

## **Orinoquia: The Archaeology of the Orinoco River Basin**

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*Orinoquia is one of the most important riverine ecosystems complexes of the world. However, it has been seldom recognized as an ecological or historical entity in general accounts of South American archaeology. This essay reviews systematically and comparatively the archaeology of Orinoquia, by discussing research done from the 1940s onwards in all the areas of the Orinoco Basin: the Andes, the plains or llanos, the Orinoco river proper, the highlands of Guayana, and the Delta. It is proposed that, in the last 20 years, there has been a sustained movement away from a traditional archaeology, concerned mostly with environmental determinism and cultural history, to new and pluralistic models that share, in spite of their diversity, a regional, long-term, and multidisciplinary approach.*

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**KEY WORDS:** Orinoco River; South America; Venezuela; Colombia; archaeology.

### **INTRODUCTION**

The Orinoco River Basin, hereafter “Orinoquia,” is an ecosystems complex that comprises a total area of 1,080,000 km<sup>2</sup>, 71% of which is in Venezuela and 29% in Colombia. The Orinoco river proper is some 2200 km long, from its official headwater at the Cerro Delgado Chalbaud to its mouth at the Atlantic Ocean, and flows from and through a variety of landscapes including Andean mountains, open savannas, tropical forest, floodplains and marshlands, among others (Lewis *et al.*, 1990, p. 353; Stallard *et al.*, 1990, p. 84; Weibezhan, 1990, p. 153). Orinoquia is astonishing not only in geographical terms, but also in its biological and cultural diversity, being one of

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the most important reservoirs of biodiversity in the Neotropics, and home of 26 different Amerindian groups (Romero, 1993, pp. 17–19; Wilbert, 1999, p. 135). Moreover, people and landscape have been coevolving here at least since the end of the Pleistocene, some 10,000 years ago. Yet this vast basin with its complex cultural and ecological history has received limited attention in general summaries of South American archaeology, being variously treated as marginal or secondary, or subsumed under the general denomination of lowland tropical forest, or fragmented between the Intermediate, Caribbean, and Amazonian areas (Allaire, 1999, p. 670; Bruhns, 1994, p. 266; Fiedel, 1992, p. 202; Meggers and Evans, 1978, p. 289; Wilson, 1999, p. 54). Orinoquia has rarely been recognized or treated as a distinctive entity. Other factors have contributed to the relative invisibility of archaeological, historical–ecological, and ethnohistorical studies of the area. Firstly, although there is a very sizable literature on Orinoquia in English, many publications are in Spanish. Secondly, many investigations have been carried out recently, and have been published in local journals, as students' theses, or as internal reports for development agencies and universities. Finally, since historical particularism remains a major paradigm in local archaeological practice, some anthropologists feel that Orinoquian archaeology is relatively unimportant to archaeological theory or South American archaeology, except for studies related to migration and cultural relationships. This article is an attempt to address such limited viewpoints by putting together and discussing a vast array of studies under a comparative view, by placing the archaeology of Orinoquia in the wider context of northern South America, and by emphasizing the ecological, historical, and processual approaches to the prehistory and early history of the basin.

### THE NATURAL AREAS OF ORINOQUIA

A useful approach to considering Orinoquia in its entirety is to conceive of it as an ecosystems complex. This concept incorporates multiple regions and ecosystems joined by transportation pathways, acting as a unit of ecological organization between the single ecosystem and the biosphere. This is precisely the case with Orinoquia (Fig. 1) where the Orinoco River acts as the main transport pathway connecting the different regions and ecosystems of the Basin (Lewis *et al.*, 1990, p. 353). We shall refer first to the Orinoco main pathway, for it is necessary to have a general description of the river itself, since most of the archaeological data that shall be discussed here are organized following this traditional approach.

From the geographical stand, Vila divided the river as follows. The Upper Orinoco runs from its headwaters in the Parima mountain range (63° 22' W–02° 19' N) to San Fernando de Atabapo (67° 40' W–04° 05' N). In

this section, the Orinoco is mainly a black-water river, born in a landscape covered by tropical rain forest. The Middle Orinoco runs from its confluence with the Atabapo-Guaviare, in San Fernando de Atabapo, to the Apure river mouth ( $66^{\circ} 25' W-07^{\circ} 38' N$ ). Here, thanks to the sediments coming from the lowland plains tributaries such as the Guaviare, Meta, and Apure, the Orinoco's waters take a brown color, offering the appearance of a lowland plains river, although it runs, not over sediments, but over an eroded Precambrian platform (Schubert and Huber, 1989, p. 34). The Lower Orinoco, from the mouth of the Apure River down to the sea, becomes wider and mightier, and it is here that it receives the Aro, Caura, Cuchivero, and Caroní Rivers issuing from the Guayana Shield. At the end, the Orinoco Delta begins near the town of Barrancas, from where the river divides into innumerable arms and streams separated by islands covered by herbaceous vegetation, low forests and palms, and then empties in the Atlantic Ocean (Vila, 1960, pp. 262–356; Weibezhan, 1990, pp. 154–155).

In 1958, in order to organize the archaeological information available at that time, Cruxent and Rouse provided a general archaeological chronology of Venezuela based on geographic and time divisions supported by stylistic comparisons, and various methods of relative and absolute dating (Cruxent and Rouse, 1958–1959, p. xii). They divided the river into three sections: first, the Upper Orinoco, from its headwaters to the city of Puerto Ayacucho, Amazonas State, including the Casiquiare basin and the Guayana's highlands, Bolívar State; second, the Middle Orinoco, between Puerto Ayacucho and Ciudad Bolívar, Bolívar State; and third, the Lower Orinoco, which covered the confluence with the Caroní River, Barrancas and Tucupita, Delta Amacuro State (Cruxent and Rouse, 1958–1959, pp. 202–233). This division is purely conventional and has been used by most Orinoquian archaeologists. In order to avoid unnecessary explanations, we shall continue to use it.

It is not easy to give a general idea about the physical characteristics of the principal Orinoquian regions in a short space. However, it is possible to divide the area into four regions: Andean, plains or llanos, Guayana, and Delta (Domínguez, 1998; Michelangeli and Fernández, 1999, p. 50). This division is based on geology, the distribution of ecosystems, regional history, and past and present patterns of landscape organization. However, given the great discrepancies among different authors, the extension, limits, and characteristics of each region, are only approximate and general.

### **The Andes**

The Andean Orinoquia has an area of 60,000 km<sup>2</sup> distributed between Colombia and Venezuela (Michelangeli, 1999, p. 35). From the natural point

of view, this region is formed by the mountain front and piedmont of the Colombia Eastern Cordillera and its northern extension, the Venezuelan Andes, as well as the southern slope of the Venezuela's coastal cordillera. The high mountain front reaches more than 4000 masl and its base is defined by the piedmont topography. The most important physiographic features are irregular, undulating or uneven slopes, rugged forms, high hills and slopes, with formations such as moraines, alluvial fans and terraces in the mountain front and canyons and narrow valleys in the piedmont (Corpooccidente, 1982, p. 23). Some of the most important tributaries of the Orinoco River (such as the Meta, Guaviare, and Apure Rivers) originate here. The region has Páramo pluvial-Alpine (mean temperature 1.5–5°C; precipitation of 1500–2000 mm annually) and sub-Alpine bioclimates (mean temperature 6–12°C; precipitation of 1600–2000 mm annually). There are two seasons: a wet season from April to December and a dry season from January to March. In addition, three vegetational layers can be differentiated: the “Páramo Community” (above 4000 masl), with low and herbaceous vegetation; the “Andean Bush” (4000–3000 masl), where the dominant species are shrubs, such as arborescent ferns; and the “Andean Forest” (below 3000 masl) with arborescent growths of varied nature depending on local conditions.

From the geomorphological viewpoint, the piedmont is a unique and transitional physical and geographical area. In the high hills, the piedmont characteristically has slopes and terraces that are the product of the combined effects of gravity, runoff, and solifluction of parent materials and sediments of diverse nature, textures, and disposition. In the lower parts, landslides and other movement of sediments have shaped formations such as cones, alluvial fans, and narrow valleys flanked by steep inclines. Most of the sedimentation of the colluvium coming from erosional areas occurs in the piedmont region, with deep and stable soils generally used for *vega* agriculture (Schubert and Vivas, 1993, pp. 186–187). The climate in this strip is also transitional, exhibiting very humid, humid, and dry types of weather with annual precipitation of 2000–2800 mm for the first two, and 1400–1600 mm for the last. There are two ranges of annual mean temperature: the tropical (24–26°C) and the premountain (18–24°C). In general, the seasonal climatic pattern is less extreme than the adjacent alluvial landscape, with seven to nine humid months and three to five dry months. These various factors favor the growth of dense evergreen forests.

### The Llanos

The Orinoco plains or llanos, as they are known locally, are located in a large geosyncline, limited by the Guiana shield to the south and east, the

Andean Cordillera to the west and the Caribbean Cordillera to the north (Medina, 1980, p. 297; Vila, 1960, pp. 106–107). The llanos area comprises more than 500,000 km<sup>2</sup> of Quaternary sediments, with heavy clayey texture and imperfect drainage, and affected by seasonal flooding. The soils are extremely poor in almost all macronutrients. Despite the general poverty of the soils, there are some regions with deep, young, and fertile soils, where seasonal excess of water is the most important limitation. However, they occur in a patchy distribution (Sarmiento, 1990, p. 17). In general, the region has two well-defined landscapes: the high llanos, which reach from the piedmont to 100 masl, covered with great masses of forests alternating with savannas, and the low llanos, below 100 masl and covered with savannas and gallery forests. In Colombia, these landscapes are known as *llanos arriba* and *llanos abajo*, respectively (Medina, 1980, p. 297; Rausch, 1994, p. 9; Sarmiento, 1984, pp. 3, 17; Silva and Moreno, 1993, pp. 240–241; Vila, 1960, pp. 106–107).

Climatic variability plays a critical role in determining the structure of the savanna ecosystem. The Orinoco llanos have a continental, homogeneous, macrothermic, and isothermic climate. Annual mean temperatures are 24–28°C. In general, the climate is seasonal and unpredictable, with a dry period, known locally as “summer,” and a wet period called “winter.” A remarkable unevenness in annual precipitation is one of the main characteristics of the northern South America rainfall regime. Extreme dry years occur with enough frequency to constitute an important ecological factor. In contrast, there are years of severe rains with often catastrophic effects, such as floods. There is usually an extremely wet year every 4–5 years; dry years are less predictable. Fire and winds are additional ecological factors to be considered. Fire is important because it creates and expands savannas, having a cyclical, yearly or almost yearly occurrence. Winds also present seasonal variations. For several months of the year, the winds contribute to the evaporation of ground humidity, plant transpiration, concentration of fauna near permanent water sources, and dispersion of savanna wildfires (Sarmiento, 1984, p. 48; Tamayo, 1987, p. 61; Vila, 1960, p. 221).

The natural vegetation of the llanos is of four main types: forests, dry savannas, wet savannas, and swamps. The savanna vegetation is characterized by high primary production and abundant green phytomass that shows marked seasonal fluctuations (Sarmiento, 1984; Sarmiento *et al.*, 1971; Solbrig, 1993). The boundary between savanna and forest has always been dynamic, and changes in it can be attributed to fire, soil types, microrelief, hydrological regime, and human activities (Corpooccidente, 1982; Hills and Randall, 1968, p. 105). Another basic distinction can be drawn between the riverine and the inland or hinterland areas. Riverine areas are richer in biomass and resources, because they are less affected by seasonal

fluctuations. The inland areas have poorer and more dispersed resources with larger seasonal differences in resource availability (Sarmiento, 1984, pp. 135–136).

### Guayana

The Venezuelan Guayana occupies more than 429,000 km<sup>2</sup> and is located south of the Orinoco River. It lies on the Precambrian Guayana shield, which is made up of an igneous-metamorphic basement (mainly granites and gneisses), covered by extensive layers of sediments that form the quartzitic and sandstone strata of the Roraima Group. The soils are, for the most part, acidic and very poor in nutrients, making them unsuitable for large-scale agriculture. The region as a whole is characterized by notable ecological diversity, and it is not easy to classify the various landscapes. The main physiographic units are: plains and peneplains below 500 masl; hills, piedmont and highlands between 500 and 1500 masl; and mountains and high plains between 1500 and 3000 masl (Huber, 1990; Huber and Zent, 1995, p. 39; Schubert and Huber, 1989).

Among the plains and peneplains are those of the Caura–Paragua Rivers, the southern side of the Middle Orinoco River and the basin of the Ventuari–Casiquiare Rivers. All these plains are within the macrothermic belt, where annual mean temperatures are always above 25°C. As in the llanos, a clear seasonality exists, with temperatures reaching the 34–40°C range during the dry season (November to April), and more or less intense rains during the rest of the year. However, this seasonality is less marked toward the extremes of the region. Towards the south, there are gently undulating interfluvial plains and peneplains interspersed with hills, rocky areas, and easily flooded plains, which show a complex pattern of vegetation from dense evergreen forests, to savannas, to the Amazonian *caatinga*.

The hills, piedmont, and highlands are located in the west and south-east of Bolívar (La Gran Sabana and the high adjacent lands) and Amazonas States (the Suapure-Guayapo mountain range and the Parima-Unturán highlands). The climate is characterized by a regime of mesothermic temperatures (with an annual mean of 18–24°C), low seasonality and a mean annual precipitation of 1500–2000 mm. In La Gran Sabana, herbaceous communities are abundant, with patches of shrubs and tree-covered peaks and depressions, while in Amazonas there are deciduous to evergreen forests. The savannas can be divided into two basic types, the gramineous and the wide-leaved herbaceous. The flat-topped mesas, or *tepuys*, formed of sedimentary rocks from the Roraima formation, are the most striking aspect of the Guayana region. The climate is of mesothermic or submicrothermic type, with annual mean temperatures between 9 and 18°C, a dry season from

December to February, and an extended rainy season with average precipitation between 2500 and 3500 mm. These factors permit a highly varied vegetation. The evergreen forest is predominant in the hillsides and its composition and features vary with altitude. The peaks have a wide variety of shrubs, pasture, and small forests with many endemic species.

### The Delta

The Delta embraces an area of about 23,700 km<sup>2</sup> (Heinen *et al.*, 1995, p. 313). The area is a vast, fan-shaped swamp, formed by Quaternary sediments deposited by a labyrinthine system of river and stream distributaries of the Orinoco, and some small tributary rivers coming from Bolívar and Monagas States and the Republic of Guiana. This hydrologic system has shaped and dissected the sediments, creating innumerable islands of various sizes. The islands are characterized by a central depression surrounded by elevated borders, where human settlement and cultivation occur. The dominant landscapes are marshy plains, both marine and fluvial, with slopes not greater than 2%, except in the southeast where there are undulating areas with slopes up to 25%. There are other geological formations such as peneplains; hills, floodplains, and marine shores (Petróleos de Venezuela, 1992, pp. 203–213). The region has a wet marine climate of four seasons ruled by the intertropical convergence zone. Seasons are determined more by fluctuations in rainfall than temperature, which varies only from 21 to 26°C. Precipitation occurs with greater or lesser intensity throughout the year (Wilbert, 1996, p. 8).

The Delta region has three geographic zones—the littoral, the intermediate, and the prelittoral (Wilbert, 1996, pp. 5–10). The littoral zone is permanently flooded by rain and tides. The area is 10–30 km wide, with a peaty and clayey base, covered by large mangrove trees, which surround the islands and stabilize their shorelines. Behind the mangrove trees are swamp forests with clusters of *moriche* and *temiche* palm-trees (*Mauritia flexuosa* and *Manicaria saccifera*), which are important sources of food and raw materials for the local inhabitants.

The intermediate zone consists of a strip, 40–80 km wide, also subject to twice-daily tides. Although this intermediate strip is not flooded permanently, it is subject to seasonal flooding. The area is characterized by the presence of swamps and islands with forests abundant in *bucare* trees (*Erythrina glauca*), *morichales*, and herbaceous swamps. The littoral and intermediate regions comprise the Delta's wetlands.

The prelittoral area lies inland towards the high Delta where it merges with the Lower Orinoco River *sensu stricto*. It is the highest and oldest area,

and the volume of its waters depends on the rivers and the rain. Its rivers, which are an integral part of the Orinoco system, are brown-water rivers bordered by sand banks 3–4 m high. Although today the vegetation cover has been completely altered, formerly the river's sandy banks were covered by gallery forests with stands of palm trees. There are also savannas and deciduous forests.

## THE ARCHAEOLOGICAL AREAS OF ORINOQUIA

### Andean Orinoquia

The ancient hunters and gatherers of the Andean sector of Orinoquia are poorly known. In Venezuela, various paleontological sites have been reported in the piedmont of Lara and Trujillo states, but no undisputed megafauna kill sites, with the possible exception of El Vano (Lara state). In this locality, at what seems to have been the edge of a Pleistocene lagoon, Jaimes reports three projectile-point fragments and other specialized artifacts, possibly associated with bones of giant ground sloth (*Eremotherium rusconni*), glyptodon (*Glyptodon sp.*) and other species. Some of the bones show parallel and crossed cut-marks, as well as depressed and stepped fractures. A bone fragment, dated by accelerator mass spectroscopy (AMS) gave a date of 10,710 B.P.  $\pm$  60 years (Jaimes, 1992, p. 31; 1996, p. 47; 1999, p. 100). Evidence of Archaic or Mesoindian occupations has been reported in Capacho and Lomas Bajas, both in the state of Tachira. The Capacho II site is a shell-midden under a deposit of ceramic material. In the Lomas Bajas Complex, mollusc shells, animal bones, and scrapers were also recovered. The scrapers may have been used for shaping wooden projectile points to procure small to medium sized game (Wagner, 1993, p. 273). Sanoja and Vargas have reported some findings of metates and grinding stones in the mountain range north of the state of Cojedes that may indicate the presence of early hunters and gatherers in that area (Sanoja and Vargas, 1999b, p. 362). Wagner believes that the presence of Archaic hunters and gatherers in the eastern Venezuelan Andean piedmont is highly probable, although there is no clear archaeological evidence (Wagner, 1993, pp. 273–274).

More detailed information comes from the eastern Colombian Cordillera. In the Guayabero I site (Fig. 2), a rockshelter on the southeast side of the Sierra de la Macarena, near the Guaviare River, scrapers made on chert, quartz, and quartzite were recovered. These were probably used to exploit the dry piedmont around 7250 B.P. At the Maporita site in the Casanare piedmont, dated to 3620 B.P.  $\pm$  50 years, there were lithic artifacts such as flake cores, flakes, scrapers, and debitage made with a direct percussion technique. Unlike the Guayabero I site, deposits of very fine



aeolian sand point to a environment of open savannas. Barse indicates that this Archaic tradition of hunting and plant-collecting could have gone on until the appearance of agriculture in the Formative stage some 3000 or 4000 years ago (Barse, 1995, p. 112; Correal *et al.*, 1990; Gómez and Cavelier, 1998, pp. 167–168).

In relation to the food producers, Núñez Regueiro and Wagner have highlighted the importance of the Andean eastern piedmont as a distinct cultural area, characterized by the existence of sedentism in an area ecologically diversified and geologically stable. This allowed an efficient economy without the need for technical improvement of the soils or water control, as was the case in the Andes or the llanos. Between 1100 and 800 B.P., the area's population increased markedly, the sociopolitical organization became more complex, a shared ideology seems to have developed, as evidenced in symbols like lithic pendants, shell objects, and burials in urns with votive objects. Evidence of these social, political, and ideological developments can be observed from the piedmont of the Lara and Barinas States in Venezuela, to regions as distant as the Santa María Culture in the northwest of Argentina (Núñez-Regueiro and Wagner, 1984, p. 19; Wagner, 1992, pp. 209–210).

