRONAPA's results and her own proposals (Meggers 1963), defined the foot of the Andes, in Bolivia, as the origin. The following year, with Clifford Evans, and based on Métraux (1927) and Rodrigues (1958), she shifted the Tupian 'homeland' to the Amazonian plain, east of the Madeira river (border between Brazil and Bolivia), largest concentration of Tupian linguistic families (Meggers & Evans 1973: 57; reiterated in Meggers 1975; 1976; 1982; Meggers & Evans 1978: figures 7, 8; Meggers *et al.* 1988: figure 5.). Among archaeologists, Meggers was followed by Pedro I. Schmitz (1985: map 1; 1991: map 1), who based his works linguistically on Migliazza (1982).

Brochado (1973) located the sites geographically, interpreting 55 PRONAPA radiocarbon and 7 thermoluminescence dates from the Paranapanema Project in São Paulo to admit Métraux's suggested centre of origin.

Donald Lathrap opposed Meggers's hypothesis, postulating that pottery in South America was invented in Amazonia: the proto-Tupian centre of origin was the confluence of the Madeira and Amazon rivers. He also suggested that the proto-Tupi, pressed by the Arawak, went up the Madeira and its eastern tributaries as far as the Serra dos Parecis, where derivations took place that culminated in the linguistic families of the Tupian stock (Lathrap 1970: 75–

8). His hypotheses were influenced by Métraux, whom he did not quote, and by, explicitly, Rodrigues (1958). Brochado (1984), abandoning the assumptions he had used in PRONAPA, adopted and expanded Lathrap's hypotheses.

More recently, Ondemar Dias (1993) after reviewing Brochado's (1984) and Schmitz's work, and based only on information from non-Amazonian areas, situated a Tupian centre in southeastern Brazil, between the Paranapanema and the Guaratiba rivers.

Claristella Santos (1991; 1992), discussing the approaches that synthesize and relate linguistic and archaeological results (exclusively PRONAPA's), considers that at the time suggested by Rodrigues (1964) for the origin of the Tupian stock — 5000 b.p. — these peoples did not have pottery, being hunter-gatherers; so there is no unity between the linguistic and archaeological data, no historic-cultural unity at the time of the 'fundamental economic shift that took place in the cultural system of the Tupian protolanguage' (Santos 1992: 112). The pottery, its attributes and the analytical methods applied were not enough to outline elements relating them to Tupian stock.

Routes of expansion: the quest for the Tupian paths

The geographical detection of prehistoric routes depends on relating the location of archaeological sites to their dates. The historical migrations studied by Métraux (1927), on which most researchers depend, represent movements to escape European pressure (see also Fernandes 1963: 25–58). Scholars have postulated routes of expansion for which there was no proof. And recent researchers have neither taken into account the archaeological studies now available, nor recognized advances of the last 30 years. The proposition takes two forms, expansion in a south–north direction, and a radial expansion.

Martius (1867 I: 7–10) postulated that the Tupian route from Paraguay went first southwards and then towards the north of Brazil: 'probably from the region between the Uruguay and the Paraná [rivers], reaching the coast of Bahia, Pernambuco and the Amazon jungle'. Martius — never quoted by the professional archaeologists of the last 38 years — appears implicitly in Meggers & Evans (1957), and in their followers. It was only Costa (1934: map VI) who cited Martius in following him.

D'Orbigny, after Martius, suggested a portion of the Tupi had moved into the Buenos Aires region, from an area located between Paraguay and Brazil; later, another portion went to the Andes (Chiriguano). Finally, without linking the suggestions, (D'Orbigny (1944: 37 concluded, 'only the Guaraní,⁶ if we consider that their origin is the Tropic of Capricorn, migrated from the south to the north'.

Ehrenreich (1891), observing the geographical situation of the historic Tupi, proposed the 'radial dispersion' had occurred in successive waves, to the north, east and south. Following Martius, he had those from the south as moving to the north along the Atlantic coast.

Métraux (1928: 310–11), for the Guaraní and Tupinambá, merged the models of radial expansion and of south–north expansion along the Atlantic coast.