Although the plateaus and piedmonts of the eastern Colombia Cordillera are relatively far from Orinoquia, we have evidence of interaction between them from very early times. Langebaek applied the world-system approach to study the relationships among the Muisca chiefdoms of the eastern Andes and the societies of the piedmont and adjacent llanos. Around the sixteenth century, the peripheral societies of the piedmont and llanos were integrated into the Muisca economy through the unequal exchange of raw materials for manufactured goods (Langebaek, 1987, p. 143; 1991, p. 326). At Contact, the villages of the piedmont and eastern llanos showed a lower level of sociopolitical integration than the Muisca, as well as greater ethnic and linguistic diversity: "Frequently, the foothills populations were viewed as a veritable mosaic in which 'village' was almost synonymous with 'nation'" (Langebaek, 1991, p. 330). In general, the economy of these societies is described as less productive and more dependent on the climate than that of the Muisca. The eastern llanos of Colombia apparently did not have societies that integrated diverse communities into one centralized political unit. Instead, they seem to have had autonomous chieftains and religious specialists, in contrast with the Venezuelan western llanos, where a higher level of sociopolitical integration existed at least up to 750 B.P. The Muisca interacted with the people of the lowlands in at least three different ways: by the maintenance of trading posts, by exchange, and by the incorporation of different ethnic communities into centralized political units. The villages of the piedmont traded cotton, coca, tobacco, wood, game animals, feathers, shell beads, and small quantities of gold with the Muisca in exchange for

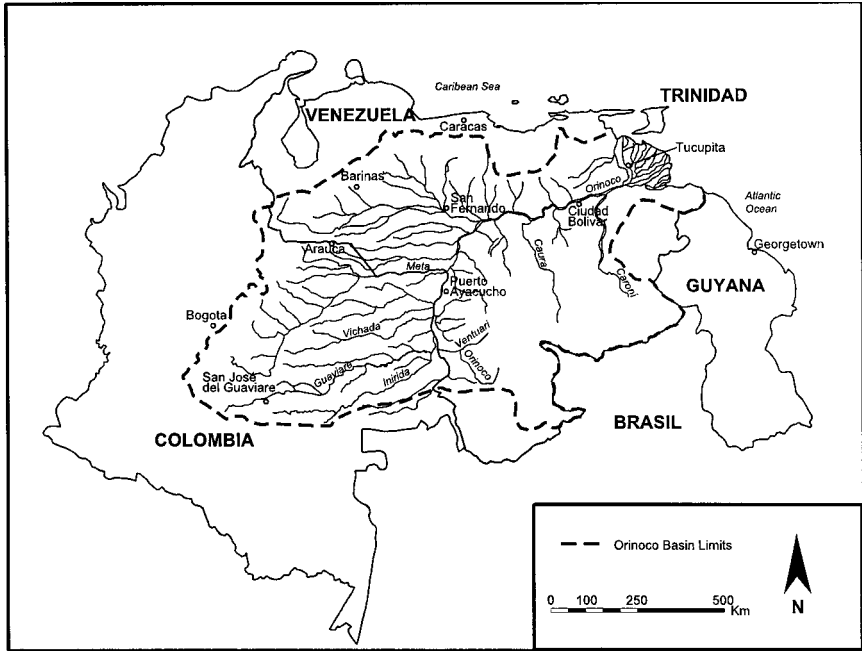
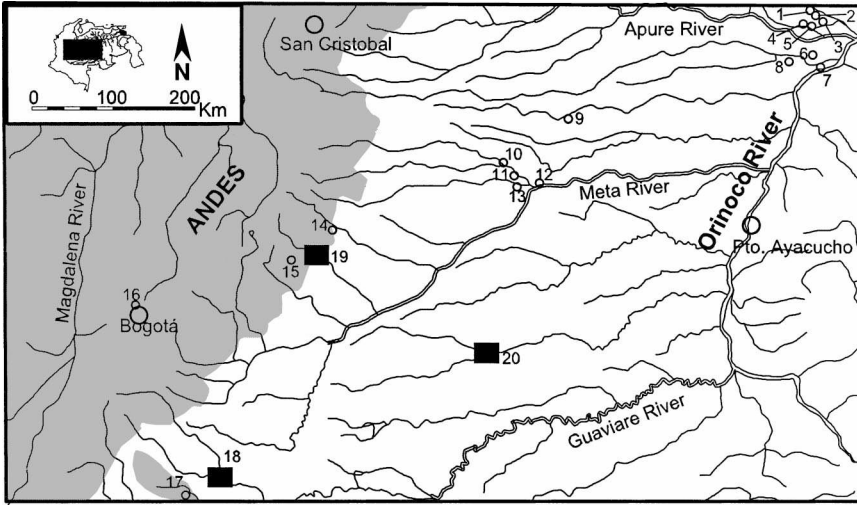


Fig. 1. The Orinoco Basin.

cotton blankets, emeralds, and gold ornaments. Muisca commercial goods circulated in the piedmont and the Orinoco River, through middlemen such as the Tegua, with whom they shared political and ideological ties, and the Achagua, who served as nodal points with the distant towns of the Orinoco Basin. Not only did the Muisca obtain such raw materials and products from the lowlands, but they also received children from the Orinoco llanos for use in sacrificial rituals (Kurella, 1998, p. 204; Langebaek, 1987, p. 144; 1991, p. 334; Morey, 1975, p. 272; Reichel-Dolmatoff, 1997, p. 239).

Not much is known about the Lache people and other inhabitants of the Sierra Nevada del Cocuy. At Contact, the Lache chiefdom bordered to the western edge of the Muisca territory, the llanos societies, and the Chitarero people to the north. The settlement pattern of the Lache was hierarchical, and chiefly power was based on control over diverse people and perhaps on the religious sanction of the caciques, since they seemingly controlled some *páramos* and lagoons that were considered sacred by the population (Langebaek, 1987, pp. 144–145; 1992, pp. 77–78). In the few ceramic complexes known in the Santander area, it has been possible to identify several painted types with geometric motifs which are probably related to the Second



**Fig. 2.** Southeast Orinoco Basin area. (1) El Paují; (2) El Almirante; (3) Los Rastrojos; (4) Cazorla A-E; (5) Los Caros; (6) Hato Caribe; (7) Arauquín; (8) La Candelaria; (9) Río Clarito; (10) Cravo-Norte; (11) Mochuelo; (12) Bombay; (13) San José de Ariporo; (14) Maporita; (15) CC2; (16) Aguazuque 1; (17) Guayabero 1; (18) Upper Ariari River area; (19) Yopal Municipality area; (20) San José de Ocune area.

Painted Horizon of the Ranchería River, and the polychrome complexes of western Venezuela (Reichel-Dolmatoff, 1997, p. 251).

Osborn (1985) combined ethnographic and archaeological data from the U’wa or Tunebo to document this society’s past settlement patterns by finding some of their archaeological sites and placing them in a sociocultural context. The political organization of the U’wa was decentralized and made up of 16 groups divided in pairs. Each group had a particular place in the social structure, based on their position in the ceremonial structure and the right to exploit foods and other goods. The subsistence-settlement system was the result of seasonal exploitation, residential moves and particular ceremonies carried out across four ecological areas: the tropical lowlands, the low piedmont, the high piedmont, and the highlands. This system did not unite all the groups at the same time, and its effectiveness depended on geographical distance, on political alliances among the shamans of different units, and on religious pilgrimages that provided them with magical power. The ritual songs analyzed by Osborn describe the flight of the swallow-tailed kites as shamanistic flights through the U’wa territory. One of the flights began in Barinas, Venezuela, crossed the Sierra Nevada del Cocuy and finished in the area of Oiba, in Santander, Colombia. Using this song as a model, Osborn carried out an archaeological survey in a small region

of the Sierra Nevada del Cocuy western slope. There, two archaeological phases were identified: an early one, related to the Herrera period, and a late one which can be associated with the U'wa and which shows similarities to Muisca and Guane ceramics (Osborn, 1985, pp. 143–145).

In Arboloco, Department of Boyacá, Pérez found a habitation site that also served as a cemetery and lithic workshop for the production of batwing pendants. The first occupation phase was associated with the Herrera period of the first to the fifth centuries A.D. A second occupation phase was associated with Guane and Muisca ceramics, which led Pérez to interpret the site as inhabited by the Lache or U'wa from the sixth to the sixteenth centuries A.D. The presence of a workshop for batwing pendants in the eastern cordillera, with earlier dates than those recovered in the Mérida area, is important because it indicates the antiquity and wide geographical distribution of these objects in the Sierra Nevada del Cocuy, the Sierra de Mérida and the Sierra Nevada de Santa Marta (Pérez, 1999, pp. 170–179).

Other investigations in Andean Orinoquia have been designed to relate archaeological materials to ethnohistoric data. In the Meta piedmont and the Intendencia de Casanare, Mora and Cavelier identified two different, late, and possibly contemporary occupations. In the piedmont, it was observed that the archaeological sites were distributed in three well differentiated landscape units. In one of them (site A2) were several mounds 10–40 m long. Excavations indicated that they were possible dwellings, and a date of 380 B.P.  $\pm$  50 years was obtained. Mora and Cavelier's excavations recovered plant remains, including maize (*Zea mays*) peanut (*Arachis hypogaea*) *pipire* (*Guilielma gasipaes*), and yopo (*Anadathera peregrina*). It is suggested that these sedentary farmers were related to the Guayupe people of the sixteenth century (Gómez and Cavelier, 1998, p. 173; Herrera, 1987, pp. 44–45).

Earlier occupations have been located in the Casanare area. As part of a CRM study, Alarcón and Segura (1998) carried out an archaeological and geological study of the CC2 site, located on a colluvial terrace in the piedmont area in the municipality of Aguazul, Departamento del Casanare, and in a very humid piedmont forest. The excavations revealed the presence of anthropogenic soils, charred seeds and charcoal, and ceramic and lithic artifacts. The most common vessel shapes are globular vessels with upright rims and rounded lips, *múcuras* with vertical plane handles, open bowls and plates decorated with incision of parallel wavy and oblique lines. The chert artifacts consisted mainly of scrapers, choppers, and axes. Two dates of 1020 B.P.  $\pm$  40 years (Beta 111424) and 1430 B.P.  $\pm$  40 years (Beta 111424) were obtained, and occupation is placed around the sixth century A.D. (Alarcón and Segura, 1998, pp. 100, 120). Aguazul has certain similarities to La Maporita site, located on a high alluvial terrace of the right bank of

the Cusiana River (municipality of Tauramena) and dated around the fourth century A.D. (Alarcón and Segura, 1998, p. 101).

The Venezuelan Andean region comprises the states of Táchira, Mérida, and Trujillo, and the southern part of Lara. Although this region has been hardly addressed in the archaeological literature of South America, because of its peripheral location with respect to the central Andes, it shares numerous features with the eastern Colombian Cordillera. The similarities include a probable linguistic affiliation of Chibcha origin, pottery traditions and burial practices, a settlement pattern that combined nucleated villages and dispersed hamlets in different ecological zones, and the presence of social inequality and religious specialists, starting around 1000 B.P. (Lleras and Langebaek, 1987, p. 264; Wagner, 1980, p. 6; 1993, p. 278). Modern research began with the work of Osgood and Howard (1943) and Kidder (1944). In 1934, Kidder carried out excavations in Carache (Trujillo state), while Osgood and Howard excavated a cemetery at the site of Tabay, in the Chama River valley (Mérida state), and they reported habitation sites and petroglyph sites in the Táchira State piedmont. Later, Cruxent excavated at the sites of Capacho and La Mulera (Táchira), Chipepe (Mérida), and Santa Ana and Betijoque (Trujillo), all of which were incorporated into the regional chronology of Venezuela (Cruxent and Rouse, 1958–1959, pp 134–150).

Beginning in 1963, Wagner carried out a program of systematic excavations in the Andean States that provided a series of radiocarbon dates, ceramic styles, and hypotheses concerning the classification and use of space that has served as the basis for most subsequent investigations. The early ceramic evidence of farming societies in the Venezuelan Andes come from El Jobal (1680 B.P.  $\pm$  70 years to 1530 B.P.  $\pm$  50 years, Tx-1577/Tx-1579) and Miquimú (1300 B.P.  $\pm$  170 years, IVIC-179) in Trujillo, and Pie de Cuesta (2060 B.P.  $\pm$  250 years) in Táchira. Following the classificatory outline and the regional chronology proposed by Cruxent and Rouse, Wagner defined the Miquimuoid series (1650–950 B.P.) that includes the Miquimú style (area of Carache), and Las Guayabitas style (area of Boconó) in Trujillo. Also, the Tierroid series was enlarged to include not only the styles defined for the Lara state and the materials from the north of Portuguese state, but also the Mirinday (area of Carache), San Nicolás (area of Boconó), and Mucuchíes (area of Mucuchíes, Merida State) styles. In Táchira State, Durán has included the materials of El Guamo and Independencia in the Dabajuroid series, and those from Babuquena, La Rochela, and El Palmar sites in the Tierroid series (Durán, 1998, pp. 55, 65, 103, 109).

Starting from the formal differences in material culture, settlement pattern and local ecology, Wagner defined a series of cultural patterns that correspond to the main ecological zones of the Venezuelan Andes. The Andean pattern corresponds to the *tierra fría*, located at 2000 masl. It was

characterized by the use of stone architecture (houses, walls, agricultural structures, and chamber-wells or *mintoyes*), ceremonial caves and rockshelters, burials with votive offerings, and the cultivation of high-altitude tubers. The pottery is of simple shapes and decoration. Another important element is the production and use of stone batwing pendants. Chronologically, the Andean pattern falls between 950 and 450 B.P. The Andean pattern phases could be derived from the Miquimuoid series (Wagner, 1978, p. 86; 1980, pp. 5–6; 1999, p. 96). The Sub-Andean pattern, corresponding to the *tierra templada*, below 2000 masl, was characterized by the absence of stone constructions, simple burials, and much more elaborate ceramics, related to the Tierroid and Dabajuroid series and several other styles of the Intermediate Area. Instead of tubers, the main cultigen was maize. This pattern also dates to 950–450 B.P. The tropical northern Andean pattern corresponds to the *tierra caliente* and the lowlands to the south of Maracaibo Lake, and was characterized by maize agriculture and perhaps also manioc, complex and diverse ceramics, urn burials, and anthropomorphic figurines. Their main cultural relationships are with La Pitía, some Tocuyanoid styles and possibly Santa Ana. The tropical northern Andean pattern dates to about 1650–950 B.P. (Wagner, 1978, pp. 83–85).

According to Vargas, these patterns do not represent adaptations to different ecological zones, but different “ways of labour” performed by different communities with similar “ways of life,” within the same mode of production. That is, according to this interpretation, in spite of minor cultural differences, all these communities shared a similar level of development of their productive forces that indicates some level of integration among them (Vargas, 1986, pp. 22–23; 1990, p. 151).

The patterns of landscape use and modification in the Venezuelan Andes were designed to recover and to consolidate lands for agriculture and for the storage and distribution of water, in an area of steep terrain and with a cold and dry climate for much of the year. Abundant evidence exists of the region’s agricultural terraces, which were distributed along the mountain range from Aricagua and Acequias in the southwest to Jajó and Tuñame in the northeast (Donkin, 1979, p. 84). In Mucuchíes, Wagner observed numerous agricultural constructions, such as walls and terraces, from which she obtained stones, manos and metates, and plant-remains, mainly maize of the Colombian–Venezuelan *Pollo* variety. There are no remains of high-altitude tubers (*Solanum tuberosum*, *Ullucus tuberosus*, *Oxalis tuberosa*), but their use is inferred from historical records, native local names, and their importance in the contemporary rural diet (Wagner, 1980, p. 23). Puig has pursued the study and description of agricultural terraces through aerial photos and field verification in the basins of the Chama, Nuestra Señora, and La Vizcaína Rivers. In the high basin of the Chama River, a series of

60 terraces was identified. The terraces were regular, built with dry-stone walling, and had cultivation surfaces 1.5–2.0 m wide (Puig, 1996, pp. 102–103).

We know less about the organization of the villages and domestic units. The San Gerónimo site (Vargas, 1969) is perhaps the best known village of the Andean pattern, and has been dated to 810 B.P.  $\pm$  70 years (SI-534). It had a house with a square structure, associated with underground silos (*mintoyes*), and the possible remains of two other houses were also located. The ceramic forms of San Gerónimo are similar to those described for Miquimú and La Pedregosa Alta (Gordones and Meneses, 1992, pp. 13–31; Sanoja and Vargas, 1999a, p. 66; Vargas, 1969, p. 123). In Colinas de Queniquea, in the high basin of the Uribante River, Táchira State, Durán located at least 30 oval terraces supported by stone bases. The terraces follow the natural contours of the hill and are linked by stone walkways. One of the terraces produced 19 burials. The ceramics, which are still under analysis, are extremely complex, and show general relationships with the polychrome series of western Venezuela (Durán, 1993, pp. 42–46).

Systematic archaeological investigations of the Andean region's caves and rock shelters have been few. Martín and Tillet recovered two cobs from a primitive type of maize and ceramics related to Wagner's Andean pattern from a rockshelter near Mérida city (Martín and Tillet, 1984, p. 17). Armand carried out excavations at La Maneta rockshelter, Municipio Miranda, in the state of Mérida, where he found human remains that supposedly reflected ritual cannibalism (Armand, 1985, p. 73). More recent excavations by Gil indicate that the rockshelter functioned as a temporary hunting station or a place where human cremations occurred. Other caves and rockshelters located above 2000 masl were probably used for ritual activities (Gil, 1996, p. 92; 1997, pp. 29–30).

In the Mocoa Alto area, in Mucuchíes, Mérida, Wagner located a lithic workshop where batwing pendants were produced from serpentinite and steatite. It is remarkable that, in addition to being a village and workshop, the site served also as a cemetery. Some 18 human burials were recovered, with the tools of their trade and finished pendants as funerary offerings. There were in situ polishers, sharpeners, raw material fragments, and pendants in all stages of manufacture. The Mocoa Alto workshop is associated with the Mucuchíes phase, and two absolute dates of 1120 B.P.  $\pm$  150 years and 970 B.P.  $\pm$  70 years place the site into Period IV of the regional chronology (Wagner, 1973, p. 207; 1993, p. 276; Wagner and Schubert, 1972, p. 888). Other workshops have also been located, such as El Bolo, in the high basin of the Chama River (Niño, 1990, p. 39; 1996, p. 149).

Besides the stone pendants, gold objects also served as symbols of wealth or political power. Wagner recovered a small sheet of gold in Mucuchíes. The

object is of Colombian origin, possibly Tairona or Muisca (Lechtman, 1972; Wagner, 1980, p. 25).

There are many indications of political hierarchies and social inequalities in the area of the Venezuelan Andes. However, we still lack regional studies that could indicate the extent of these social differences and their sociopolitical consequences. Opinions on the nature and complexity of these societies vary greatly. Sanoja and Vargas have suggested that there are indications of hierarchies of religious character at Contact, perhaps with regionally organized corporate or priestly groups (*mohanes*), rather than complex chiefdoms (Sanoja and Vargas, 1999b, p. 217). A comparative analysis between the Andes of Colombia and Venezuela by Lleras and Langebaek lent support to the presence of small “*parcialidades*” or simple chiefdoms in the Venezuelan Andes. However, Lleras and Langebaek correctly disassociate the variables of social organization and technological development.

The exposed evidences seem to deny the idea by which the construction of works of imperishable agricultural infrastructures, such as those that have been found in Merida, can be associated to a superior sociopolitical development to that of groups such as the Muisca, who have left us a rather weak proof of their material culture. (Lleras and Langebaek, 1987, p. 264. All translations into English are by the author)

At the other end of the spectrum, Meneses proposes the existence of a hierarchical society in the high basin of the Chama River. The villages integrated in this unit were members of a social and political organization that allowed them a certain degree of economic complementarity (Meneses, 1999, pp. 242–243). Our current knowledge of the area is not sufficient to affirm convincingly the presence of complex prehispanic chiefdoms, since the early archaeological and historical data indicate no more than differences in prestige and wealth at the level of family units, with no clear evidence of integration above that level (Gassón, in press-a). In any case, Lleras and Langebaek correctly highlight the important differences between the eastern Cordillera and this region: on the Bogotá plateau, a level of complex chiefdoms was reached with a productive form of agriculture that did not depend on terraces or irrigation systems, while in the Venezuelan Andes, we can only tentatively infer the presence of simple chiefdoms associated with important construction works to retain water and to modify the landscape for agriculture (Lleras and Langebaek, 1987, p. 264).

In the Portuguesa piedmont, the Tocuyano style of the Hokomo tradition (Arvelo, 1987, 1996 has been reported from several caves with possible funerary functions such as Agua Blanca, Saguas, and Sarare, traditionally classified as part of the Tocuyanoid series as proposed by Cruxent and Rouse (Cruxent and Rouse, 1982, pp. 279, 325; Hall and Harburg, 1970, pp. 63). Another piedmont location, the Cueva El Zamuro, was initially identified by



Martin as part of the Tocuyanoid series. The ceramics have since been reclassified by Arvelo as belonging to the Santa Ana style of the new Lagunillas tradition (Arvelo, 1987, pp. 63–64; Martin, 1976, p. 195).

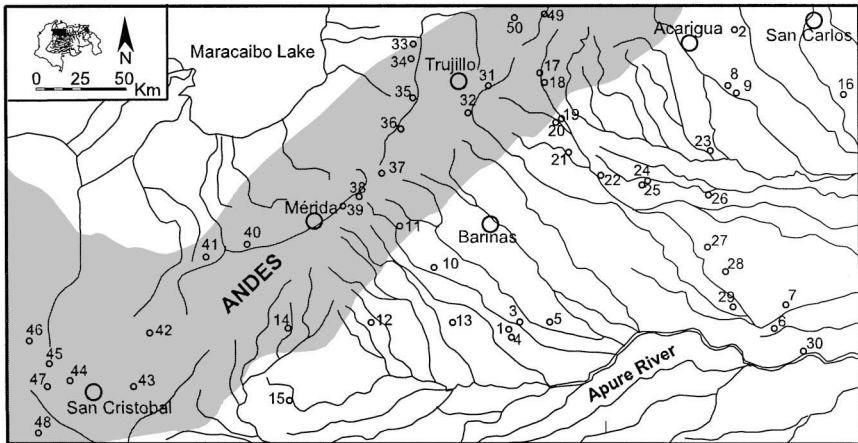
In the Barinas piedmont, Spencer and Redmond located a number of archaeological sites in the Upper Canaguá and Curbatí Rivers. Analysis of the material has allowed the definition of three different ceramic complexes. The best known are the Early and Late Curbatí complexes, which range from 1650 to 950 B.P. The pottery is delicate, with thin walls, and vessel-forms include hemispherical bowls, composite silhouette vessels, and ollas. The decoration consists of incisions, deep curvilinear notches, and applications with red painting. Curbatí ceramics show certain similarities to the Lagunillas phase in the Lake of Maracaibo Basin, Santa Ana in Trujillo, Agua Blanca in the Portuguesa piedmont, and perhaps to some materials described by Osborn in the Sierra Nevada del Cocuy (Osborn, 1985; Spencer, 1991, pp. 149–150). The settlement patterns and the political organization differ from the llanos chiefdoms of the Late Gaván Phase, and reveal less political centralization. On the other hand, there are differences among the settlements in both valleys. The population of the Upper Curbatí River valley was greater than that of the Upper Canaguá valley. Also, there are six petroglyph sites in the Upper Curbatí River valley, while none is known in the Upper Canaguá River valley. Spencer and Redmond suggest that the petroglyphs were probably markers of trade routes, and conclude that the inhabitants of the Upper Curbatí River could have played an important role as middlemen between the Andean societies and the chiefdoms of the high llanos (Spencer, 1991, pp. 159–160). Among the petroglyphs of the Upper Curbatí River are depictions of the stone batwing pendants. In fact, Spencer and Redmond recovered serpentinite artifacts at Gaván (Redmond and Spencer, 1990, pp. 14–20; Spencer, 1991, p. 160). The petroglyphs of the Upper Curbatí River are among the hundreds known from at the piedmont of Barinas state (Novoa and Costas, 1998). The later Caño Seco Complex is related to the San Nicolás phase of the area of Mucuchies. The ceramics are simpler and rougher; the shapes are limited to globular ollas, jars, bowls, and tripods; and the decoration is confined to geometric incisions and remains of red and cream slip. This phase belongs to the Mirinday tradition and dates to 950–450 B.P. (Redmond and Spencer, 1990, pp. 11–14; Wagner, 1972, p. 46).

Recently, Durán found archaeological sites in the eastern piedmont of Táchira state. The sites of El Palmar and San Miguel lie in the region adjacent to Barinas and Apure states. El Palmar seems to have been a habitation and burial site, while San Miguel was a habitation site with a low density of material (Durán, 1986, p. 10; 1988, p. 20). The ceramics show general relationships to the Hokomo, Mirinday, Osoid, and Lagunillas traditions (Durán, 1986, pp. 8–10; 1988, p. 20). Their late date gives some support to

Arvelo's position regarding the importance of the piedmont and the high llanos for the diffusion of the early polychrome styles of western Venezuela, and against Oliver's prediction of sites with early polychrome pottery to the south of the area (Arvelo, 1987; p. 59; Gassón, 1999, p. 83; Oliver, 1989, p. 115). Nevertheless, the dates from the state of Táchira, especially those from the site of San Miguel, will have to be confirmed in order to integrate them properly into the regional chronology (Durán, 1986, p. 11; 1988, pp. 22–23; Wagner, 1993, Tables 8-1 and 8-2).

### The Orinoco Llanos

Because of interest in the local mounds, causeways, and other earthworks, archaeological investigation in the western llanos of Venezuela began in the nineteenth century. However, modern research began in 1958 when Cruxent and Rouse published the first chronological sequence for the Barinas area. They established two basic styles, Agua Blanca (Tocuyanoid) and Caño del Oso (Tierroid), in the piedmont and the high llanos area, respectively (Fig. 3). These styles correspond to Periods II (1050 B.C.–A.D. 350)



**Fig. 3.** Northeast Orinoco Basin area. (1) Caño del Oso; (2) Agua Blanca; (3) La Betania; (4) La Calzada; (5) Caño Caroní; (6) Caño Ventosidad; (7) El Choque; (8) La Patilla; (9) P 109; (10) Gaván; (11) Curbatí; (12) Batatuy; (13) El Cedral; (14) San Miguel; (15) El Palmar; (16) La Cajara; (17) El Zamuro; (18) Saguas; (19) El Cajinate; (20) Lazo Abierto; (21) San Isidro; (22) Flores/Los Bebederos; (23) Ramón Lepage (A-59); (24) Banco de Morrone; (25) El Guaical; (26) Santa Elena; (27) Ramón Lepage (P-66), (A-57) y El Limón; (28) Lazo Abierto; (29) Ceritos de San Rafael; (30) Punto Fijo; (31) Boconó; (32) Niquitao; (33) El Jobal; (34) Betijoque; (35) Tuñame; (36) Timotes; (37) Mucuchies; (38) San Gerónimo; (39) Tabay; (40) Lagunillas; (41) Chiguara; (42) Babuquena; (43) Pié de Cuesta; (44) Capacho; (45) Los Cremones; (46) Los Monos; (47) La Mulera; (48) La Rochela; (49) Carache; (50) Santa Ana.

and IV (A.D. 1150–1500) of the regional chronology (Cruxent and Rouse, 1958–1959).

Research begun by Zucchi in 1964 expanded this initial sequence significantly. Zucchi's excavations at the site of La Betania (Zucchi, 1967) established the Osoid series as an independent and earlier cultural component than the Tierroid series. The Osoid series is made up of two complexes, Caño del Oso (2950–1450 B.P.) and La Betania (1450–750 B.P.). The Caño del Oso complex, in the high llanos of the northwest sector of Barinas State, has three development phases, and its main characteristics are pottery decorated with monochrome or polychrome paint, subsistence based on the cultivation of maize, hunting and fishing, and houses on elevated platforms (Zucchi, 1968, p. 135). Between 2180 and 1450 B.P., the Osoid population expanded towards the north, and there is the first evidence of contact between them and other groups, such as the Tocuyanoids and the representatives of the Corozal I phase of the Middle Orinoco (Roosevelt, 1980, p. 196). The presence of polychrome painting on the Caño del Oso ceramics is of great importance, since Coe suggested the existence of a "sloping horizon" for this trait, that spread from western Venezuela to Central America and Mesoamerica. The probable earliest radiocarbon date (2870 B.P.  $\pm$  150 years; IVIC-549) for Caño del Oso supports Coe's hypothesis, but it is not yet clear how and from where the polychrome painting spread, if diffusion was indeed how it appeared in these areas (Bray, 1984, p. 324; Coe, 1962, p. 177; Zucchi, 1972b, p. 442). La Betania complex results from a series of important changes in agricultural practices, settlement pattern, and the Osoid pottery. Thus, although the historical and cultural continuity between Caño del Oso and La Betania is clear, the latter should be considered as a hybrid product of Caño del Oso with an intrusive complex (Zucchi, 1972a, p. 111). The most remarkable changes are the introduction of vegetable, the appearance of earthworks (mounds, causeways, and raised fields), and new shapes and elements in the pottery, including griddles, globular and multipod vessels, modeling and appliqué (Zucchi, 1968, p. 135). Zucchi's excavations at the mound site of Hato de la Calzada in the state of Barinas revealed the internal structure and mound-construction techniques, and provided absolute dates for the various stages in construction. Her results enabled her to establish relationships with other complexes and ceramic styles, and to modify earlier hypotheses about the groups responsible for the mound-construction (Zucchi, 1968, 1973). In the 1970s, Armand identified the Batatuy complex, near the Barinas State piedmont, and assigned it also to the Osoid series (Armand, 1975, pp. 123–124).

The changes observed in La Betania complex have been interpreted by Zucchi as the result of increased interaction between the llanos and the makers of *cauixí*-tempered pottery in the Middle Orinoco, probably of Roosevelt's Corozal II phase (*Cauixí* are the siliceous spicules of freshwater

sponges such as *Parmula batesii*). This also resulted in the introduction of the *Pollo* maize variety, used by the Osoid population, into the Orinoco. Corozal-phase ceramics show polychrome painting that might have originated in the western llanos (Rouse, 1978, p. 207). In Corozal Phase III, the *Chandelle* variety of maize was introduced, associated with all the stylistic features typical of the Arauquinoid Series (Zucchi, 1985a), and the displacement of Cedeñoid and Arauquinoid groups toward the llanos also began (Zucchi, 1985a, p. 15).

According to Zucchi and Denevan, a 15.5 km<sup>2</sup> raised-field system for intensive agricultural production was probably in use between 750 and 550 B.P. in the Caño Ventosidad region, Barinas (Zucchi, 1985b; Zucchi and Denevan, 1979, p. 82). They see the development of such practices as a consequence of ecological variability, the extreme conditions in the lowland llanos, and migration and demographic pressure among the inhabitants of the Middle Orinoco from 950 B.P. onwards (Zucchi, 1978, p. 349; Zucchi and Denevan, 1979, p. 72). According to Zucchi, the population increase associated with the spread of the Arauquinoid population was based on the introduction of manioc cultivation and raised-field construction into an area formerly dependent on maize (Denevan and Zucchi, 1978, p. 244; Roosevelt, 1980, p. 189). Zucchi later suggested that intensive agriculture was a minor productive strategy, since local populations could have cultivated elevated areas of the savanna (Zucchi, 1984, p. 315).

Between 750 and 450 B.P., there is great cultural diversity in the archaeological record of Barinas, Portuguesa, and Cojedes States. Some clues to understanding this period are the "Arauquinoid Expansion," including the presence of numerous groups from the tropical forest; the appearance in the llanos of groups related to the Tierroid and Dabajuroid series; the emergence of the late Cedeñoid complexes; and the expansion of the Osoid population toward Portuguesa State.

From 950 B.P. onwards, the Orinoco and Amazons Basins saw the expansion of numerous tropical forest groups. This reached its climax in the Middle Orinoco, the "Arauquinoid Expansion," around 750 B.P., displacing other smaller groups (Zucchi, 1978, p. 356; 1985a, p. 35). The Caño Caroní complex is an example of such displacement. The characteristics of this complex are relatively simple pottery; subsistence based on hunting, fishing, and manioc cultivation; elaborate burials in urns; and the possible practice of cannibalism and headhunting. A small piece of gold was found in Caño Caroní, which could have been obtained by exchange with the Andean societies (Zucchi, 1976, p. 50). The bearers of the complex resettled in the gallery forests of Barinas state, a microenvironment similar to their original home (Zucchi, 1976, p. 81).

In the region of Caño Ventosidad, three additional ceramic complexes were identified for the period between 750 and 450 B.P.: El Choque, Copa de Oro, and Punto Fijo (Zucchi, 1985; Zucchi and Denevan, 1979). El Choque complex is characterized by grog-tempered pottery, triangular or rectangular rims, thumb-print decoration, fine and deep linear incisions, and a variety of forms including globular bowls and bottles. El Choque settlements were in the gallery forest and shrubby savannas, where people practiced vegeculture, hunting, and fishing. This complex has been assigned to the Cedeñoid series (Zucchi and Denevan, 1979, pp. 17–18, 48–49). The Copa de Oro complex was defined at a gallery-forest site. The ceramics have a mixed temper of mineral particles, grog and *cauxí*, a variety of shapes, and decoration that includes applied human faces, basketry impression, single or multiple vertical handles, and supports with painted decoration (Zucchi and Denevan, 1979, p. 69). The Punto Fijo complex has pottery with *cauxí* temper, fine-line incision and applications, and was therefore assigned to the Arauquinoid series (Zucchi, 1978, pp. 356–357).

Similar cultural diversity can be observed in the high llanos and piedmont north of the state of Barinas. Because of their strategic position, the states of Portuguesa and Cojedes probably served as nodes of interaction and cultural contact (Zucchi and Denevan, 1979, p. 70). Data from the regions of Turén, Guanarito, and La Cajara seem to confirm this.

In the area of Turén, Zucchi and Tarble identified two types of sites: those with Osoid pottery only; and those with almost equal proportions of Tierroid and Arauquinoid ceramics, besides Osoid ceramics and a fourth component not identified. The ceramics were clearly different and represent “simplified” (in terms of vessel shapes as well as decoration) variations of those in the areas from which the series probably derived. This suggests that the Tierroid-Arauquinoid sites could be evidence of complex and permanent interethnic relationships, which probably allowed the penetration of this new hybrid group into an area dominated by an older and well established one, such as the Osoid groups. This penetration would have been more difficult without such relationships (Zucchi and Tarble, ms. pp. 8–10).

As a part of the same project, 13 archaeological sites were identified in the lower llanos of Guanarito municipality, south of the state of Portuguesa. A later analysis of these materials by Gassón identified ceramics of six different styles (Tierroid, Osoid, Arauquinoid, Dabajuroid, Caño Caroní, and Copa de Oro). At least two styles were present at each of the 13 sites, and at least at one of the sites the distinct styles occurred in separate sectors. There were also ceramic assemblages that combined features of several styles. The results from the Guanarito survey reflect great cultural diversity and complex contacts in late prehispanic times, between 950 and 450 B.P. (Gassón, 1987).

Recently, a preliminary survey by Gómez and Gómez in La Cajara, El Pao municipality of Cojedes State, revealed a similar situation. Analysis of the ceramics showed the presence of the same diverse styles identified in the Guanarito area, with the possible exception of the Osoid series. These results tend to support the proposition that the northern sector of the llanos was an environmental and cultural link between the western llanos and the Lara and Portuguesa piedmont, and to the Caribbean through the Yaracuy depression and the Middle Orinoco (Gómez and Gómez, 1996, p. 86). In addition, preliminary publication of five petroglyph sites in Las Galeras del Pao, El Pao municipality of Cojedes state, reveals clearly different styles, which could indicate temporal or cultural differences (Weber, 1996).

These archaeological data can be related to early historic data from the region, which speak of a great cultural and sociopolitical diversity that does not fit well the traditional evolutionary typologies (Morey, 1975; 1976, p. 58). This cultural diversity, Oliver explains, was crucial in shaping the characteristics of the Caquetio polities in the llanos.

In other words, the very functioning and cultural operability of the northern llanos Caquetio groups was in great measure dependent on successful adaptations (positive or negative) to the neighboring but “foreign” ethnic groups. The relationships that developed through exposure and mutual influences probably led to the development of a variety of “cultural types” and of Caquetio polities in the northern llanos . . . (T)he very fact that the northern llanos was a densely populated region, with multiple ethnic and linguistic groups, with a wide variety of adaptations . . . shaped and promoted the cultural and political variability exhibited by the Caquetio of that area. (Oliver, 1989, p. 309)

In 1976, Garson began research in the Hato de La Calzada region of the middle llanos of Barinas, designed to answer questions not only of chronology and cultural history, but also of settlement and subsistence patterns. Some of the results of Garson’s work were the identification of four different types of settlements organized in a regional hierarchy; the recognition of the importance of fish, reptiles, and amphibians in the diet; and the significance for subsistence of seasonal variation and spatial distribution of resources (Garson, 1980, pp. 129–130).

Since 1983, Spencer and Redmond have addressed the problem of social change and intersocietal relationships in the Venezuelan savannas and piedmont from a regional and neoevolutionary perspective. They surveyed an area of 450 km<sup>2</sup> in the Canaguá River basin, where they defined several archaeological phases in the piedmont and two in the high llanos. In the first phase of occupation of the llanos, Early Gaván (1650–1450 B.P.), there are only three settlements, no earthworks, and no indicators of regional integration above the local community. The ceramics show similarities to the Caño del Oso complex (Redmond and Spencer, 1990, p. 17). For the second phase, Late Gaván (1400–950 B.P.), Spencer and Redmond propose that

complex societies of the chiefdom level arose between 1450 and 1350 B.P. This is supported by six types of evidence: (1) a regional hierarchy of settlements; (2) monumental architecture in the form of pyramidal mounds and other structures such as wooden or earthen enclosures; (3) considerable increase in population; (4) differentiation in residential and funerary patterns; (5) use of complex technologies for agriculture and transport; and (6) complex social relationships with other polities, including long-distance exchange and warfare.

The Gaván polity was united by a network of causeways connecting three classes of settlements: a primary regional center with public structures such as plazas and ceremonial mounds, surrounded by a wooden enclosure; secondary centers, with public structures but without enclosures; and third-order villages and hamlets without any public architecture. Late Gaván ceramics have many similarities to La Betania complex (Redmond and Spencer, 1990, pp. 17–20; Spencer and Redmond, 1983, p. 137; 1992, p. 154).

According to these authors, specialized techniques for intensive cultivation were already in use in the savannas of Barinas during the Late Gaván phase. Analyses suggest that the productive potential of B27 (La Tigra), a drained-field facility near the regional center, exceeded the needs of the local community. Pollen from B27 clearly indicates that maize was the most important cultigen. Since there is no evidence of population pressure, they propose that the agricultural surpluses were the economic base of chiefly activities, such as long-distance exchange and warfare (Spencer *et al.*, 1994, pp. 138–139).

Other aspects of the archaeological record of the western llanos have also been reinterpreted. Traditionally, it had been thought that the causeways linking many of the sites were used for travel in the wet season or for agricultural production (Cruxent, 1952, p. 286; Denevan, 1991, p. 240; Garson, 1980, p. 323). However, the analysis of the Late Gaván causeway showed no correlation between places subject to periodic floods and their connection to the network. Spencer and Redmond thus concluded that the configuration of the causeways resulted from a complex set of political, military, and religious factors, all related to the sociopolitical dynamics of the Late Gaván phase and intended to promote sociopolitical integration (Redmond and Spencer, 1995, p. 254; Spencer and Redmond, 1998, pp. 108–109). Gassón has suggested that the characteristics and distribution of some secondary centers could indicate some independence of local communities. Tension between local communities and the overarching polity is characteristic of chiefdoms, where centralization is always a fragile institution in process of constant negotiation (Earle, 1991, p. 13; Gassón, 1997, p. 25).

Other investigations of the political economy and landscape organization of these complex societies are ongoing in the region of El Cedral, about

40 km southwest of El Gaván in the Acequia River valley. Researchers focused on the western llanos of Venezuela have been intrigued by the small size, dispersion and relatively low incidence of raised-field agriculture (Denevan, 2001, p. 226; Zucchi and Denevan, 1979). By examining the possible reasons for agricultural intensification in the region of El Cedral, it was established that the productive potential of the drained fields directly associated with the regional center was much higher than the estimated needs of the local population. It was therefore suggested that agricultural intensification was for the production of surpluses. Ceramic evidence from El Cedral pointed to ritual public feasting as one of the fundamental mechanisms of the political economy (Gassón, 1998, in press-b). The practice of ritual feasts could indicate the search of social consent and the necessity of reassuring allies and followers by means of the redistribution of goods, thereby creating and consolidating critical social alliances to assure survival in high-risk environments (Gassón, 1998, pp. 78, 167; in press-b).