From site location and radiocarbon dates, Brochado (1973) detailed a 'migration' schema for the PRONAPA regions, on the lines proposed by Métraux, with the 'Tupiguaraní' expansion occurring in two 'migratory waves', one pre-historic and one after the European arrival. The first wave was represented by the Pintada Subtradition, the second by the Corrugated Subtradition. After European contact, the Corrugated Subtradition transformed into the Brushed Subtradition, another subtradition characterized in its ceramic expression by the predominance of a certain surface finish ('Terminologia' 1969: 7; 1976: 143). Afterwards, in his thesis (1984: 69–77) and at several scientific congresses, Brochado refuted completely the existence of these subtraditions: it had all resulted from confusion created by the indiscriminate mixture of Guaraní and Tupinambá pottery (see also: Brochado *et al.* 1990; Brochado & Monticelli 1994; La Salvia & Brochado 1989).

Lathrap (1970: 75–8, figure 5), amalgamating archaeological, linguistic and ethnographic data (principally archaeological data), based a radial expansion on Tupi geographical distribution. This rather synthetic and deductive model influenced proposals outside the mainstream schema among researchers, inaugurating a political polarization of the discussion about the origin of pottery and agriculture inside and outside Amazonia. His field methodology, not

very different from that of the 'pronapians', was driven by different theoretical conceptions.

Meggers & Evans (1973), from an origin east of the Madeira river, suggested expansion towards the south of Brazil and then to the north (Meggers 1972: 129; 1975; 1976; 1982; Meggers & Evans 1973; 1978: figures 7–8; Meggers *et al.* 1988: figure 5), without mentioning the full comparative archaeological analysis concerning the Tupi; instead, the stratigraphical sequences of the middle–lower Amazon were privileged and those outside Amazonia excluded. Although assuming an 'incapacity of lexico-statistical methods to reveal earlier locations of speakers of akin languages', Meggers & Evans (1976: 60) based arguments about Tupi expansion on historical linguistics and on the historical information analysed by Métraux (1927).

Following Lathrap, Brochado (1984: 28–39) matched internal divisions of the Tupian stock, from Proto-Tupi to historic languages and dialects, to the model of evolution and differentiation of Amazonian pottery (Lathrap 1970; Brochado & Lathrap 1980). After observing the Proto-Tupi divisions proposed by Rodrigues (1964) and Lemle (1971), he verified the correspondences, considering that material and linguistic differentiations must have been concomitant. Later, Brochado has seen the need to expand regional investigations and the multidisciplinary links that ensure consistent results for each Tupian group (pers. comm. 1993).

By Brochado's (1984; 1989) hypothesis, the Proto-Tupi resulted when the makers of the Guarita Tradition pottery (of the Polychromatic Amazonian Tradition) split, somewhere in central Amazonia. Based on historical linguistic assumptions, he considered the differentiation of languages and of pottery to have resulted from the spatial-temporal splitting of the Proto-Tupi, caused by continuous demographic growth in the heart of Amazonia. This division links the Guaraní to the pottery of western Amazonia, and the Tupinambá to that of eastern Amazonia. The expansion is seen as having two periods, a first alongside the principal rivers, a second colonizing the smaller tributaries.

In the case of the Guaraní, colonizations followed a north–south direction, from Amazonia to the mouth of the River Plate, through the courses of the Paraná, Paraguay and Uruguay rivers; there are sites from Corumbá (Peixoto 1995) to Buenos Aires. To

6 D'Orbigny called almost all Tupian peoples 'Guaraní'.

the east, the Tupinambá, leaving the mouth of the Amazon, followed the coastline as far as São Paulo, moving up the Atlantic rivers into the hinterlands.

Brochado (Brochado & Lathrap 1980; Brochado 1984) concluded that the Guarani pottery in the Guarita tradition lost decorative techniques — modelling, excision and incision in fine and long lines — during the southward expansions outside Amazonia, through the Madeira and Guaporé rivers. Bowls with everted and thickened rims disappear; labial and medial flanges replace decoration of the Guarita tradition. New, cone-shaped pans and jars resulted from contact with pottery-makers from eastern Bolivia and Peru. This characteristic Guarani pottery — both archaeological and historical — has a complex or inflected contour, developed waist and/or horizontal segmentation; corrugated or painted, it is utilized secondarily as burial urns.

There is no archaeological record for the Tupi of the Lower Amazon. From their centre of origin, Brochado proposed, the Tupinambá shifted eastwards through the middle course of the river and, leaving its mouth, moved southwards to colonize the coastline as far as the Tropic of Capricorn. Some constituent features of Tupinambá pottery are found in the Lower Amazon and in the Marajoara style: most of the open pots, including those with oval and quadrangular mouths, and the polychromatic paint concentrated on the everted and thickened rims (features not occurring in the Madeira-Guaporé and Paraná-Paraguay basins). This pottery does not include most of the closed shapes, principally anthropomorphic, nor the incision, excision and modelling techniques. From comparisons between the Tupinambá and Marajoara pottery and the indication that the Tupinambá had occupied the Lower Amazon, we suggest that Marajoara pottery may derive from the Tupinambá's (Brochado & Noelli n.d.).

Comparing shape and decoration, Brochado (1984) demonstrated that the Tupinambá pottery could not have evolved and unfolded outside Amazonia, next to Paraguay, as was proposed last century. Nor was it dispersed firstly southwards and then to the north of Brazil, as suggested by Meggers: there is no material evidence of a sequence outside Amazonia, in eastern South America.

Linguistic relations published after 1984 (Rodrigues 1984–5; 1986) make it unlikely that the Tupinambá colonized the Brazilian coast and hinterlands from Paraguay to the south of Brazil and then moved towards northeastern/northern Brazil. Considered the most ancient language of the Tupi-Guarani family (Jensen 1989: 13), the Tupinambá could not have derived from the Guarani, the only Tupian-speaking pottery-makers south of São Paulo. Relations between Tupinambá and Kokáma may explain and confirm the origin of the Tupinambá, if it can be determined whether the Kokáma belongs to Tupian stock or is a Tupian language adopted by a non-Tupian people. Kokáma and Tupinambá share characteristics absent from languages of the Tupi-Guarani family south of the Amazon river, in the Madeira-Tapajós, Tocantins-Araguaia and Xingu regions. This strengthens Brochado's hypothesis: the Tupinambá expansion, starting in the Lower Amazon, followed the Atlantic coastline southwards.

If Tupinambá pottery derives from the Guarani's, moving beyond the Paranapanema in a south-to-north diffusion, it changed drastically to include shapes and surface-finish techniques absent from southern Brazil. How did this occur, if constituent elements of the Tupinambá pottery originated exclusively in Amazonia?

Eliminating the fuzzy 'pronapian' concept of 'Tupiguarani', Brochado (1984) resorted to an old notion in calling this a 'Guarani Subtradition' and suggesting 'Tupinambá Subtradition' for the Tupinambá of the Brazilian coast, as well as for the other Tupi (non-Tupinambá) previously called 'Tupiguarani'. Since 1984 Brochado has proposed a 'Tupinambá Subtradition' exclusively for Tupinambá speakers, to differentiate them from the other Tupi groups. He also extends the concept of subtradition to the Asurini, Kokáma, Tapirapé, Mundurukú, and so forth. Those peoples not using pottery should be judiciously studied: did they never produce it or was there a loss? Brochado (pers. comm. 1990) believes it important to have a model based on up-to-date information about the Tupi; the traditional model, primarily supported by historical data, was conceived before the archaeological and linguistic evidence came to light.

Greg Urban's (1992: 92–3) expansion hypothesis, based on Rodrigues's and Lemle's stud-

ies, connects linguistic derivation more explicitly to geographical expansion. Using exclusively linguistic data, Urban divides the expansions into two successive stages, in terms of distance from the origin, according to the Rodrigues (1964) chronology.

The first stage, 3000–5000 years ago, corresponds to the early division and expansion of the Tupian stock (which Urban calls Macro-Tupi) in the centre-western region of Brazil, between the Madeira and the Xingu rivers, as far as the Amazon river, with more concentration and diversity in Rondônia. The second stage, no longer associated to with the early Tupi expansion, corresponds to the geographical expansion of the Tupi-Guarani family, divided into three consecutive phases. This stage, Urban considers, occurred 2000–3000 years ago (Rodrigues 1958; 1964); he also suggests part of the expansion is probably very recent.

Arguing that the Tupi-Guarani family started its expansion 'somewhere between the Madeira and the Xingu rivers', Urban suggested that the first derivation must have occurred towards the Amazon river, through the Kokáma and the Omágua, who shifted to the Amazon river. 'About the same time', the Guaiaki moved southwards, reaching Paraguay, while the Siriono moved southwestwards, as far as Bolivia. This movement was followed by Pauserna and Kawahib (Parintintin) speakers westwards; the Kayabi and Kamayurá alongside the Xingu; the Xetá towards the south of Brazil; the Tapirapé, Tenetehara and, perhaps, Wayampi moving as far as Guyana, into a region close to the mouth of the Amazon (Urban 1992: 92).