There seem to have been important differences between the sociopolitical units of El Gaván and El Cedral. First, it is highly probable that the El Cedral site was the primary center of a chiefdom that was bigger in scale and political power than its neighbor, El Gaván. Second, intensive food-production was directly under the control of the regional center and the area of drained fields was much larger (at least 416 ha vs. 35 ha at El Gaván). Third, the causeway network of El Cedral was more extensive, and several causeways have truly monumental characteristics (Gassón, 1998; Redmond *et al.*, 1999, p. 124). These differences may indicate a less rigid political structure than that proposed by Spencer and Redmond for the region of El Gaván. Hence, we may be dealing with complex societies pursuing different political strategies: while the political leaders of El Cedral may have dedicated greater effort to the production of surpluses and their redistribution to followers, the leaders of El Gaván may have relied more on political coercion and on surpluses coming in from the secondary and tertiary sites to the regional center (Redmond *et al.*, 1999, p. 125). The partial contemporaneity of the political units of El Gaván and El Cedral raises the possibility of competitive dynamics among their elites, centered not so much in the competition for territory but for labor and access to exotic goods. Evidence of warfare exists at a macroregional level, including the disarticulated remains of possible war captives, defensive structures, and evidence of destruction by fire at El Gaván.

Thermoluminescence dates on pottery from an elite residence that was destroyed by fire indicate dates between 1190 B.P.  $\pm$  120 years (IVIC-1088c) and 1050 B.P.  $\pm$  120 years (IVIC-1088d) for the abandonment of the regional center. It is possible that El Cedral polity persisted well beyond the florescence of El Gaván. Two dates for El Cedral place the occupation between



1290 B.P.  $\pm$  50 years (Beta 117265) and 1260 B.P.  $\pm$  50 years (Beta 117266) B.P. It is also possible that forces from El Cedral were responsible for the destruction of El Gaván and the abandonment of their centers and subordinate villages. It would seem that the political change in the llanos area had to do mainly with competition and warfare among neighboring polities, as is characteristic of “cycling chiefdoms” (Redmond *et al.*, 1999, pp. 124–126).

Koerner and Gassón have suggested other possible functions for these regional centers. In their view, association of the social and ecological practices of El Cedral with ancestors and deities may have been metaphorically expressed by the cosmological symbolism of the enclosures, the distribution of mounds and agricultural features, and the location of the center at the intersection of different types of landscapes. Consequently, assigning specific functions to the enclosures without taking into account their ritual dimension may limit our understanding of their multiple roles (Edmonds, 1993; Koerner and Gassón, 2001, pp. 202–203).

Research in the lower llanos of the state of Apure has been less intense. In the San Fernando area, Cruxent and Rouse recorded three ceramic styles: Los Caros, Arauquín, and Matraquero. Los Caros ceramics were recovered in a mound near Cazorla (Guarico State). They are tempered with sand and clay, shaped mostly as bowls with flat or obtuse rims and decorated with wide and narrow incisions, and ollas with triangular rims. Los Caros style was assigned to the Cedeñoid series by Zucchi and Tarble (Zucchi and Tarble, 1984, p. 303). The Arauquín and Matraquero styles belong to the Arauquinoid series. Materials of the Arauquín style were collected at various localities within Hato La Candelaria and Hato Arauquín, near the mouth of the Apure (Petrullo, 1939, p. 293). Several sites, probably mounds, in the vicinity of Cazorla feature the Matraquero ceramic style. Matraquero ceramics are tempered with *cauixí*, and there are various vessel shapes decorated with incision and excision. The predominant motifs are geometric designs and faces with coffee-bean eyes (Cruxent and Rouse, 1958–1959, pp. 189–194).

In 1971, Zucchi located several sites in Apure State but only one has been studied. The site of Rio Clarito is about 1 km from the Clarito river mouth in the high Capanaparo river. The Rio Clarito ceramic complex is characterized by the use of *cauixí* and *cariapé* (siliceous ash) as tempers; tubular, convex and conical vessels and plates; and painted triangular motifs. The complex shares technological and formal features with the Arauquín and Matraquero styles and with the Caño Caroní complex from Barinas. The site has a date of 550 B.P.  $\pm$  70 years (Tx-1254) (Oberti, 1977, pp. 54–56).

In contrast to the sustained investigations in Venezuela’s western llanos, as recently as 1986 Reichel-Dolmatoff maintained that the immense territory east of the Colombian eastern Cordillera was practically unknown

(Reichel-Dolmatoff, 1997, pp. 174–175). In 1972, Marwitt, Morey, and Zeidler reported the first archaeological sites for the Colombian llanos in the Upper Ariarí River, a tributary of the Guaviare River, in the Meta department. They located 24 sites on alluvial terraces in an area of 75 km<sup>2</sup>. The sites were very large, close together, and had dense deposits. Excavations at eight sites documented an economy based on maize and manioc. Based on the different classes of temper, three main ceramic wares were identified: grog-tempered, grit-tempered, and *cariapé*-tempered. The most frequent forms are griddles, large pots with flat bases, small ollas with zoomorphic ornaments, and square or rhomboidal vessels. Analysis of the ceramics from the ARI 24 and ARI 16 led to the establishment of two tentative phases, Puerto Caldas, with an associated date of 2910 B.P.  $\pm$  110 years (RL-545), and Granada, with a date of 1140 B.P.  $\pm$  100 years (RI-544). In general, the Upper Ariarí River had permanent dense occupations, possibly organized as chiefdoms. The ceramics share more similarities with the complexes in the Amazon Basin than with those from the llanos. Accordingly, the Ariarí River has been proposed as a migratory route and an area of cultural contact between Orinoquia and the Amazon (Gómez and Cavelier, 1998, p. 172; Herrera, 1987, p. 44; Marwitt, 1978, p. 43; Marwitt *et al.*, 1973; Mora and Cavelier, 1987, Morey, 1975, pp. 21–22).

In 1974, Reichel-Dolmatoff reported remains of ancient cultivation systems in the Caño Cumaral region, near the Manacacías River (Reichel-Dolmatoff, 1974). The site of Caño Cumaral extends over 100 ha, and features possible agricultural mounds (*montones*) that are 1.0–6.0 m long and 0.6–1.0 m high. Nothing is known of the age, cultural relations or subsistence base of the site. Mora and Cavelier report finding similar mounds near the mouth of the Caño Humapo, on the southern bank of the Meta River (Gómez and Cavelier, 1988, p. 169).

In 1975, Giraldo surveyed the confluence of the Cravo and Casanare Rivers, about 75 km south of the Venezuelan border. Three sites were excavated: Mochuelo on the banks of the Casanare; San Jose de Ariporo on the Ariporo River; and Bombay on the Meta River, which has a date of 767 B.P.  $\pm$  85 years. Based on ceramics, Giraldo differentiated the complexes of Mochuelo and Ariporo from that of Bombay. The material shares similarities with the Arauquinoid and Memoid series, and probably dates to 950–350 B.P. (Giraldo, 1988, p. 21).

Mora and Marquez carried out excavations in the Yopal municipality, in the piedmont and high llanos of the Casanare Department. About 20 sites were found, quite close to the Meta River tributaries. They were single-component sites, from 100 to 300 m<sup>2</sup> in area, and apparently represented only one prehistoric culture. Excavations at the Catanga site recovered a

refuse heap and remains of a possible living floor; the radiocarbon date is 300 B.P.  $\pm$  50 years (Beta 4657). Analysis of the ceramics showed 17 forms, including bowls, bottles, plates, large containers, figurines, and pendants; some were *cauixi*-tempered. Stone axes and a copper nose-piece were also recovered. These occupations have been tentatively related to the Achagua Indians, the Arauquinoid series, and the Caño Caroni complex (Herrera, 1987, p. 46; Mora, 1986–1988, p. 90).

Baquero carried out a survey of the San Jose de Ocuñé region at the confluence of the Vichada and Muco Rivers. Surface sites were found, characterized by areas of black earth, 1–6 m wide and about 40 cm deep, associated with ceramic and lithic material. The ceramics are tempered with *cariapé*, charcoal, and clay pellets; the most common forms are wide-mouthed vessels and griddles. They are decorated with red-on-white and red paint, and have geometric motifs that could indicate links with Agüerito and other Arauquinoid sites of the Middle Orinoco (Baquero, 1985; Herrera, 1987, p. 48). Botiva and others reported pictographs in the Lower Guayabero River, near the confluence with the Ariarí. As in the Upper and Middle Orinoco area, the paintings seem to be a palimpsest of styles from different periods (Herrera, 1987, p. 49). Herrera conducted other excavations and preliminary visits to other locations in the eastern llanos, but, as far as we know, reports have yet to be published (Herrera, 1987).

Finally, the origins, size, complexity, and other characteristics of the exchange networks connecting regions as far apart as the eastern Andes, the Llanos, and the Guianas have been a matter of controversy. The ethnohistoric data for the Colombian and Venezuelan llanos were synthesized by Morey (1975, 1976; Morey and Morey, 1975). The area was conceived as a unit, integrated by societies with different economic activities, total or partially specialized according to ecological differences in the area. This mutual dependence prevented social inequality, and reciprocity was the norm. Beginning in the 1980s, this model was widened in scope and depth, leading to a model of an Orinoco system of regional interdependence, based on peer polity exchange (Arvelo-Jiménez *et al.*, 1989; Arvelo-Jiménez and Biord, 1994). An alternative view questions the ethnohistoric studies in which the prehistoric societies of Orinoquia were considered to have been egalitarian, and points out that the early documents described a situation already profoundly modified by colonial encounters. The rarity and high-status character of most of the trade objects could indicate the existence of prestige-good exchange systems. In this case, exchange and interaction among groups were not ecologically driven, but rather stemmed from economic and political pursuits (Gassón, 1996, 2000; Langebaek, 1992; Zucchi and Gassón, 1986).

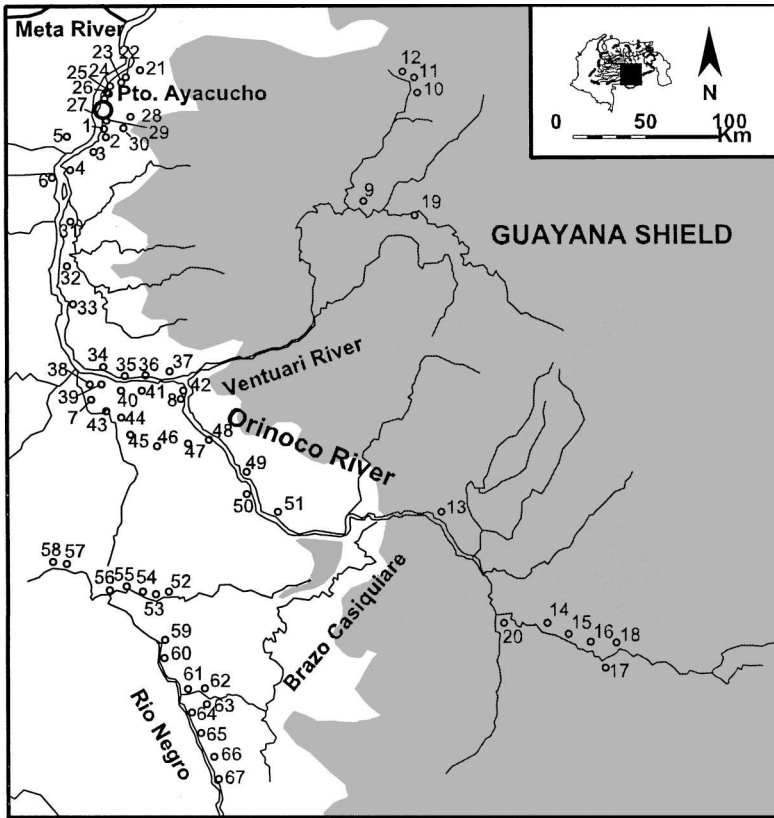
## The Upper Orinoco

Until the first half of the twentieth century, the few investigations carried out at the Upper Orinoco area were concentrated near the Atures rapids, to the north of the state of Amazonas. Cruxent was the first to establish a ceramic style at Cotúa Island (Fig. 4) where petroglyphs and lithic workshops were also located (Cruxent, 1950, p. 10). The Cotúa style was assigned to the Saladoid series, although it shares many elements with the Barrancoid series (Cruxent and Rouse, 1958–1959, p. 205).

Perera's report of archaeological ceramics from four funerary caves near the Atures rapids represented the beginning of a systematic program of historical speleology that later extended to other regions of Orinoquia (Perera, 1971). In 1984, Perera and Moreno briefly reported archaeological material collected in the rockshelters of La Vaca (Atures Department, Amazonas State) and Casa de Piedra (Cedeño District, Bolívar State). The rockshelters are within 20 km of each other, and have ceramics on their floors and pictographs. The ceramics are related to the Cotúa Island style, and to ceramics from Cueva Boulton, assigned to the Camoruco style of the Arauquinoid series (Perera and Moreno, 1984, p. 31). Later, Perera summarized the speleological, bibliographical, and archaeological data on Atarupe cave (Atures Department, Amazonas State), a site well known since the nineteenth century. The available information indicates that Atarupe was used as an ossuary or cemetery by several local groups from at least the sixteenth century to the present. The funerary urns described by various authors since Humboldt's time are possibly related to the Valloid series of the Middle Orinoco (Perera, 1986a).

Although Barse's archaeological project in the area of Puerto Ayacucho was directed mainly at questions of cultural history, it is the most intensive done in that area (Barse, 1989, p. 12; 1995; 1999, p. 366). At three sites near Puerto Ayacucho (Amazonas state), he found Preceramic occupations in stratified contexts in alluvial terraces and relict channels of the Orinoco, from which he established and defined a Tropical Forest Archaic Period. These sites, Culebra, Provincial, and Pozo Azul, are at least 9000 years old and clearly demonstrate human adaptation to the forest and tropical savannas during the early and middle Holocene.

At the Culebra site, two Preceramic components were defined as Atures I and II. The Atures I component is characterized by flake scrapers, flake cores, and debitage of local quartz and quartzite. The Atures II component consists of flake scrapers and debitage similar to Atures I, but also includes tanged projectile points on chert, which could come from the Guayana Shield interior. These points show similarities to the Canaima complex (Cruxent, 1972; Rouse and Cruxent, 1963).



**Fig. 4.** Upper Orinoco area. (1) Cotua; (2) Atures; (3) Raudales Atures; (4) Raudal de Maipures; (5) Atauripe; (6) Maipures; (7) San Fernando; (8) Guachapana; (9) La Ceiba; (10, 11) y; (12) San Juan de Manapiare; (13) Esmeralda; (14) Raudal Guaharibo; (15) I. del Esfuerzo; (16) Raudal Salas; (17) Loma del Mecate; (18) Raudal de los Tiestos; (19) Corobal; (20) Monou-Teri; (21) Albarical; (22) Pozo Azul Norte; (23) Pozo Azul Sur; (24) Rabo de Cochino; (25, 26) Casa Vieja & Casa Vieja 2; (27) Provincial; (28) Alto Carinagua; (29) Culebra & CAT-2; (30) El Tigre 1 & 2; (31) San Pedro; (32) Nericagua; (33) Siquita; (34) Magua; (35) Iboa; (36) Panaven; (37) Patacame; (38) La Punta; (39) Minicia Nueva; (40) Minicia Vieja; (41) Trapichote; (42) Macuruco; (43) Chamuchina; (44) Pintado; (45) Caname; (46, 47) s.n.; (48) Carida; (49) Yagua; (50) San Antonio; (51) Puruname; (52) 5; (53) 4; (54) 3; (55) Garza; (56) Pueblo Viejo; (57, 58) Victorino; (59) Democracia; (60) Comunidad; (61) s.n.; (62) s.n.; (63) Solano; (64) Darigua; (65) Murtajao; (66) Carutico; (67) Santa Lucia.

At the Provincial site, two Preceramic components, A and B, were defined. In component A, a living floor was found with two charcoal-rich hearths, associated with a ground-stone axe fragment, a hammerstone, a pitted nutting-stone and crystalline quartz flakes, as well as remains of

carbonized wood and nuts of a least two palm tree species. In the component B, another charcoal-rich hearth was exposed, associated with quartz flakes and shavings from wood-working. The charcoal from one of the hearths gave a radiocarbon date of  $9020 \text{ B.P.} \pm 100$  years (Beta 22638), while the charcoal fragments from a test-pit yielded a date of  $9210 \text{ B.P.} \pm 120$  years. These are the oldest dates on record for human occupation in Orinoquia. Unfortunately, the charcoal in component B could not be dated. Finally, the Pozo Azul site was occupied in the Middle Holocene. A living floor was exposed with quartz flakes, burned rocks, charcoal, and palm-nuts fragments. The radiocarbon date was  $7010 \text{ B.P.} \pm 190$  years (Barse, 1990, p. 1380; 1995, p. 107).

These Preceramic components and their associated dates have allowed the definition of the Atures tradition for the Archaic period in Orinoquia. This tradition is made up of two periods: Atures I (9200–7000 B.P.), which includes flakes and scrapers associated with the initial adaptation to the tropical forest, and Atures II (7000–4000 B.P.), distinguished by the presence of projectile points and flakes associated with adaptation to the savannas and forests that emerged with the drier climate in the middle and late Holocene (Barse, 1995, p. 108). Little is known about the way of life of these Archaic societies in Orinoquia except that, based on site-locations, technological characteristics, and chronology, they probably pursued a broad-spectrum, collecting, hunting, and fishing economy adapted to the surrounding savannas and forests, and may have been grouped in bands. To Barse, the origin of the Atures tradition should be sought in the Archaic complexes of the Early post-Pleistocene from the Bogotá plateau. Besides the chronological and technological similarities, these complexes are located near the Guaviare and Meta headwaters, that cross the eastern plains and flow into the Orinoco. The presence of howler monkeys (*Alouatta* sp.), peccary (*Tayassuidae*), and otters (*Lutra* sp.) in preceramic sites in Nemocón (Bogotá plateau), indicates that the Archaic settlers (7000–6000 B.P.) were familiar with the exploitation of lowland resources (Barse, 1995, p. 112; Bray, 1984, p. 313; Correal, 1979, p. 122). These findings indicate the great antiquity of two typical Orinoquia patterns: the exploitation of different ecological zones and the connection between the highlands and the lowlands.

The ceramic sequence ranges between 3500 and 720 B.P. The first ceramic complex, Galipero, was identified at the site of Pozo Azul Sur, which consist in a living floor with a small hearth. The collection consisted of potsherds and hyaline quartz flakes similar to those of the Archaic period. The ceramics were tempered with small clay pellets, and lacked decoration. They may be related to the Cedeñoid series of the Middle Orinoco River.

The second phase, Isla Barrancas, has sand-tempered ceramics, with forms such as flanged hemispheric bowls and flanged plates with hollow rims, red painting, simple incision, modeled-incised buttons or nubbins, and

zoomorphic ornaments. Isla Barrancas ceramics were recovered beneath a sterile silt loam, which is thought to have been deposited during a dry period corresponding to the hiatus in the Middle and Lower Orinoco sequence noted by Meggers and dated to 2600–1765 B.P. (Meggers, 1987, p. 30, Fig. 1). The stylistic similarities and the depositional context of Isla Barrancas suggest that this phase is contemporaneous with or slightly older than the Barrancas style and the Barrancas Preclassic component of the Barrancoid tradition of the Lower Orinoco (Barse, 1989, pp. 375–378).

Following the Isla Barrancas phase is a continuous cultural development of three Barrancoid phases, Casa Vieja, Pozo Azul, and Culebra. All three have a reddish, sand-tempered ware decorated with wide and flat incisions, associated with a less common, *cauxí*- or *caraipé*-tempered ware. The Culebra phase is contemporaneous with the Middle Orinoco Ronquin phase. It is suggested that Isla Barrancas is most probably the ancestral phase from which the Culebra and Ronquin phases are derived, and that these localities formed endpoints in a riverine interaction sphere (Barse, 1989, pp. 405–406).

The Cataniapo phase, partly contemporary with the Pozo Azul phase, represents a stylistically different unit, without apparent relationships with the previously described phases. The Cataniapo phase has a very different ware, tempered with crushed quartz, and lacking decoration. Barse finds similarities to the Saladero style described by Cruxent and Rouse, mainly the presence of bell-shaped and carinated bowls. In spite of the time-gap between them, Barse proposed that both components belonged to the same cultural tradition (Barse, 1989, p. 391).