The third phase took place around AD 1000, with the expansion of Chiriguano and Guarayo speakers to Bolivia, the Tapieté and Guarani to Paraguay, the 'Kaingwa' to the region between Paraguay, Argentina and Brazil. Finally, the Tupinambá, Tupiniquin and Potiguara settled down on the Brazilian coast. They were originally speakers of a same language, called 'Tupi-guarani, not to be mistaken with the family which is much wider' (Urban 1992: 92).

By stating that there had been a language called Tupi-guarani, Urban revives a nomenclature resolved in the late 1940s, since when Tupi-guarani has referred to a linguistic family, rather than a language (Edelweiss 1947: 3–9; Loukotka 1950; Rodrigues 1945; 1950; 1984–5). It is more appropriate to talk of a 'proto'-

Tupi-guarani, the language from which originated current languages of the Tupi-guarani family.⁷

In the light of older radiocarbon dates, a derivation at about 1000 AD is incorrect. The Tupinambá and the Guarani were already occupying most of their historically known territories at least 2000 years ago. The Wayampi arrived in Guyana in the 17th century, much later than Urban suggests, migrating from the Xingu when pushed by Luso-Brazilian slave hunters (Gallois 1986: 77–85).

The chronology of Tupian expansions

Two approaches to dating are available: absolute through radiocarbon and thermoluminescence); relative through pottery series and glottochronology. The pottery series are not depended on here, because they do not provide accurate datings.

By the glottochronological datings of Rodrigues (1958; 1964), Proto-Tupi, the language in which originated the components of the Tupian stock, was formed around 5000 years ago, and the Tupi-guarani family some 2500 years later. And dates also show that the Guarani inhabited Paraná and Rio Grande do Sul at least 2000 years ago and that the Tupinambá were in Piauí, São Paulo and Rio de Janeiro as early as 1800 years ago. Although published in the early 1970s, these absolute dates have not been considered by linguists in their analyses, or in their reproduction of Rodrigues' datings (Migliazza 1982; Greenberg 1987; 1992).

Several radiocarbon and thermoluminescent dates later than AD 1 are published for sites in the Amazon and Paraná-Paraguay basins, Rio Grande do Sul, Atlantic coast, and coastal rivers (Brochado 1973; 1984; Brochado & Lathrap 1980; Scatamacchia 1990). These are much older than was imagined by ethnographers since Martius, who envisaged a quick expansion, close to the arrival of Europeans, with the cultural uniformity of the Tupi materializing just before the breaking-up of Tupian groups towards the 16th century.

Although few compared to the number of sites, and unequally distributed in the regions occupied by the Tupi, these radiocarbon dates

7 'Kaingwa' is not a language, but an expression — 'those from the woods' — used to refer to Guarani speakers not integrated to the Jesuit *Reduções*, or to colonial societies (Meliá *et al.* 1987: 362).

show that the expansion and differentiation of some peoples was not recent. They provide cause to place the expansion of the Tupi-guarani family at much earlier than 2500 years ago.

Three regions provide datings close to AD 1: Santa Maria, RS, about AD 150; Ivaí river, PR, about AD 100; lower Tietê-SP, about AD 232; São Raimundo Nonato-PI, about AD 260; coast of Rio de Janeiro, about AD 300. Some of these datings are isolated; others are part of sequences which reach historic times. In regions far from the proposed centres of origin — deep southern Brazil, the northeast, coastal Rio de Janeiro — the dates attest to the antiquity of the expansions, and can be related to linguistic derivations. The few dates available for Argentina, Uruguay, Paraguay, and Bolivia are all later than the 10th century (Brochado 1984). In Perú and in neighbouring Brazilian regions, the pottery associated with the Kokáma, Omágua, and Kokamiya still needs study in detail (Lathrap 1970; Myers 1990).

Other regions also yield dates close to the oldest: in the Mogi-guaçu river, about AD 400; coast of Rio de Janeiro, about AD 440; Santa Maria-RS, about AD 475; middle Ivaí-PR, about 460 AD and about AD 70; lower Tietê-SP, about AD 578, which may prove coexistence with the oldest dates. Dates closer to the present occur in several parts of eastern South America. On the southeastern and northeastern coast of Brazil we have: lower Tietê-SP, about AD 668; Curimataú-RN, about AD 800; coast of Rio de Janeiro, about AD 870; Cricaré-ES, about AD 895; Guaratiba-RJ, about AD 980.

So the Tupian peoples were already spread over Brazil as early as 2000 years ago, in regions very distant from one another and from the proposed centres of origin, rendering obsolete Martius' account (repeated by many scholars) of a quick Tupian expansion shortly before the European arrival.

Many more archaeological studies have been conducted and dates obtained in southern Brazil than in Amazonia and other regions (data partially published: Brochado & Lathrap 1980; Brochado 1984; Scatamacchia 1981; 1991). The most recent research in Amazonia is yielding dates that reveal even earlier cultural phenomena — pottery, agriculture, chiefdoms — and demonstrate that some common Tupian elements are yet older.

Conclusions

Paraphrasing Manuela Carneiro da Cunha (1992: 11), we may say that we already know 'the extent of what we don't know' concerning Brazilian Native American (pre-)history.

Martius' hypothesis of 1838 has often been used by authors who provide neither archaeological nor historic linguistic evidence. Until the late 1950s it depended on historical evidence from the time of the European arrival onwards, and on linguistic evidence which did not verify derivations between languages. In this reality, it is understandable that most researchers of Tupian peoples suggested a late expansion at a period close to the 16th century. The dates now show that at least the Guaraní and the Tupinambá were already settled in their historically known territories as early as 2000 years ago.

The corpus of all archaeological, linguistic and ethnographic information about the Tupi presents no evidence of a centre of origin outside South America, or in the 'Highlands', or below Parallel 16° South.

In the 'Lowlands', where occupation sequences are known, confronting the archaeological publications will rule out Paraguay, southern Bolivia, Mato Grosso do Sul, Goiás, southern, southeastern and northeastern Brazil as a centre of origin. In the upper and main course of the Xingu, in the Araguaia and in the upper and main course of the Tocantins, according to PRONAPABA's first investigations (Meggers *et al.* 1988: 288), no archaeological evidence identifies an origin there; stratigraphical sequences instead provide clear evidence that the Tupian pottery did not evolve from previous pottery (FIGURE 1).

On the other hand, the Tupian archaeological evidence presents elements closely linked to the stratigraphical sequences of Central Amazonia (FIGURE 1), especially with those classified in the Polychromatic Amazonian Tradition (Brochado 1984: 308; also Lathrap 1970; Brochado & Lathrap 1980; Roosevelt 1991a; 1991b: 98–125). Parallel to this, the linguistic data show the greatest concentration of families and Tupian languages south of the Amazon (Rodrigues 1964; 1986; Urban 1992), and traces of a very ancient linguistic connexion between the Proto-Tupian and Proto-Karib languages (Rodrigues 1985: 393–400). The largest concentration of Karib languages north of the