The Arauquín phase (750–650 B.P.), found at several sites, especially on Rabo de Cochino island, is characterized by two wares: one tempered with *cauxí*, related to the Arauquinoid series and the other tempered with grit, related to the Valloid series. Barse considers them to be parts of one ceramic tradition—that is, a two-ware assemblage. Their makers seem to have been the most numerous and complex population to have inhabited the area (Barse, 1989, pp. 409–410).

Barse's sequence supports the original hypothesis of Cruxent and Rouse concerning the origins of the Barrancoid series, which they tentatively assigned to the western lower llanos, rather than to the Middle Amazon River as is generally accepted. If the stylistic comparisons are meaningful and the relative chronology is correct, the location and cultural relationships of the Isla Barrancas complex would give additional support to this proposition (Barse, 1989, pp. 308–309; Boomert, 2000, p. 123). However, Barse sees no evidence that the Barrancoid tradition developed in Orinoquia. The existence of an earlier phase (the Galipero complex at the site of Pozo Azul Sur), indicates that earlier Formative phases were already in place before the arrival of the Barrancas tradition (Barse, 1999, p. 378).

In 1957, Evans, Meggers, and Crucent carried out the first archaeological survey south of the Atures rapids, in the drainage of the Orinoco–Ventuari–Manapiare Rivers. The archaeological materials recovered from the region were divided in two phases: Nericagua and Corobal. The Nericagua phase was present at 17 sites, including two possible ceremonial sites, distributed along the Lower Ventuari, the Orinoco, and the Atabapo Rivers. Most of the sites were on the river banks, and had areas ranging from 50 to 400 m in diameter; they were interpreted as villages. At Sitio Martínez (Am-4), a possible village plan could be detected, consisting of a series of refuse mounds around a central plaza. Two roughly shaped granite pillars were interpreted as sites of a ritual nature. Nericagua phase ceramics consist of simple bowls and jars, tempered with *caraipé* and decorated with incision, modeling, and negative painting. The associated dates range between 1159 B.P.  $\pm$  122 years and 544 B.P.  $\pm$  113 years.

The Corobal phase was present at 11 sites along the Manapiare and Upper Ventuari Rivers. Cultural deposits are thinner than those of the Nericagua phase, and site sizes could be defined in only two cases: one measured about 20 m in diameter, whereas the other exceeded 300 m. There were no stone pillars or stone alignments. The ceramics are simple bowls and jars tempered with crushed rock. The decoration consists mostly of appliqué nubbins, fillets with incised, finger-impressed or punctated tops, and zoomorphic ornaments, with very elaborate superstructures, suggesting headdresses or supernatural beings. Dates were not reported, but the size and depth of the deposits reflect shorter occupations than those of the Nericagua phase (Evans *et al.*, 1959).

In 1986, Wagner and Arvelo described the Monou-Teri complex, based on materials collected in 1969 near the mouth of the Mavaca River, a tributary of the Upper Orinoco River. The ceramics are tempered principally with *caraipé* or crushed rock. Decoration is rare and consists of incision and appliqué. Fragments of ceramic griddles and polished stone axes and hatchets point to a subsistence based on vegiculture. The associated radiocarbon dates range from 1010 B.P.  $\pm$  70 years (IVIC-573) to 500 B.P.  $\pm$  170 years (IVIC-574). The material bears similarities to some aspects of the Valloid and Arauquinoid series and to the Nofurei phase of Araracuara region in Colombia (Wagner and Arvelo, 1986).

In 1985, Zucchi designed a large-scale project to examine settlement patterns in the black- and white-water rivers of the Upper Orinoco, in order to test the essential elements of Lathrap's model. In 1970, Lathrap proposed the Negro–Casiquire–Orinoco Rivers as the main migratory route used by the bearers of the Saladoid and Barranoid ceramic traditions, pertaining to the Arawak linguistic stock, from the Middle Amazon River to



the Antilles. Nevertheless, until about 20 years ago, the region's archaeology was practically unknown (Lathrap, 1970, p. 127; Vidal, 2000b, p. 10; Zucchi, 1991a, p. 1).

Zucchi and Morales modelled the differences between the settlement patterns of black- and white-water rivers, based on ethnographic data. Along white-water rivers, houses were nucleated in large villages near the river. Resource-exploitation took place in the nearby forests and riverbanks, which required little mobility. This pattern can be characterized as riparian, forest-oriented, and nucleated. By contrast, in the black-water rivers, the pattern was of a central village and secondary dwellings dispersed along the tributary streams (*caños*), for the exploitation of seasonal resources located at considerable distances from the village. This pattern is thus riparian and forest-oriented, but extensive and discontinuous (Zucchi, ms.; Zucchi and Morales, 1991, pp. 386–406).

Zucchi's survey of the Orinoco, Atabapo, Negro, Ventuari, and Casiquiare Rivers and several minor tributaries revealed 36 pre- and posthispanic sites (Zucchi, 1991a,b; 1999, pp. 27–28). On the basis of the ceramics, Zucchi proposed seven cultural subareas.

*Subarea 1.* Upper Ventuari–Manapiare. The ceramics belong to the Corobal phase and are related to the Valloid series of the Middle Orinoco.

*Subarea 2.* Lower Ventuari–Orinoco. The first phase of occupation, the Laguna Iboa phase, falls in the period between 2350–1750 B.P. and 1350–1150 B.P. It may be related to early parts of the Cedeñoid Series in the Middle Orinoco. The second phase, the Nericagua phase described by Evans *et al.* (1959), is between 1350–1150 and 750 B.P.

*Subarea 3.* Atabapo. It includes the Atabapo River and some tributaries like Caño Caname Creek. Except for the Buena Vista site, which is related to the Nericagua phase, all material belongs to the Chamuchina complex and dates to the Late Colonial Period.

*Subarea 4.* Caño San Miguel–Cabeceras del Atabapo. Three ceramic complexes have been tentatively identified. The first, Pueblo Viejo, dates to 1350–950 B.P., and shows similarities to the Laguna Iboa phase (Subarea 2) and the Carutico complex (Subarea 6). The second, Garza, dates to 500–350 B.P. and has similarities to the second complex of the *Trapezio del Amazonas* in Colombia, defined by Bolian (Bolian, 1975). The third is represented only by small and thin cultural deposits, not fully studied. The presence of European objects suggests an eighteenth- or nineteenth-century date.

*Subarea 5.* Guainía River. Sites do not exceed 30 cm in depth, and seem to be eighteenth or nineteenth century.

*Subarea 6.* Negro–Casiquiare Rivers. The ceramics bear similarities to the Laguna Iboa phase, the Monou-Teri complex in Venezuela, and the Camani complex in Caquetá, Colombia.

*Subarea 7.* Mavaca River. The materials described by Wagner and Arvelo at the site of Monou-Teri bear similarities to the Middle Orinoco Valloid series and the Nofurei phase. Zucchi adds similarities to Laguna Iboa and Nericagua (Subarea 2) and Carutico (Subarea 6).

Contrary to the predictions of Lathrap's model, none of Zucchi's collections from the Upper Orinoco, Atabapo, Ventuari, Negro, and Casiquiare Rivers can be easily related to the Saladoid or Barrancoid series. Instead, there are several ceramic complexes that share formal, technological and stylistic traits with phases, styles and complexes in the lowlands to the north of the Amazon River and the Cedeñoid series of the Middle Orinoco River. The complexes have their own distinguishing characteristics, but Zucchi grouped five of them (Nericagua, Laguna Iboa, Carutico, Garza, and Pueblo Viejo) into the "Parallel Lines Tradition." This tradition used both organic and inorganic tempers, had eight characteristic vessel-forms (including outflaring bowls with direct rims, outflaring bowls with thickened rims, bowls with composite silhouettes, globular bowls, globular vessels with restricted mouths, globular vessels with restricted necks and direct vertical rims, plates, and griddles), and used fine-line decoration of geometric motifs (Zucchi, 1991a, p. 140; 1991b, p. 204). According to Zucchi, the Parallel Lines Tradition was the work of speakers of the northern Maipure group or groups closely related to them, and its geographic distribution indicates that the origins of those languages lie in the Negro River basin, toward Orinoquia and the Caribbean.

These archaeological data, together with ecological, linguistic, ethnohistoric, and ethnographic information, have led to a new model of the expansion of the northern Maipure (Zucchi, 1991a,b). According to Zucchi, the initial cause for the movement of Proto-Arawakan groups was a relatively arid period episode between 5000 and 4200 B.P., that led to changes in the demography and social organization of Proto-Arawakan groups in the central Amazon, including out-migration. Some of the displaced groups occupied the area of the Lower Negro River, becoming the northern Proto-Maipure. The challenging environment of the Negro River led to the occupation and rigid control of large territories, greater distances between settlements, and greater efficiency in food-production. This brought about the first linguistic separation within the northern Proto-Maipure into five groups: Proto-Curripaco, Proto-Baré, Proto-Manao, Proto-Palikulur, and Proto-Baniba-Lokono. Later, around 3800–2800 B.P., improvement in climatic and environmental conditions probably stimulated the growth of the various

groups in northwest Amazonia. Zucchi has suggested that agriculture and early pottery of the Alaka phase could have been introduced to the coastal sector of Guyana from the Upper Orinoco–Vaupés–Caquetá Rivers by Proto-Baniba-Lokono speakers toward the end of the first millennium B.C. Furthermore, Proto-Baré speakers reached the Middle Orinoco between the second and first millennium B.C. bringing Cedeñoid pottery. Proto-Baré may have been the root of the Igneri language of the Lesser Antilles as well as the Caquetío of the western llanos. If this model is correct, then there are two important questions to answer: the origin of Saladoid pottery, and how this pottery came to be associated with the Igneri language (Zucchi, 1991a, pp. 16–17).

In the Upper Orinoco and Negro Rivers, a new arid episode may have intensified competition for resources and led to an increase in social pressures. In order to cope with these pressures, the Arawakan groups developed the following strategies: (a) a hierarchical organization; (b) expansion and consolidation of tribal territories; (c) differential occupation of the tribal territories according to hierarchy and to the distribution of resources; (d) migration to new territories; (e) implementation of economic mechanisms, such as agricultural intensification, population control and establishment of alliances and exchange networks. The reconstruction of ethnogenesis and migratory processes, the appearance of social ranking and other related phenomena during that period indicate strong ties between contemporary indigenous groups and six of the posited archaeological subareas: Piapoco-Maipure Indians (Subarea 2), Guipuinave Indians (Subarea 3), Warekena Indians (Subareas 4 and 5), Yavitero Indians (Subarea 5), Baré Indians (Subarea 6), and Mawacwa Indians (Subarea 7) (Zucchi, 1991c, p. 123; 1992, pp. 230–234).

Based on ethnographic work (Hill, 1984; Vidal, 1993, 1999, 2000a), Zucchi has argued that migratory movements by ancient and modern Arawakan societies followed a ritual process founded on the social hierarchy and the kinship structure common to these societies. When a social unit migrates from its ancestral territory, there is a symbolic return to the original time and its members acquire the characteristics of mythical culture heroes. Their power is then transferred to the chief, who symbolically proceeds to recreate his group's lineage and descent. The symbolic events take place at specific places (stones, rivers, rapids), which thus acquire a sacred character, and the chiefs of the migrant patrilineages become founders of new phratries with particular territorial and ritual attributes. Hence, the migrant group becomes a new and different social unit from the one they came from (Zucchi, 1993a, pp. 136–137). To document this ethnographic sequence, Zucchi attempted to systematize the available information on secular and sacred places (Zucchi, 1993a, p. 135; 1993b, p. 16; 2000, pp. 43–45). Ruette and Vall carried out a similar reconstruction in the Caño Aki

and Caño San Miguel, in the Guainia River basin. They studied the process by which three contemporary indigenous groups, Banivas, Curripacos, and Warekenas, occupied and endowed a sense of place on the landscape through the processes of adapting history and making places through myth and rituals (Basso, 1996, p. 6; Ruetten, 1998; Vall, 1998). Hence, the mythical and historical narratives attached to the landscape stemmed from an interpretation of the past through which the landscape acquired meaning. Moreover, the place-making role of these narratives has a political and ritual dimension, exercised by the dominant sectors of society (Zucchi *et al.*, 2001, pp. 91–92).

These ethnographic narratives make it obvious that we need to know much more about the sociopolitical organization of the northeast Amazonian groups, their late prehistory and early history. Most of these groups have been traditionally classified as marginal or tribal. Recent works by Whitehead and Vidal have contributed new data that challenge those classifications, but may also overcorrect them. For Vidal, the indigenous societies were grouped into intra- and inter-regional confederations called Amerindian political macrosystems. Economic specialization and exchange networks sustained these polities (Vidal, 1993, p. 34). Vidal has described the general characteristics of the main macrosystems at the time of Contact: Manoa, Gran Airico, Huyapari, Aruaki, Tapajoso, Caripuna, Conori, Oniguayal, Machiparo, and Paricora. These units were distributed across the vast area between the Orinoco and Amazon Rivers. Although the size of their territories varied, they had a similar level of integration higher than the independent village and the regional polity. They had developed hereditary political hierarchies, wherein power could be of a political, military, or religious nature, or a combination of these. Their characteristics are summarized by Vidal as (1) multiethnicity—that is, the existence of different ethnic units in the same sociopolitical system; (2) sociopolitical hierarchies; (3) economic specialization and production of surpluses; (4) socioeconomic interdependence between riparian and hinterland groups; (5) clearly defined territories, with buffer zones, and military posts for monitoring and defense. As in the complex societies of the llanos, leadership and authority were based on control over the labor force. The dynamics of power were defined by access to and competition for labor destined for the production of surplus, construction of infrastructures, incursions and territorial expansion. It is probable that the widespread use of terms such as *makú*, *poito*, *wajáriwa*, to designate the “servants,” “slaves,” and hinterland peoples was a result of such centralized leadership and authority (Vidal, 1993, pp. 34–35; Whitehead, 1994, p. 41). Another key aspect was extensive networks of intergroup and inter-regional exchange, which led to considerable interaction with and knowledge of distant regions and groups. Trade networks and political alliances

apparently were usually large-scale among the native populations of the lowlands (Vidal, 1993, p. 113). As to the material correlates of this model, Vidal points to some “ceremonial centers” and “cities” quoted in the historic sources that may have acted as regional centers. These hypotheses will need archaeological testing and further research (Vidal, 2000a, Fig. 2; 2000b, p. 11).

Such interdisciplinary studies have spurred other investigators interested in linking the past and the present. Thus, Frias demonstrated that the decorative patterns of Piapoco ceramics are a symbolic code of information about the levels of the individuals, families, sibs, phratries, and patrilineages (Frias, 1989; 1993, p. 113). Diaz’s study of Warekena basketry indicated that the fundamental function of the designs is to communicate the laws of exogamy and to revitalize the ritual practices that maintain the social equilibrium (Diaz, 1995, p. 175). Both works suggest, within the context of the late Arawakan societies, that ceramics, basketry, and material objects could have served as ethnic markers.

Other studies have pursued more traditional lines of investigation. In 1995, Greer presented a regional chronology of styles of rock art in the area of Puerto Ayacucho (state of Amazonas). He defined seven periods, of which Periods 1 and 2 are apparently preceramic. After discussing the origins and distribution of the prehispanic cultures of the Upper and Middle Orinoco, he based tentative dates for the five later periods on the long chronology of Rouse and Roosevelt (Rouse, 1978, Table 1), and on ethnographic data. All rock art is considered to be sacred art, possibly related to shamanistic activities such as spiritual contacts or mythology. There seems to be only a limited relationship to hunting magic, gender, or sexuality, which Greer considers remarkable when compared with rock art in other areas of the world. In conclusion, the rock art of the region is more abundant, older and diverse than had been thought. Nevertheless, absolute dating will have to wait for the dating of pigments and resolution of the discrepancies in the cultural sequence of the Middle Orinoco (Greer, 1995, pp. 325–326; 1997, pp. 38–40).

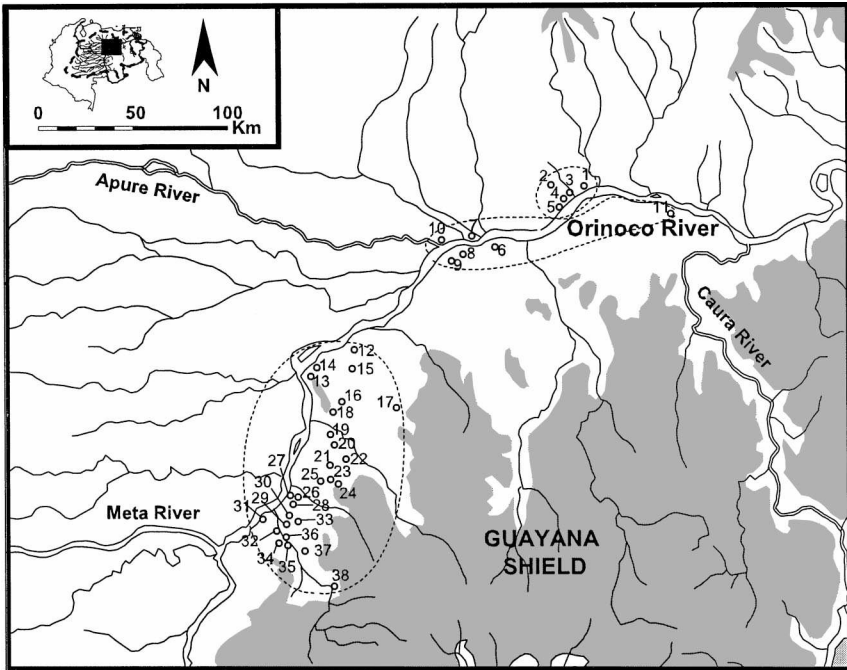
Other aspects of the past, particularly historical ecology, have yet to be studied in depth. Perera believes that the Spanish colonization, although late and fundamentally of missionary nature, brought about a reduction of the aboriginal population that reached its lowest point in the eighteenth century (Perera, 1986b, p. 16). Zent, however, proposes that the traditional settlement pattern of the Piaroa was a consequence of the situation obtaining in the sixteenth and seventeenth centuries. The traditional Piaroa settlement pattern is characterized by an interfluvial orientation and small local groups. Settlements are usually highly dispersed and of short duration. There are two related hypotheses to explain this: that the depopulation and early introduction of iron by the Europeans are reflected in lowered population density;

and that the conflicting conditions of low population density, the subsistence system, and the need for defense led to dispersed and autonomous settlements, and also to interdependent settlements. These contradictory demands from the adaptive ecological system allow us to understand the observed pattern (Zent, 1998, p. 259).

The impact of iron tools in other aboriginal economies has been also studied. According to Colchester, the introduction of iron artifacts into the Yanomami economy in the twentieth century had a major impact on their agriculture and settlement patterns. He saw the eighteenth-century Yanomami as basically interfluvial foragers, who supplemented their subsistence with small and widely scattered cultivated plots. After the introduction of iron, the Yanomami became more sedentary, with bigger agricultural plots, larger settlements and less mobility (Colchester, 1984, pp. 308–310). Similar conclusions were reached by Good, who observed that the prehispanic Yanomami were fundamentally foragers, and that the frequency of movement decreased after the introduction of iron (Good, 1995, pp. 118–119). Such studies indicate the pressing need for more archaeological investigation in the interfluvial zones of the state of Amazonas.