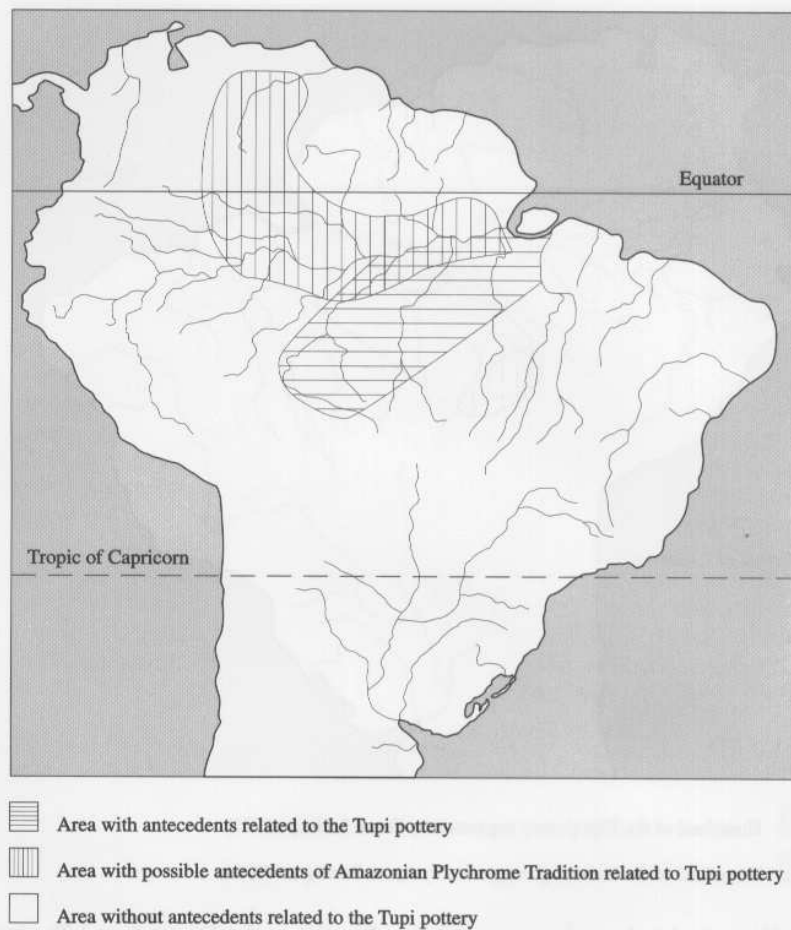


FIGURE 1. *Distribution of the polychrome pottery in Amazonia.*

Equator also may contribute to placing the origin of the Proto-Tupi in Amazonia (archaeological information about the Karib in Rouse 1986).

Within the huge Amazon region, a space in which the centre of origin of the Tupi may be located is bounded: on the north by the right bank of the middle and lower Amazon; on the east by the Tocantins; on the west by the basins of the Madeira and lower-middle Guaporé; on the south, by a line running from the middle Guaporé (Parallel 12°30') as far as the Tocantins, close to the mouth of the Araguaia. These generic boundaries circumscribe a probable centre of origin somewhere within them.

The centre of origin may be in that region's western portion. The linguistic consensus sets it there, in the largest concentration of families (principally close to the Madeira-Guaporé basin). The best archaeological model — com-

plex, updated, complete, organizing more evidence — is Lathrap's and Brochado's, which points to the region by the confluence of the Madeira and Amazon rivers (FIGURE 2). If Lathrap's hypothesis of the Proto-Tupi being pushed towards the south is right, an explanation follows as to why the centre of origin of pottery is far from the region where the linguistic families of the Tupi stock were formed.

Clarification of the expansion routes from that centre of origin depends on the relationship between archaeological remains and linguistic evidence for all the Tupi. It is very likely that a differentiation in pottery corresponds to each linguistic derivation, as happens between the Guaraní and Tupinambá (Brochado 1984; Scatamacchia 1981; 1991), without losing the general features of what the 'pronapians' call 'Tupiguarani' pottery.