### The Middle Orinoco

The Middle Orinoco also has a long tradition of archaeological investigations, although somewhat younger than that of the llanos. Systematic excavation began in the 1940s under the direction of Osgood and Howard at the sites of Ronquín, Parmana, Camoruco, and Corozal (Fig. 5), in the state of Guárico. At Ronquín, Howard identified three ceramic groups, X, Y, and Z (Howard, 1943, p. 19). The Y group is tempered with fine sand, with shapes such as plates and flat open vessels with flanged rims, carinated bowls and bottles with white-on-red painting, incision and modeling decoration. The Z group, a smaller component, was tempered with clay particles, ash, and grog, with forms such as bowls and small globular jars decorated with wide and narrow line incision. The X group includes *cauixi*-tempered pottery, with shapes such as open bowls, ollas, double-spouted bottles decorated with fine-line incised geometric designs, anthropomorphic ornaments on the rims, faces with coffee-bean eyes and mouths, and postfiring brown painting. The Y and Z groups were assigned to the Early Ronquín aspect, while the X group was identified with the Late Ronquín aspect, thereby producing the first relative sequence for Orinoquia (Howard, 1943, pp. 22–56; Osgood and Howard, 1943, pp. 141–143). Cruxent and Rouse reworked Howard's sequence, so that the Y group of Early Ronquín aspect corresponds to the Ronquín style (Saladoid Series), while the X group of the Late



**Fig. 5.** Middle Orinoco area. (1) Corozal; (2) Camoruco; (3) La Gruta; (4) Parmana; (5) Ronquin; (6) Cedeño; (7) Cabruta; (8) Capuchino; (9) Agüerito; (10) La Rompia; (11) Tucuragua; (12) Cueva de los Indios; (13) Cueva del Chorro de Barraguán; (14) Cueva 2 del Chorro de Barraguán; (15) Cueva del Boquerón de las Yeguas; (16) Cueva del Arestinal de Payaraima; (17) Cueva Piedra de los Monos; (18) Cueva de Juan Castillo; (19) Abrigo del Cerro Morrocoy; (20) Abrigo del Cerro las Peonias; (21) Cueva del Cerro las Piñas; (22) Abrigo de la Piedra del Indio; (23) Cueva pintada 1; (24) Cueva pintada 2; (25) Cueva del los Muertos; (26) Cueva del Santo; (27) Cueva 2 del Santo; (28) Cueva 3 del Santo; (29) Cueva del Cerro Tasajera del Ore; (30) Cueva 2 del Cerro Tasajera del Ore; (31) Cueva del Cerro Gavilán; (32) Cueva Susude Inawa; (33) Cueva del Caño Ore; (34) Cementerio Piaroa de El Carmen; (35) Sitio El Carmen 2; (36) Cueva El Carmen 3; (37) Cueva Piedra Mapoyo; (38) Cueva de Santa Fe o Rediñu Inawa.

Ronquín aspect corresponds to the Camoruco style (Araquinoid series). Thus, the regional chronology proposed by Cruxent and Rouse is composed of two styles, Ronquín (Periods II and III, 1050 B.C.–A.D. 1150) and Camoruco (Period IV, A.D. 1150–1500) (Cruxent and Rouse, 1958–1959, pp. 207–211).

There are some discrepancies concerning the chronology of the Middle Orinoco region. Most discussions address two basic hypotheses, the “short chronology” and the “long chronology” (Barse, 1989, pp. 26–40; Boomert, 2000, pp. 110–112; Navarrete, 1999, pp. 38–39). If one also takes into account cultural diversity and ways of life, it is apparent that there are not two but

rather three positions regarding the chronological sequence (Zucchi, 1988, p. 453), as follows.

*Position 1.* According to Rouse, there should have been ancestral ceramic complexes, prior to Saladero and Barrancas, in the Middle Orinoco by about 3950–3450 B.P. In 1974, to test this, Rouse and his associates reexcavated the site of Ronquín, and excavated also at the sites of Ronquín Sombra and La Gruta. He then proposed a longer sequence of early Saladoids ceramic styles composed of La Gruta, Ronquín, and Ronquín Sombra styles, ranging between 4450 and 2950 B.P. He further stated that La Gruta is the ancestral style of the Saladoid and Barrancoid series (Roosevelt, 1978, p. 182; 1997b, p. 185; Rouse, 1978, p. 203; Rouse *et al.*, 1976, p. 121).

Roosevelt's seminal investigations in the region of Parmana expanded our understanding of the prehistoric sequence (Roosevelt, 1980, 1997b). Her objective was to evaluate the impact of the introduction of the seed-cultivation on the social evolution in the floodplains of South America (Roosevelt, 1980, pp. ix–x). To that end, she established a cultural sequence for the Parmana region, and examined changes in the region's material culture, settlement patterns, subsistence and population growth. The Parmana sequence has three traditions and nine phases. The first tradition, La Gruta (4450–2950 B.P.), includes the La Gruta (4450–3550 B.P.), Ronquín (3550–3250 B.P.), and Ronquín Sombra phases (3250–2950 B.P.) (Roosevelt, 1997b, Table 1). According to Roosevelt, this tradition is dichotomous, including a gritware, clearly associated with the Saladoid series, and a rare sherdware, that corresponds to Howard's Z group, which Roosevelt interpreted as a trade ware (Roosevelt, 1997b, p. 156). In Rouse's and Roosevelt's long chronology, La Gruta tradition is the period in which sedentary villages first appeared in Venezuela. Subsistence was based on vegiculture, fishing, and hunting. Regional population densities were low, and there is no evidence of settlement hierarchies or of any other type of sociopolitical differentiation.

The succeeding Corozal tradition (2950–1150 B.P.) is made up of three phases: Corozal 1, divided into Early (2950 B.P.–?) and Late (?–1450 B.P.), Corozal 2 (1450–1250 B.P.), and Corozal 3 (1250–1150 B.P.) (Roosevelt, 1997b, Table 1). While the gritware and sherdware persisted, a new *cauixí*-tempered ware was introduced, and there were considerable changes in vessel-forms and decoration. The Corozal styles appeared suddenly in the Parmana sequence, which might indicate the immigration of a new group. They also appeared at the same time as maize, beans, and squash. The sophistication of Corozal ceramics, the new agricultural system and the sudden increase in population seem to represent a distinctive pattern of complex and multiethnic interaction that marks the Corozal tradition as a transitional stage (Roosevelt, 1997b, pp. 158–162).



The final Camoruco tradition (1150–400 B.P.) is composed of three phases—Camoruco 1 (1150–950 B.P.), Camoruco 2 (950–650 B.P.), and Camoruco 3 (650–400 B.P.) (Roosevelt, 1997b, Table 1)—and is associated with the Arauquinoid series. Population levels remained very stable during the first two phases, but in the Camoruco 3 phase there was a dramatic increase in population and significant changes in the settlement pattern, that could indicate the appearance of a chiefdom. According to Roosevelt, the site of Corozal could have served as a regional primary center and the focus of paramount leadership during the Camoruco 3 phase (Roosevelt, 1987, p. 157; 1997b, p. 165). Spencer has also interpreted the preeminence of the site of Corozal as the apex of a regional hierarchy of settlements (Spencer, 1998, p. 112). Although the Camoruco tradition might have been a local development, its distinctive Arauquinoid pattern indicates the escalation of external contacts and a rapid crystallization of new economic, sociopolitical, and ideological institutions (Roosevelt, 1997b, pp. 164–165).

*Position 2.* In 1972, Sanoja and Vargas reexcavated the sites of Ronquín (G2), Camoruco (G3), La Gruta (G4), and Parmana (G5). The purpose was the reconstruction of the ways of life of local prehispanic societies, in keeping with their interest in the study of relations of production. Using a different terminology, Vargas defined a shorter and simpler sequence composed of the Ronquín and Corozal phases. The Ronquín phase is divided into two periods. Occupation begins around 2600 B.P. in Period I, by small groups who might have lived in communal houses on the riverbanks. Subsistence was based on vegetable culture, supplemented by fishing and hunting. They manufactured a pottery tempered with fine and coarse sand, *cariapé*, charcoal, ash, and hardened clay, decorated with white-on-red, red-and-black, and polychrome painting. Modeling was limited to small buttons and zoomorphic ornaments on handles. In Period II between 1950 and 1650 B.P., they moved on to the west of the primary site of Ronquín. Subsistence remained relatively unchanged, although there is no evidence of hunting. The use of *cariapé*, ash, and charcoal for tempers ceased. The bicolor painting continued, as did the punctuation and modeling. Techniques such as grooving, and polychrome painting were abandoned and other techniques were introduced, including white-on-buff, white-and-red-on-buff painting, and cross-hatching in some areas (Vargas, 1981, pp. 431–432). Sanoja and Vargas classify the settlement pattern as “semipermanent to sedentary,” characterized by seasonal occupations that were determined by the river’s annual cycle of rising and falling (Sanoja and Vargas, 1978, pp. 154–155; Vargas, 1990, pp. 184).

Corozal-phase populations appeared in the Middle Orinoco around 1350 B.P. Their sites were located as much as 4 or 5 km from the riverbanks, on small mounds. Subsistence was based on a mixed agriculture of maize and

manioc. Corozal phase pottery was tempered with *cauixí* and lacked close similarities to the pottery of the previous Ronquín phase (Vargas, 1981, pp. 431–433). Vargas is cautious about attributing a “chiefly way of life” to the Middle Orinoco region, either during the prehispanic period or at the moment of Contact (Vargas, 1990, pp. 187–188).

Although in the Arauquín Tradition sites the construction of mounds is observed that suggest centralizing activities of the labour force in the elaboration of works of public interest, we should say that the mere existence of mound construction is not enough to diagnose the presence of chiefdoms; that is to say, complex ways of social organization, certain surplus accumulation, political relationships among villages, emergence of a central place to which the other villages are subordinated, production of sumptuary goods, creation of exchange networks of manufactured products and exotic raw materials, among other features. . . . The arauquinoid villages seem to correspond . . . to those of communities belonging to a mixed egalitarian way of life. (Vargas, 1990, p. 193)

The main differences from the position of Rouse and Roosevelt regarding the origins and antiquity of the Ronquín (Ronquín tradition) and Corozal phases (Arauquín tradition) were summarized by Sanoja and Vargas as follows. First, Rouse and Roosevelt date the appearance of Saladoid white-on-red painted ceramics to between 4450 and 2150 B.P., in what would be the earliest white-on-red painting in South America. Sanoja and Vargas propose a later date of 2550 B.P., and they consider Saladoid white-on-red painted ceramics an intrusion of late Formative complexes from the East. Second, Rouse and Roosevelt consider that the Barrancoid series is derived from La Gruta style in the Middle Orinoco. Sanoja and Vargas consider the Barrancoid tradition as a separate offshoot of the early Northern Andean Formative ceramic horizon (Meggers and Evans, 1983, pp. 328–329). Third, Rouse and Roosevelt, on the basis of the early dates from La Gruta, build a sequence that includes several long gaps, and assume great stability in ceramic modes that in some instances have no known antecedents. Sanoja and Vargas, who reject the early dates from La Gruta, propose a sequence that does not have significant gaps, and that instead features a slow but observable process of change in the material culture, which is compatible with the spatial-temporal distribution of the ceramic features shared by the Western Formative complexes (Sanoja and Vargas, 1983, pp. 240–241).

*Position 3.* In 1976–1977, to solve problems in the cultural history of the western llanos, Zucchi carried out a survey of the Middle Orinoco and tested 19 sites. Based on the analysis of these materials, and in particular those from the site of Agüerito, Zucchi and her associates defined a ceramic sequence shorter than that of Roosevelt, and more complex than that of Sanoja and Vargas.

Agüerito is located on the south bank of the Orinoco River, not far from the mouth of the Apure River. Zucchi’s analysis of the ceramics was designed

to identify the main ceramic components, to establish a basic chronology, and to examine the temporal and stylistic variability of each component and to compare them in order to learn more about the possible relationships among the different groups. Six different wares were identified (A, B, B-C, C, D, E), which were thought to reflect different social units (Zucchi *et al.*, 1984, p. 159).

The A ware has a reddish paste tempered with fine sand, and decorated with white-on-red painting. The characteristic shapes are open bowls with direct thickened or flat-topped flanged rims, some small jars, griddles, and bottles. This ware is equivalent to Vargas's Ronquín tradition and to Roosevelt's La Gruta, Ronquin, Ronquin Sombra sequence (Zucchi *et al.*, 1984, p. 159).

The B ware uses various tempers, although hardened clay and/or grog are diagnostic, and it corresponds to Howard's Z group (Howard, 1943, p. 45). The predominant vessel-forms are rounded and carinated bowls, small jars and globular vessels decorated with linear incised decoration in geometric designs, and bichrome and polychrome painting. The analysis of Agüerito B ware allowed Zucchi and Tarble to define the new Cedeñooid series, dating from 2950 to 450 B.P. It is not clear whether the Cedeñooid populations were contemporary with or earlier than the Middle Orinoco Early Saladoid populations. Current consensus tends to see the Cedeñooid series as the earliest component of the Middle Orinoco sequence (Navarrete, 1999, p. 46; Zucchi and Tarble, 1984, pp. 305–308).

The C ware is identified by *cauixí* temper, a wide range of shapes, which includes distinctive types of rim lips, a higher proportion of ollas and jars, double-bodied effigy vessels, double-spouted jars and collared jars decorated with incised, appliqué, modelled and painted motifs. This ware is intrusive in the lower levels of the site, being equivalent to the Corozal tradition, while the later materials are related to the Camoruco style of the Arauquinoid series. Zucchi associates the C ware with Carib-speaking groups, and considers its development as a three-stage process. In the Early Stage (1550–1450 B.P.), the makers of the *cauixí*-tempered pottery were already beginning to interact with the local populations in the Middle and Lower Orinoco regions. In the Intermediate Stage (1450–950 B.P.), interactions among the local and intrusive populations became deeper and more extensive, and Cedeñooid and Arauquinoid populations began an expansion toward the western llanos. In the Late or Dominance Stage (950–550 B.P.), numerous Arauquinoid settlements appeared in the Middle Orinoco and adjacent sectors, fully occupying the floodplains and displacing Arauquinoid and other related populations, such as Caño Caroní, to new areas, particularly the western llanos. The historical Otomaco of the Middle Orinoco and western llanos could be the descendants of the makers of some of the late Arauquinoid styles (Zucchi, 1985, pp. 26–37; 1988, p. 461).

The B-C ware does not seem to represent distinct social units, but variations of one or another of its main components. This pottery uses a mixed temper of *cauixí*, clay, and sand, and has forms similar to the B and C wares, suggesting the exchange of production techniques among their makers (Zucchi *et al.*, 1984, p. 162).

The D ware is always associated with the late Arauquinoid material. It has a reddish paste tempered with crushed rock, and the main vessel-forms are open bowls, closed-mouth vessels, and globular vessels with tubular necks. Decoration is relatively scarce, and is limited to bands of incised appliqué, zoomorphic modeling, and incised linear designs. This ware appeared in almost all the upper levels of the sites reported by Zucchi and was the basis for the new Valloid series, having timespan of 950–450 B.P. Tarble and Zucchi have suggested that its makers were related to the western Guiana Carib linguistic subgroup (Tarble and Zucchi, 1984, pp. 443–444).

Analyses of the ceramics from the Middle Orinoco allowed Zucchi and others to propose a sequence of four occupational episodes for Agüerito. At the beginning of the Period 1 (ca. 2950 B.P.) the site was probably occupied by makers of the Early B ware, whose subsistence was based on hunting, fishing, gathering, and perhaps incipient agriculture; later, there was a coexistence (alternating or seasonal occupations) of the makers of A and B wares. Period 2 (ca. 1550 B.P.) was characterized by the occupation of Agüerito by the makers of A and B wares. Toward 1350 B.P., a very simple and intrusive complex of *cauixí*-tempered pottery appeared at Agüerito. The evidence of close contacts among groups is so strong as perhaps to indicate multiethnic villages. Period 3 (950 B.P.) was characterized by the prevalence of C-ware potters, a sudden change in decorative modes, and an increase in trade. Period 4 (750–550 B.P.) saw the coexistence of the C and D wares that could represent two different ethnic groups. The limited range of forms of D ware could indicate that it was a trade ware (Zucchi *et al.*, 1984, p. 179).

Lathrap and Oliver criticized the model of four occupations at Agüerito, and saw it as merely the mixing of heterogeneous materials within the B ware. Inspection of the associated C14 dates led them to propose multiple depositional contexts and to favor a model of small refuse accumulations that is characteristic of tropical forest societies (Lathrap and Oliver, 1987, p. 279). Instead, they distinguish an early Agüerito complex/style within the B ware, characterized by fiber temper, fine-line incised decorative motifs, carinated bowls with black and red painting on white, which was supposedly associated with two dates of 5680 B.P.  $\pm$  165 years (Gx-5181) and 5425 B.P.  $\pm$  195 years (I-10009). Although Zucchi and others do not fully discount this early component, they reject the idea of so early a polychrome complex based on such a small sample, and suggest that it was probably the result of exchange with the western llanos (Boomert, 2000, p. 110; Zucchi *et al.*, 1984, p. 176).

A growing consensus among archaeologists favors the “short chronology” of Sanoja and Vargas. The Agüerito sequence suggests that the early dates could be associated with the Cedeñoid series, which would shorten the subsequent Ronquín and Corozal traditions (Boomert, 2000, p. 112; Navarrete, 1999, pp. 46–47). Recently, Barse has obtained new AMS dates on samples of carbonized encrustations from Ronquín ceramics, which suggest that the sequence is younger than Rouse and Roosevelt thought (Barse, 2000, p. 337). If the dates in the first millennium A.D. reported by Barse are correct, then the dates for the introduction and widespread adoption of maize cultivation during the Corozal III phase (2750 B.P.) are probably too early, and the chronology of the Parmana area should be revised entirely (Barse, 2000, p. 341). In spite of these advances, the chronology and the cultural sequence of the Middle Orinoco are still far from clear (DeBoer, 1998, p. 278).

Issues other than subsistence and cultural sequences were not addressed until the mid-1980s. Tarble (1985) developed a multivariate model of the adaptative strategies of Carib-speaking groups during the Late period that highlights the heterogeneity of Carib-speakers in terms of their language, subsistence practices, political organization, and settlement patterns. She criticizes the earlier emphasis placed on environmental, demographic or technological aspects of prehistory and points out the importance of other factors such as social organization, political power, exchange, and ideology (Tarble, 1985, p. 49). Perera has criticized some of the assumptions of Tarble’s model, especially those having to do with the permanency of settlements, the flooding of riparian areas, and the lack of connection between the archaeological record and the historical reports of dwindling populations (Perera, 2000, pp. 109–110).

Nevertheless, Tarble’s model provided a base for her later investigations that have opened new perspectives and avenues for research. For example, Tarble and Vaz analyzed the distribution of induced thermoluminescence (TL) curves to obtain information on the possible origins of roller stamps. The results seem to confirm the existence of exchange networks, as suggested by historical data (Tarble and Vaz, 1986, p. 11), although the sample is very small. To overcome this, LaBrecque and others carried out a radioisotope X-ray fluorescence analysis to determine normalized elementary intensities in sherds and roller stamps. They discovered that two of the roller stamps from the site of Tucuragua came from different sources, confirming that these objects circulated as exchange items in precolumbian times (LaBrecque *et al.*, 1988, pp. 1486–1487).

Tarble’s and Scaramelli’s recent research is breaking new ground on both theoretical and substantive levels. Tarble’s general objectives began with the refinement of the regional chronology and the collection of data on subsistence, settlement patterns and interethnic relationships in the

Barraguán region (Tarble, 1990; 1994). One of her most interesting results was the definition of criteria for the location of prehispanic settlements. Archaeological data were examined using ecological, ethnohistorical, ethnographical, and archaeological criteria. At the theoretical level, Tarble began with a critique of functionalist conceptions of the relationship between nature and society that emphasize only the use of the space. Instead, her holistic approach combines the processual (action and use) and the structural (conception and meaning) (Hodder, 1986; Tarble, 1990, p. 32; 1993, p. 141). Consequently, in the Barraguán region, the primary criteria correspond to people's material needs: the spatial and temporal distribution of resources such as water, agricultural lands, localities for settlement, hunting, fishing, and gathering. Second are criteria associated with communication and defence. In the riverine area, the absence of defensive structures implies that there may have been political control at the regional level, while the concealed locations of the hinterland settlements could be a response to warfare, including the avoidance of contact with other Amerindian or European groups. The differences in settlement density between the two sectors seem to support the latter interpretation (Tarble, 1990, p. 64). In addition, there are ideological criteria, including the reciprocal relationship of society/nature and the division of the universe into male/female and secular/sacred principles (Tarble, 1993, p. 154). Tarble suggested that even if a specific locality fulfilled natural and social criteria, it could still have been rejected because of "supernatural" criteria (Tarble, 1990, p. 61).

Tarble *et al.* (1994) pursued the study of cultural perceptions of the Middle Orinoco landscape beyond prehispanic times. The perceptions of the Indians, of the missionaries from the seventeenth and eighteenth centuries, and of the travelers and explorers from the nineteenth century contrasted sharply according to their ideologies, objectives, and needs. Although this seems self-evident, historians and anthropologists have used these historical sources regardless of their provenience, thus distorting in some instances interpretations about aboriginal history, demography, economy, and settlement patterns (Tarble *et al.*, 1994, pp. 166–167).

Since 1990, Scaramelli and Tarble have concentrated their attention on caves and rockshelters in the area between Puerto Ayacucho and Caicara del Orinoco. Continuing her study of the ritual aspects of caves and rockshelters, Tarble has identified a possible dichotomy between the sacred and the profane spheres and in the associated Arauquinoid and Valloid ceramics. This distinction coincides with a gender-based difference in access to esoteric knowledge and participation in ritual activities, which gave males a power advantage over females (Tarble, 1991, p. 161).

At the site of Punta Cedeño, Caicara del Orinoco, Rivas found indications of a possible Arawakan origin of petroglyphs with elements related

to shamanistic practices (Rivas, 1993, p. 166). As in the area of Puerto Ayacucho (Greer, 1995, p. 325), the rock art of the Middle Orinoco was created by different groups from 2450 B.P. onwards, as indicated by the Saladoid, Arauquinoid, and Valloid ceramics, local ethnohistory, and the various wares, bottles and European glass beads. The large caves have pictographic murals with overlapping motifs and techniques indicating different styles. Five types of contexts for parietal art have been defined: petroglyphs in open areas, petroglyphs in small caves, pictographs in open areas, pictographs in small caves, and pictographs in large caves. Based on historical and ethnographic analogies, variations in the disposition, quantity, size, visibility, accessibility, and associated artifacts indicate possible functional differences. The caves and rockshelters were used as sacred spaces by shamans, and as burial grounds by various groups through time. The use of these localities as contexts for ritual activity signals the metaphorical meaning of these sites in the definition of the cosmic realm and the understanding of the place of the human beings in the natural order. These sacred spaces were an essential part of the creation of sacred landscapes by the local people (Scaramelli and Tarble, 1996, p. 21; Tarble and Scaramelli, 1999, p. 32).

Another remarkable aspect of the work of Scaramelli and Tarble in the Middle Orinoco has been establishing connections between the past and present of indigenous communities. To do this, they built a preliminary archaeological framework for understanding the historical transformations of indigenous societies as a result of the colonial encounter. This framework consists of four broad periods—Late Prehispanic (A.D. 1200–Contact), Early Colonial (A.D. 1680–1766), Late Colonial (A.D. 1767–1830), and Republican (A.D. 1831–1920) (Scaramelli and Tarble, in press, p. 6). The framework has proved useful for analyzing diverse aspects such as the transformation in drinking practices among indigenous societies after European occupation. The colonizers used alcohol as a strategy for dominating local inhabitants, creating a new practice of consuming drinks with high alcohol content, as well as the need for money and goods to acquire these intoxicating beverages. This practice caused changes in the traditional role of fermented beverages in the economy, agricultural practices and in the creation and maintenance of sociopolitical status (Scaramelli and Tarble, in press, pp. 19–20). The researchers have not limited themselves only to the colonial past, but also consider problems of the present. For example, analysis of changes in the burial practices of the contemporary Mapoyo has revealed that burials have served as indicators of change in their cultural responses to various contact situations. Thus, funerary practices have had an active role in the definition and maintenance of group identity through time (Scaramelli and Tarble, 2000, p. 723).

Finally, recent research by Perry in the Upper and Middle Orinoco is yielding results which are unexpected relative to current ideas about prehispanic subsistence in the Middle Orinoco, and its implications for social change. Starch analyses of lithic grater-flakes from Pozo Azul in the Upper Orinoco, and starch, macrobotanical, and preliminary lithic and ceramic analyses from materials excavated at Los Mangos del Parguaza in the Middle Orinoco showed that the two archaeobotanical assemblages were almost identical. Nevertheless, neither assemblage conforms to what would be expected based upon traditional interpretations of the artifacts (Perry, 2001, p. 10). The analyses indicate complex food-processing that may not include manioc use. Instead, several other plants, including plants with underground storage organs as *Dioscorea* sp. (yam), *Maranta* sp. (arrowroot), *Myrosma* sp. (guapo), palm fruits as *Attalea* (cucurito), and plants with seeds, as *Zea mays* (maize), were recovered. The implications is that simple models drawn from ethnographic analogies are not adequate approximations of prehispanic food-related activities. Thus, many models of lowland South American population size and settlement pattern that have been based upon the presumption of the use of bitter manioc use may require revision (Perry, in press, p. 10).

### The Lower Orinoco

Until recently, the Preceramic period in the Lower Orinoco was relatively unknown, and there were only some finds of isolated artifacts and surface remains related to this time period (Dupouy, 1958, 1960). Cruxent identified two Preceramic complexes in a hypothetical chronological sequence. The first one, Tupuquén, consists of a unifacial industry of basalt flake-cores and flakes located at the confluence of the Cuyuní and Yuruarí Rivers in Bolívar State. This industry could have been related to the so-called Flake Tradition (Boomert, 2000, p. 47; Cruxent, 1972, p. 32; Willey, 1971). The second one, Canaima, was located in the savannas to the west of Salto de la Hacha, Upper Caroní River, and consists of a bifacial industry characterized by triangular stemmed spearheads, flat bifacially worked knives, convex scrapers and hammerstones. Comparable materials from northern South America have been dated to the late Pleistocene and the early Holocene, that is, around 11,000 B.P. (Boomert, 2000, pp. 50–51; Cruxent, 1972; Rouse and Cruxent, 1963, pp. 34, 47–48).

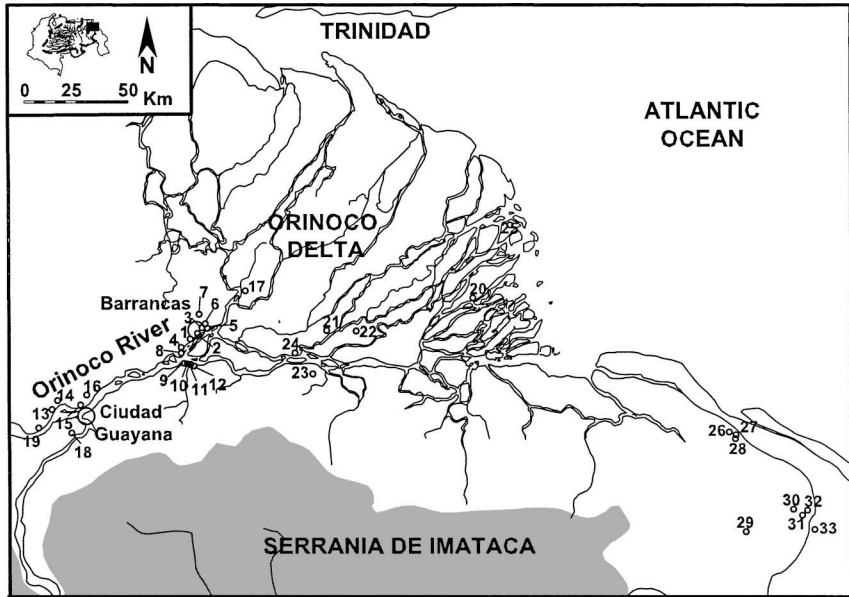
There is not yet any evidence of early human impact on the landscape. Rinaldi and Schubert obtained peat-bog samples near Santa Cruz de Mapaurí, a town at the southeast of La Gran Sabana, Bolívar State. An initial date of 8970 B.P.  $\pm$  90 years and paleoecological analysis indicate that grasses were the predominant vegetation during the Holocene. There was



no sign of domesticated plants, or other indications of human activity. For that reason, it is proposed that the main vegetational changes that occurred during the period were the result of climatic change (Rinaldi and Schubert, 1991, pp. 136–137).

Recently, Sanoja and his associates have reported new data about the Archaic hunters and gatherers of the Lower Orinoco (Sanoja *et al.*, 1994, 1996; Sanoja and Vargas, 1999a,c). Two new traditions representing two different ways of life have been defined: the Caroní and the Guayana traditions. The Caroní tradition is represented by the site G8, located in front of the Caruachi rapids, and by the site GD 3.2, on a fluvial terrace to the south of the Cachamay rapids. The G8 site, a possible campsite or workshop, was found in stratigraphic context at 1.40 m deep, and featured choppers, cores and quartzite flakes. This tradition would have been oriented towards the exploitation of river, swamps, and gallery forest resources. The Guayana tradition, represented by the G2.3 site (Lower Caroní), seems to represent a hunter-gatherers geared to the exploitation of the forests and interior savannas. Although they inhabited territories adjacent to those of the Caroní tradition, their sites were very well limited and differentiated and their implements were different, since they included a greater variety of raw materials (hyaline quartz, milky quartz, jasper, and chalcedony), as well as new types of artifacts, most notable being the spherical hammerstones and possible bolas. This latter tradition seems to be closely related to the Atures tradition, as well as to the Canaima Complex. Based on the geological context and the typological comparisons, both traditions fall within the Late Pleistocene and Early Holocene. In general terms, the Caroní tradition shares similarities with the Itaparica tradition from Matto Grosso and with Monte Alegre in the lower Amazonas, while the Guayana tradition would be related to the Umu tradition from south Brasil (Sanoja and Vargas, 1999c, pp. 117–122).

The transition to food-producing economies is not well known in Orinoquia. In the Cueva del Elefante rockshelter (Fig. 6), near the confluence of the Orinoco and Caroní Rivers, Sanoja and Vargas (1970; Sanoja, 1977) obtained artifacts of a rough core-and-flake industry, which included scrapers, drills, and choppers, as well as ground stone artifacts used for processing plant foods, such as graters, manos and stone bowls comparable to those of Banwari-Trace in Trinidad. In Cañon de Necuima, a similar industry was found but without ground stone artifacts (Armand, 1983). According to Sanoja and Vargas, these sites, along with others recently found (such as the G8.3 rockshelter), would be representative of the end of foraging as the dominant way of life in the Orinoco River basin. In the Lower Caroní River, this final phase (5000–7000 B.P.) is characterized by the coexistence of diverse traditions of lithic and bone artifacts, and the presence of rock art (Sanoja and Vargas, 1999c, pp. 123–124).



**Fig. 6.** Lower Orinoco area. (1) Saladero; (2) Barrancas; (3) Los Barrancos; (4) Guarguapo; (5) Apostadero; (6) Esmeralda; (7) El Charal; (8) Pta de Piedra; (9) Pta Cabrian; (10) Pta Mariches; (11) Pta Tizadero; (12) Pta Morocoto; (13) Macapaima; (14) El Pailon; (15) Los Culises; (16) Mamonal; (17) s.n.; (18) El Elefante; (19) Bañador; (20) Mora; (21–25) s.n.; (26) Barabina; (27) N-11; (28) N-16; (29) Korabo Point; (30) N-8; (31) N-10, (32) N-9; (33) N-6.

There are data available from neighboring regions of the Orinoco Delta, such as the Aruka River (a tributary of the Barima River in Guyana), where the domestication and processing of edible roots and tubers appear about 4000 B.P. In this region, the early Archaic is known from the Barambina Hills site and the Koriabo Point shell-midden. Based on archaeological data, ethnographic analogies, and landscape modification, Williams recreates a hypothetical scenario for the early Archaic, which began with clearings in the tropical forests for early cultivation (chablis), and the appearance of shell-middens on the coast. These resulted in changes in the microclimate, plant phenology, and the physical and chemical characteristics of the soils, which would lead to the creation of conditions suitable for plant manipulation and cultivation. Plants included palm trees such as *Mauritia flexuosa* and *Manicaria saccifera*, cane-like shrubs (*Ichnosiphon* sp.) and coloring-material such as onotto (*Bixa orellana* sp.), which is represented indirectly by use-wear on bone artifacts and the remains of red paint adhering to ground stone surfaces. The traditional Warao Indians of the Delta make extensive use of palms, including the extraction of palm sago or *yuruma*,

as well as the cutting down of palm trees to obtain larvae of *Rhynchophorus* beetles. Lathrap considered this practice to be an old method of animal husbandry (Lathrap, 1975, p. 23). In Barambina Hill, Williams obtained two dates on shell-tempered ceramics of 5965 B.P.  $\pm$  50 years (SI-4333) and 4115 B.P.  $\pm$  50 years (SI-4332), but their association with the Archaic occupation is disputed. Although Williams maintains that Barambina Hill is a Preceramic site and that the sherds are intrusive, Roosevelt asserts that the early Archaic inhabitants of Guyana manufactured ceramics (Evans and Meggers, 1960, p. 34; Hoopes, 1994, p. 14; Roosevelt, 1997a, p. 360; Williams, 1981, pp. 15–16; 1997, p. 343).

At the Hosororo Creek shell-midden, Williams defined a sequence of two ceramic periods. During the earlier period, there is evidence of a trend from the collection of shellfish to the exploitation of plants, which supports the idea of the local development of a Formative culture, contrary to the common belief of a migration or expansion of horticulturalists and ceramic-making groups coming from the Lower Orinoco River (Williams, 1992, p. 244). By 3500 B.P., a long-lasting dry climatic interlude in Amazonia plus interaction with the people of the Lower Orinoco stimulated the transition from the exploitation of palm sago to vegeticulture, which required a major reorganization of the way of life and structure of these societies (Williams, 1992, pp. 247–249). The early ceramic period at Hosororo Creek is associated, according to Williams, with the Archaic Mina phase from the mouth of the Amazon. However, it has also been suggested that the early ceramics are part of the Alaka phase, which acquired use of ceramics from the Lower Amazon Archaic complexes, such as the Taperinha phase (Boomert, 2000, pp. 80–81; Evans and Meggers, 1960, p. 333; Roosevelt, 1997a, pp. 356–360; Williams, 1997, p. 348). According to Sanoja and Vargas, the sequence of Hosororo Creek shows similarities to the Guayana shell-midden, in the Paria Gulf of Venezuela, and they suggest that these Archaic societies were part of a horizon extending from the Paria Gulf to Trinidad, the Atlantic Coast, the Guianas and Suriname, and as far as Santa Catarina, Brazil (Sanoja and Vargas, 1999c, p. 155; Williams, 1997, p. 348).

Until the 1940s, little was known about the food producers of the Lower Orinoco, except that there were very sophisticated potters (Antolínez, 1940, 1941). Modern research began with the survey by Osgood and Howard (1943) who excavated at the site of Los Barrancos. They provided the first detailed description of Barrancoid ceramics, which they called Los Barrancos aspect. At the time, they could only highlight the distinctive characteristics of the ceramics, and their possible relationship to La Cabrera phase materials at the site of Los Tamarindos in the Lake Valencia Basin, to the Early Ronquín aspect and to the site of Erin Bay in Trinidad (Osgood and Howard, 1943, pp. 110–111).

Succeeding advances in the archaeology of the Lower Orinoco were made through the research of Cruxent and Rouse, who provided the basic sequence of five ceramic styles for the area: Saladero, Barrancas, Los Barrancos, Guarguapo, and Apostadero (Cruxent and Rouse, 1958–1959, pp. 213–237).

The Saladero site is located in the municipality of Sotillo, in the state of Monagas. The Saladero style (3000–1600 B.P.) is within Period II of the regional chronology at 3000–1600 B.P. (1050 B.C.–A.D. 350; Cruxent and Rouse, 1958–1959, p. 244). It is characterized by fine sand-tempered ceramics, with shapes such as open bowls, jars, and bottles with red slip, red-on-buff and white-on-red painting. This material was recovered from a small midden in test-pit 7. The dates associated with the midden overlap those associated with Barrancas, the following occupation. However, priority was given to the stratigraphic relationship of the two ceramic styles rather than to the radiocarbon dates. Moreover, Cruxent and Rouse believed that since the Barrancoid material reflected influence of the Saladoid material, the Saladoid material was of greater antiquity. It is also important to note that among the illustrations of the decorated ceramics from Saladero there are two Cedeñoid sherds, which further support an early chronological position for the Saladero component (Cruxent and Rouse, 1958–1959, pp. 220–222, Fig. 187, 8a, 9c).

Material of the Barrancas style (placed in the second half of the regional Period II, around 2750 B.P.) came from a test-pit excavated in the town of Barrancas, in the state of Anzoátegui, and from test-pit 1 at Saladero. The Barrancas ceramics are thicker-walled with rough and irregular surfaces. The principal forms are open bowls, jars, double-spouted bottles, and boat-shaped bowls with solid flanged rims. Decoration is massive and heavy, and consists of lugs, D-shaped handles, modeling, incision, punctation, and red and black slipping.

Los Barrancos style (1450 B.P.) is based on material from a high bank subject to strong fluvial erosion near the town of Barrancas. Cruxent and Rouse actually based their description of the style on material excavated by Osgood and Howard in a section of the bank that no longer exists. Ceramics of Los Barrancos style are thinner than those of the Barrancas style, and, while certain shapes such as bowls, jars, and bottles continue, other forms, such as bottles, are less frequent. The decoration is more sophisticated and stylized, with an appearance of intricacy, sturdiness, and emphasis upon detail. Lugs and incised designs on vessel walls are particularly complex, while modeled-incised figures are less so (Cruxent and Rouse, 1958–1959, p. 228).

The Guarguapo site (950 B.P.) is about 12.5 km west of Barrancas. Material of the Guarguapo style appears together with that of Los Barrancos, and then increases in the upper levels of the site. The pottery is *cauixí*-tempered

and can be related to the late styles of the Arauquinoid series. Although decoration is scarce, it includes faces with coffee-bean eyes, appliqué bands, and incised geometric designs.

The Apostadero site was at the lower end of the same bank as the site of Los Barrancos. The Apostadero style (550 B.P.) seemed to be an intrusive, but discrete, style that coexisted with Guarguapo. The pottery is grit-tempered; vessel-forms are simple, and bowls are more prevalent than jars. The material has similarities to certain complexes of Guyana, and to ceramics from Corobal, Tencua and other sites in the Upper Orinoco area, described above. It could be related to the Valloid series, since the association of wares tempered with *cauixí* and grit or crushed rock is common throughout the Orinoco Basin during the Late Period (Tarble and Zucchi, 1984, p. 438).

In 1968, Sanoja and Vargas began research in the Lower Orinoco area. They returned to the site of Saladero, where they carried out excavations, and later located and tested other sites as well. Their aim was to refine Cruxent's and Rouse's hypothesis regarding the origins and dispersion of the Saladoid and Barrancoid series, as well as to reconstruct Barrancoid ways of life, so as to give a fuller perspective of the region's prehistory (Sanoja, 1979, pp. 25–30). Contrary to Rouse and Roosevelt, who maintain that Saladoid and Barrancoid ceramics have a common origin in La Gruta style, Sanoja proposed that the bearers of the Ronquinoid tradition came from the Middle Orinoco to the Lower Orinoco around the beginning of the Christian era. Consequently, Sanoja rejects the precedence of the Saladero style in the Lower Orinoco sequence. According to him, the Saladoid pottery from the site of Saladero belongs to Los Barrancos style (Classic Barrancas) and is therefore more recent (Boomert, 2000, p. 105; Rouse, 1978, pp. 209–214; Sanoja, 1979, pp. 284–285; Vargas, 1979, p. 224).

On the basis of his reexcavation of the site of Saladero, Sanoja established the Barrancas tradition, which is composed of two phases: The Barrancas phase, present at the sites of Saladero, Coporito, and Mamonal; and the Macapaima phase, present at the sites of Los Culises, El Pailón, and Macapaima. Although Sanoja concurs generally with the sequence of Barrancoid styles defined by Cruxent and Rouse, he differs over the chronology and meaning of the stylistic changes, and notes that limiting ourselves to stylistic analyses provides a very restricted view of the development of these societies. For this reason, Sanoja has defined a series of periods of historical-social development for the Barrancas tradition, called the Preclassic Period (900–600 B.C.–A.D. 100–400) (2850–2550 B.P. to 1850–1550 B.P.), the Classic Period (A.D. 200–400–A.D. 700), and the Postclassic Period (A.D. 700–1000–A.D. 1600–1700). This sequence corresponds to three general stages of development: a Formative stage with sedentary village farming, followed by a stage

of florescence, and a stage of cultural decadence (Sanoja, 1979, pp. 254–260). This reconstruction is somewhat controversial and has not been accepted by all archaeologists working in the area (Boomert, 2000; Lathrap and Oliver, 1980).

In the Preclassic period, settlement was limited to the ancestral community of Saladero (Sanoja, 1979, p. 269). The village was not very extensive, and was of the “simple nuclear community” type—a center of permanent habitation with or without satellites. Subsistence was based on vegetable culture, supplemented by hunting, and, to a smaller degree, by fishing and gathering. The vessels-forms and decoration were relatively simple with an emphasis on incised lines.