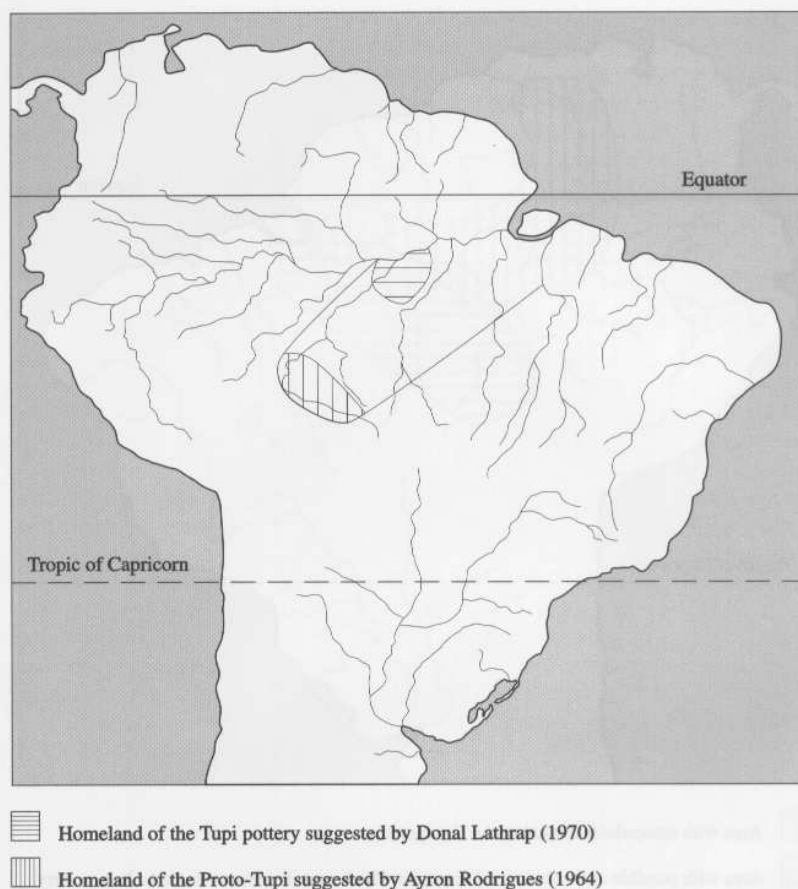


FIGURE 2. Areas of the Tupi homeland.

Historical information, especially after the profound demographic and cultural changes that took place after the arrival of the Europeans, cannot determine the expansion routes clearly. Menéndez's (1981–2), Gallois' (1986) and Porro's (1992) studies demonstrate how the European presence changed territoriality in the Amazon region, influencing the mobility and spatial reallocation of several peoples; they also show the extinction of probable Tupi-speaking peoples. Historic research, as well as archaeological studies with a regional perspective, may also come to demonstrate changes in the spatial distribution of prehistoric peoples, explaining expansion and, whenever applicable, collapse.

Of the 41 Tupi peoples historically and archaeologically known, the most complete data are restricted only to 2, with much unknown about the material inventory of the other prehistoric peoples. We can make statements about

the Guarani and Tupinambá based on empirical data, but no definitive evidence links other Tupi peoples to their prehistoric ancestors or determines the routes that took them to their historically known territories.⁸

Of current models, Brochado's (1984) is the most complete; the only one that maps the regions where the cultural development of the Tupi was unlikely to occur, it thus delimits the most likely spaces in which expansion outside the Amazon region started. This model focuses on the Guarani and Tupinambá expansions, without encompassing the other 39 Tupi peoples (FIGURE 3).

The Tupinambá expanded from the lower Amazon, passing through its mouth towards

8 Collections of Tupian ethnographic pottery, such as the one studied by Lima (1987), have not been systematically compared with archaeological collections yet.

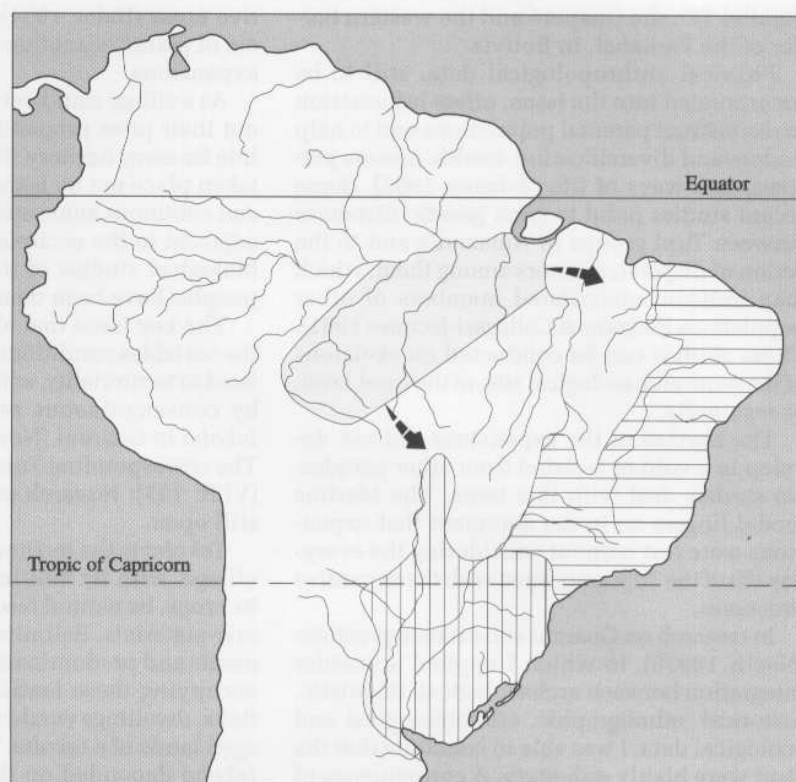





FIGURE 3. *Beginnings of the routes of expansion and well-known areas of Tupinambá and Guaraní.*

-  Area with archaeological and historical information of the Tupinambá location with intrusion of another people
-  Area with archaeological and historical information of the Guaraní location with intrusion of another people
-  Beginning of the expansion routes

the Brazilian coastline, from north to south as far as the Tropic of Capricorn. Parallel to this, other groups penetrated the interior, going upstream within the basins that flow into the Atlantic. There is no evidence in all the historically and archaeologically known Tupinambá territory of a relationship between the Tupinambá strata and those below; which proves that the Tupinambá pottery did not develop outside the Amazonia.

The lack of systematic archaeological research between Rio Grande do Norte and Maranhão has led scholars to find support exclusively from the historical information systematized by Métraux (1927: 2–16) and Fernandes (1963: 33–57), of the flights of the Tupinambá towards Maranhão and Amazonas. Neither reports by 16th-century chroniclers such as Cardim (1939:

179) and Soares de Sousa (1987: 299–300) about the memory of territorial conquest by the ancestors of the Tupinambá, nor Abbeville's reports (1975: 208–9) about the flights caused by the Portuguese are pertinent to the prehistoric expansion.

Information about the Guaraní is not so problematic. Archaeologically, except for the frontier with other Tupi groups, in all the Guaraní territory studied, south of Parallel 17°, there is no direct connection to evidence of earlier occupations. Linguistically, the Guaraní language is closer to the Tupi-Guarani family spoken in southern Bolivia, Paraguay and southern Brazil (except the Tupinambá). Most of these languages do not derive from the Guaraní, which makes unlikely a south–north expansion. A region to be studied in detail stretches north of

Parallel 17°, the Guaporé and the western border of the Pantanal, in Bolivia.

Physical anthropological data, still to be incorporated into the issue, offers information to reconstruct parental populations and to help understand diversification, health/disease patterns, and ways of life (Salzano 1992). Some recent studies point to great genetic distances between Tupi groups in Amazonia and to the action of dispersive factors among them, which may indicate assimilated members of other populations (Salzano & Callegari-Jacques 1991). These studies can be conducted on skeletons of the same archaeological site, at the local level, or regionally.

The rhythm of the expansions did not develop in a void or isolated from other peoples. No studies deal with this issue. The Martius model lingers on in the argument that expansions were fast without considering the everyday life of the Tupi associated with the expansive processes.

In research on Guarani subsistence practices (Noelli 1993b), to which I applied a broader integration between archaeological, linguistic, historical, ethnographic, ethnobiological and ecological data, I was able to conclude that the Tupi were highly sedentary. A consequence of the territorial expansion must have been demographic growth and the breaking-up of villages. Expansion must have been resisted by the peoples whose lands were claimed, in turn implying interethnic relationships, bellicose and friendly.

In parallel, the management of crops and plant-gathering influenced directly the rhythm of expansion. The Tupi transported their plants, introducing them to all the regions they settled; they also took up new vegetables. These processes required investment in research time and in preparing the environment, in transforming the primary forest into known and produc-

tive areas (Balée 1994). The phenological cycle of plants is another factor in the rhythm of expansions.

As a village could not occupy new lands without their prior preparation, it could not move into far-away territory. The expansion must have taken place not by leaps, but through the slow and continuous annexation of lands immediately adjacent to the occupied territories, as ethnobiological studies of tropical and subtropical peoples have been demonstrating.

The key issue that allows us to understand the variables conditioning the expansions is related to territoriality, with its social units marked by consanguineous relations and alliances, *tekohá* in Guarani (Noelli 1993b; Melià 1986). The corresponding Tupinambá term is *tecoaba* (VLB: 127); research on other Tupi groups is still open.

Tekohá is the territory that corresponds to a village, with its hunting and fishing grounds, its crops, its natural resources for gathering and raw-materials, delimited by geographical elements and predominantly tapped by the group occupying these lands. Under normal conditions, dwellings would change within the managed lands of a *tekohá*. The formation of a new *tekohá* depended on the division of an original village, rather than its abandonment.

Archaeology and linguistics provide some evidence that these peoples remained in the same place, from which they slowly broke up. Several Guarani lands show a continuous occupation for over 1500 years, and Tupian lands for over 1000 years, in a permanence which may indicate a slower rhythm of movement. If Aryon Rodrigues' estimates are correct, several Tupian peoples have lived for at least 5000 years in the Guaporé basin and adjacent regions.

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