The Classic period was characterized by a large population increase and changes in the settlement pattern. Between 1550–1450 B.P., new centers emerged in the Laguna de Macapaima. Around 1350 B.P., the ancestral community of Saladero seems to have expanded, as is indicated by the appearance of the site of Los Barrancos. Around 1250 B.P., the site of Mamonal appeared on the Orinoco riverbank, and other similar villages were settled near the Cachamay torrents, in the Lower Caroní River. During this period, the Barrancoid villages were of the central community type with satellites, or permanent and seasonal sites. There were changes in subsistence, perhaps including the cultivation of maize, and less emphasis in hunting, fishing, and gathering. According to Sanoja, the complexity and standardization of the ceramics at sites of the Barrancas phase reached impressive levels, suggesting some craft-specialization. Also noteworthy is the presence of *cauixí* temper, which indicates the appearance of a Macapaiman subseries in the Lower Orinoco, influenced by the Corozal tradition (Zucchi, 1985, p. 31).

Besides the centralized and stable communities, two settlement types existed (Sanoja, 1979, p. 277). Macapaima phase settlements, to the west and upriver, were small dispersed communities of semipermanent to permanent type, located on sandy and unproductive soils, where people probably practiced slash-and-burn cultivation. In these small, outlying communities, the Barrancoid pottery exhibits a variety of shapes, surface finish and decoration techniques. Semiglobular pots with flat bases and restricted mouths are abundant. New, rudimentary aesthetic concepts are found, which might reflect contacts with the Middle Orinoco populations. The second pattern is shown by eastern deltaic communities, such as Coporito. These communities could have been independent of Barrancas, and show a tendency toward the conservation of the ceramic elements typical of the Classic period (Sanoja, 1979, pp. 275–277).

In the Postclassic period, the settlement distribution was similar to previous stages—along the Orinoco riverbanks, and along the banks of lagoons, and small tributaries (*caños*)—but population grew and new villages

appeared (Vargas, 1990, p. 187). Traditional Barranroid vessel-shapes waned, and *cauxí*-tempered pottery became popular. The Arauquinoid material of the Lower Orinoco (that includes the Guarguapo, Los Culises, El Pailón, and Macapaima sites) was integrated in the so-called Guarguapan subseries, related to the Arauquinoid dominance stage (Zucchi, 1985, pp. 35–36).

There are other archaeological phases in the Lower Orinoco that have not been clearly related to the traditions mentioned above. For example, the Bañador phase, described by Nieves, could be part of the Cachamay tradition of the Lower Caroní River. The ceramics are simple, with open flanged bowls and carinated vessels with corrugated rims reminiscent of the Tupiguaraní tradition of the coast of Brazil. This phase is dated to 520 B.P.  $\pm$  95 years (AN4-2-17) (Nieves, 1980, pp. 152–153; Sanoja and Vargas, 1974, pp. 105–106; Sanoja, 1985, p. 56). In the central Delta, Voorhies and others made a brief visit to Mora, a single-component site where the ceramics integrate elements of the Arauquinoid and Barranroid traditions. For this reason, the site was placed in Period IV of the regional chronology (A.D. 1000–1500) (Voorhies *et al.*, 1981, pp. 47–48).

Scholars have recently begun to address matters other than chronology and cultural history. Boomert considers the prehistoric cultural development of Trinidad and Tobago to have been an integral part of the region-wide system of ceremonial exchange that culminated in an Amerindian interaction sphere including the Middle and Lower Orinoco, the Paria Gulf and the northwest of Guyana (Boomert, 2000). This study was an attempt to understand the important Barranroid influence on the ceramic complexes of Saladoid communities of the Middle Orinoco, the Lesser Antilles, the Guianas and the eastern coast of Venezuela. He concluded that, as early as Early Cedrosan subseries (Insular Saladoid) times, Barranroid ceramic features spread from the Lower Orinoco to Saladoid villages in the eastern part of northern South America and the Caribbean, and that this process could have begun during the establishment of Los Barrancos style (Barrancas Classic) about 2050 B.P. The core of this Barranroid exchange system was referred to as the Lower Orinoco interaction sphere. The location of Los Barrancos complex in the apex of the Orinoco Delta offered excellent opportunities for interaction, exchange, and diffusion of the Barranroid culture with the Orinoco Basin, the Venezuelan eastern coast, Trinidad and the Guianas. The extent of the interaction sphere was measured by the presence, at Saladoid sites, of “contact” wares—wares of Los Barrancos/Coporito type—besides other diagnostic Barranroid artifacts. In Tobago, these contact artifacts are ceremonial vessels, seemingly used as funeral offerings, and devices like snuff bowls, tobacco pipes, ceremonial pot-rests, and incense-burners, many of which were used in shamanistic rituals. This array suggests that the trade items were appreciated by the Saladoid population for their exotic qualities

as well as for their symbolic content. Boomert has proposed that the Lower Orinoco interaction sphere served to promote political alliances based on kinship ties and ritual services, and that the exchange of goods, energy and information, in the form of myths, tales, songs, dances, news, and knowledge, was likely of key importance for the maintenance of the sphere (Boomert, 2000, pp. 442–444).

In the late prehistory of the area, there are major contradictions between the archaeological and ethnohistorical records. For some researchers, historical data from the Lower Orinoco seem to indicate great cultural complexity, interethnic relationships, and some level of social stratification whose extent is poorly understood. Using historical, ethnographic, and toponymic data, Heinen has documented the existence of an impressive trade route from perhaps as far north as Trinidad and extending via the southeastern Delta across the Sierra de Imataca to the Guayana highlands. There are numerous archaeological sites in the deltaic part of this trade system (Heinen, 1992, pp. 73–75; Heinen *et al.*, 2001). Boomert suggests that the geographical situation of Los Barrancos complex is similar to that of Aruacay, an indigenous, sixteenth-century village identified as a gateway community that could have played an important role in the network of multiethnic interaction observed at Contact (Boomert, 2000, p. 386). It is also noteworthy that the cultural diversity emerging from historical documents contrasts sharply with the much simpler archaeological view, which is based on two ceramic styles: the Guayabitan style (Arauquinoid), equivalent to the Apostadero style or Barrancas Postclassic, and the Mayoid style, which consists of protohistoric ceramics (Boomert, 2000, pp. 491–493).

Other scholars favor a reconstruction of these societies that emphasizes their political affiliations and degree of complexity. Whitehead has proposed that around 450 B.P. there were several Amerindian macrosystems, or multiethnic confederations or chiefdoms, in the Amazon and Orinoco Basins. He sees these macrosystems as characterized by a remarkable sociocultural and political complexity, generated by the integration of different ethnic units (Whitehead, 1994, pp. 38–41). Whitehead has found evidence of at least three chiefdoms at the beginning of the sixteenth century, those of Yao, Orinoqueponi, and Tivitive, which could be seen as typical or even maximal chiefdoms, composed of more than 10,000 people (Whitehead, 1998, p. 155). Chiefly power derived from control over long-distance trade, particularly in gold and cotton artifacts, plus control over local natural resources and the labor force. The discovery of a gold pectoral in the Mazaruni valley in Guyana has been seen as evidence of long-distance trade with Colombian chiefdoms and intermediary societies such as the Achagua, but it also could support historical accounts of local production, trade, and use of gold artifacts (Whitehead, 1990, pp. 32–33; 1996, p. 127).



Whitehead also highlighted the role of colonization in the emergence of new ethnic identities and forms of political power. At least three types of ethnic formations were fostered: emergent tribes; complex societies that became tribes; and emergent smaller groups that lacked contact with colonial society until the nineteenth century. For this reason, Whitehead claims that modern groups cannot be used as ethnographic analogies for precolumbian societies, as has sometimes been naively assumed (Whitehead, 1990, pp. 376–377; 1992, pp. 134–135).

Recently, Sanoja and Vargas (1999c) have indicated the possibility of *señorios* or chiefdoms in the Lower Orinoco area, based on a reinterpretation of historical sources and new archaeological data. They have established a sequence of three social formations in the region of Caruachi: hunter-collectors, tribal agriculturalists, and capitalists. The available data for the tribal-agriculturalist formation suggest an intensive occupation of the Lower Caroní River by groups belonging to two traditions, Barrancas and Cachamay. Settlements of the Barrancas tradition are located on the western riverbank, beginning around 1750 B.P. They are viewed as the result of the Barrancoid expansion during the Classic period (Sanoja *et al.*, 1994, pp. 26–27). Cachamay sites, on the eastern Caroní riverbank, were the result of a coalition of groups related to the Macapaima phase, the Arauquinoid tradition and the Barrancas tradition. These Cachamay-tradition sites consisted of large villages of communal houses. The pottery combines simplified motifs of the archaeological components mentioned above. The Cachamay villages could be related to the late chiefdoms described by the chroniclers (Sanoja *et al.*, 1994, pp. 29–31; Sanoja and Vargas, 1999a, p. 202).

Not all specialists in the area agree with the propositions of Whitehead and Sanoja and Vargas. The image that it is emerging out of the detailed examination of early historical sources is one of political leaders with short-lived, episodic or temporary positions based on religious and ritual functions, within an interregional system based on long-distance exchange and ritual feasting, very similar to the Lower Orinoco interaction sphere described by Boomert. Many different language-groups participated, among them speakers of Waraoan, Arawakan, and Cariban languages, including the Nepoyo, Chaima, Siawani, Kariña, Warao, Verotiani, and Guaiquery (Boomert, 2000, p. 393; Heinen and García-Castro, 2000, pp. 562, 573–574). These groups had relatively loose political organizations with temporary leaders, and claims of powerful chiefdoms or ethnic federations might be exaggerated. However, it is obvious that the current array of ethnographically documented societies does not reflect the prehispanic past.

We do not subscribe to the somewhat excessive claims made by the Roosevelt and Whitehead school, regarding the size of particular villages or towns and of the populations in general living in Orinoquia in pre-Columbian and early, colonial times, but

the isolated ethnic groups one finds today in the Guiana Highlands and the Orinoco Delta are a far cry from the complex trade patterns and the differentiated forms of social and political organization that was characteristic of aboriginal Orinoco River societies. (Heinen and García-Castro, 2000, p. 561)

Although there is no reasons to prefer archaeological data over historical accounts (Whitehead, 1998, pp. 151–152), we are unable to assess these models without new data based on further archaeological and historical research. These new models open perspectives on the social organization and the cultural complexity of the area that will enrich our understanding of the archaeology of Orinoquia in general. It will be important to compare the reconstructions of Whitehead, Sanoja and Vargas with those of Heinen, García-Castro and others (Heinen *et al.*, 2001).

### SUMMARY AND FINAL REMARKS

The purpose of this essay has been to assess the current status of archaeology in Orinoquia. Although the investigations and interpretations are very uneven in their intent, content, and quality, there are some common trends structuring contemporary research in the area. These are

- 1 The role of the environment in the genesis of sociocultural patterns;
- 2 The correspondences between archaeological, linguistic, historic, and ethnographic data;
- 3 The study of sociopolitical organization and variability;
- 4 The impact of Eurocentric colonial society on aboriginal ways of life.

Although many studies claim to have an ecological component, environmental or historical ecological studies in Orinoquia are just beginning. As in other South American lowland areas, reductionistic environmental principles have been used to explain processes of sociopolitical evolution. Thus, until quite recently, most scholars working in Orinoquia (including myself) have considered population pressure as the main explanatory mechanism for social change, a mechanism underlying more traditional microprocesses such as migration and diffusion. This general scheme is rooted in the reconstruction of lowland South American prehistory as envisioned by Lathrap (1970). As is well known, Lathrap suggested that the best places for human occupation in the lowlands were the limited floodplains of the major rivers, the Amazon and Orinoco. Because of the limited areas of such environments, population pressure soon forced people to migrate toward more challenging environments, like the annually flooded savannas (Lathrap, 1970). Population pressure was thus used to explain the majority of sociocultural developments in the Basin. For instance, it was long accepted that the dispersion of various ceramic styles and late complexes in the Venezuelan savannas was

due to demographic pressure on the floodplains of the Middle Orinoco; that the introduction of seed-cultivation was a precondition for social complexity; and that agricultural intensification in the Orinoco savannas was a response to increased population density (Roosevelt, 1980; Zucchi, 1985; Zucchi and Denevan, 1979). More recent studies suggest a different scenario, in which the availability of agricultural land was not the only criterion for the location of the settlements, where seed-cultivation was not a precondition to the appearance of social complexity in all instances, and where agricultural intensification was not necessarily the product of population pressure, but, in some cases, resulted from the politico-economic strategies of emerging elites (Carneiro, 1995, p. 55; Denevan, 1982, p. 88; Gassón, 1998; Tarble, 1990). Although the population of Orinoquia was considerable, the territory was not evenly inhabited, and population levels remained far below the Basin's carrying capacity. As Denevan has recently stated, the population-pressure model is simply not supported by archaeology, ethnohistory, or ethnographic analogy (Denevan, 2001, p. 103). Further, a large population is not needed to produce inter- and intraethnic stratification (Heinen and García-Castro, 2000, p. 564). In conclusion, explanations of sociocultural development in Orinoquia that are based on prime movers must be revised.

Research also indicates that we should proceed more cautiously with attempts to correlate diverse classes of anthropological data. New findings have revised our picture of the origins and relations of the principal series and traditions in the Orinoco River Basin (early Amazon polychrome tradition, Saladoid tradition, Barrancoid tradition, among others). Contrary to Lathrap's popular model (Allaire, 1999, p. 683), recent studies have found no evidence of these ceramic groups in either the Casiquiare or the Upper Orinoco Rivers (Zucchi, 1991a, pp. 13–17). As Neves indicates, this calls into question Lathrap's, Brochado's, Rouse's and Oliver's hypotheses about the origins and dispersion of the central Amazon Arawak linguistic stock (Neves, 1999, pp. 228–229).

Another frequent tendency has been to identify ethnic groups with archaeological series or traditions, a practice has proved to be rather problematical. For instance, in the Orinoquian Andes, the ambiguity and fluency of the U'wa ethnic identity make it difficult to assign archaeological materials from the Colombian piedmont to that (or any other) group. Once again, we face the question of why there are so many differences in the ceramic assemblages of the area. In the Lower Orinoco area, we find the opposite situation. Here we have only one late ceramic tradition, which presumably would have been common to all the groups in the area. In the Middle Orinoco, the identification of Arauquinoid ceramics with the Otomaco suggests that not all *cauixi*-tempered ceramics are necessarily related to Carib-speaking groups. These problems do not mean that we should abandon attempts to correlate

different types of data, but rather indicate that we have to work more closely with linguists, historians, ethnographers, and the indigenous people. In this sense, the research in the Middle and Upper Orinoco, where native views about placement (Chernela, 1993, p. 73) and oral traditions have been used to understand aboriginal landscapes and material culture, seems to be particularly promising. However, we need to go beyond the uncritical export of contemporary interpretations into the prehispanic past, toward the creation of a local ethnoarchaeology and an informed archaeology capable of using ethnographic information to set up hypotheses about ancient sociocultural systems, and then testing those hypotheses against the archaeological record.

Contrary to the traditional view of Orinoquia as an area inhabited largely by egalitarian societies, we now have abundant evidence of complex societies. However, it is not easy to classify the diverse forms of political organization that emerged here. Although categories such as tribes and chiefdoms have allowed us to depart from the narrow confines of ceramic typologies, reliance upon them has also brought new problems, since the variation observable in the archaeological and ethnohistorical record is obscured when it is defined within such broad categories. To classify ancient societies simply as “tribes” or “chiefdoms” is insufficient to explain the dynamics of local social evolution. For instance, it is difficult to interpret the relationship between religious specialists and the common people of Andean Orinoquia within the conventional evolutionary typologies. Two opposing scenarios have been proposed for the Middle Orinoco. One supports the existence of chiefdoms, based on the differences in settlement patterns, while the other is sceptical because of the absence of other archaeological indicators of chiefdoms. This scepticism, however, does not apply to the Lower Orinoco, where the presence of chiefdoms has been based mainly on historic data. The existence of the so-called “Aboriginal Political Macro-Systems” in the Upper and Lower Orinoco is problematical, not only because the lack of archaeological correlates, but also because ideas about their extent and complexity contradict what we know about prestate societies (e.g., Spencer, 1982, pp. 6–7; 1987, p. 375; Wright, 1984, pp. 50–51). In addition, some historians and ethnographers have questioned the methodology used to interpret the historic sources. One could ask if, in the absence of historic data, those societies would have been identified as chiefdoms at all (Heinen and García-Castro, 2000, p. 561; Perera, 2000, p. 104). Here lies the importance of the research being carried out in the western llanos of the state of Barinas. The identification of prehispanic chiefdoms in that region of Orinoquia is based on archaeological investigation of a long-term sequence of development at the regional scale of analysis, instead of the reconstruction of a society in a specific period. In sum, questions of a typological nature such as whether a

particular society is a chiefdom or a tribe are simply useless and will reduce our range of ideas and hypotheses. To ask how complex was this society, what was the nature of its leaders, and how were the different sectors integrated within the society can be much more fruitful than trying to fit a particular society within a typology. The establishment of processual, long-term, and regional studies is one of the most pressing needs in Orinoquian archaeology.

In relation to research on the Contact period, it is of great interest to observe the contrasting views that archaeologists and ethnohistorians have about Orinoquia's past (Perera, 2000, p. 110). While most archaeologists see Orinoquia as having been dominated by complex societies, most ethnohistorians see small-scale societies instead (Upham, 1990, pp. 3–6). Certainly, one way by which we can advance our understanding of Orinoquian societies in the prehispanic and historic past will be the study of systems of interaction interregionally and diachronically. It is important that ethnohistorians and archaeologists speak to each other. To emphasise archaeology or ethnohistory alone as an approach to Orinoquia's past will not be adequate. In this sense, and as noted above, the evolutionary approach preferred by most archaeologists, with its emphasis on a few basic types, seems to have obscured the picture of the Basin's aboriginal history. On the other hand, some specialists seem to prescribe documents as the main source to study the past, while underestimating the main advantage of archaeology—its time-depth. As Drennan and Uribe noted, ethnohistoric information can be most useful when it is effectively linked to archaeological information (Drennan and Uribe, 1987, p. vii), which does not necessarily mean that archaeological information has a special status over other classes of historic data. Whitehead has emphasized the need to go beyond the archaeological record in seeking to understand Orinoquia's ancient sociopolitical organizations (Whitehead, 1998, p. 150). However, this does not mean that ancient sociopolitical formations can be studied without regard for the early historical period, since the process of colonization created economic and sociopolitical variables never before seen in the aboriginal New World.

The thin archaeological coverage of Orinoquia remains an important issue. There are entire periods, social formations, regions, states, and departments where archaeological information is scant or nonexistent. The lack of information about hunters, gatherers, and fishers in the llanos and the Middle Orinoco seems to be an artifact of both their relative archaeological invisibility and the absence of research directed to them. In terms of geographical areas, without doubt, the Colombian and Venezuelan piedmont is the region in most need of investigation. Research in the eastern Colombian

llanos is very much restrained by sensitive issues in the border-zone. This is deplorable, because it is important that we learn much more about the long-distance trade and exchange among the prehispanic societies from the eastern Andes, the llanos, and the Orinoco River. The Portuguesa, Cojedes, northern Guárico, and Delta Amacuro states of Venezuela require more research. There are some ongoing projects in the Caura, Caroní, and the Lower Orinoco valleys, but the interior of Venezuelan Guayana is still unknown. Finally, it is vital that Venezuela and Colombia transcend their academic and political frontiers to pursue joint, interregional projects.

In spite of all these limitations, it is encouraging to observe the advance made over the last 20 years. There has been a substantial increase in both the quantity and quality of research in the many sectors of Orinoquia. There has also been a trend away from the traditional problems of chronology and cultural history to new paradigms concerned with questions about prehistoric political economy, social organization, ideological systems, regional and interregional studies, and historical ecology. The great diversification in the practice of archaeology has spurred a proliferation of interpretations, some of them contradictory, about Orinoquia's past. To some, this abundance of interpretations is a source of concern because it suggests to them that archaeology is not a systematic discipline. To others, these multiple interpretations are an exciting source of questions and hypotheses which make Orinoquia's archaeology, like the river, still far from exhausted.

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