

STUDIES IN PRE-COLUMBIAN ART AND ARCHAEOLOGY NUMBER SEVENTEEN

**ECOLOGY AND THE ARTS IN ANCIENT PANAMA
ON THE DEVELOPMENT OF SOCIAL RANK AND
SYMBOLISM IN THE CENTRAL PROVINCES**

OLGA F. LINARES

Dumbarton Oaks Trustees for Harvard University Washington, D.C. 1977

Second printing, February 2000

This volume is also available as a printed edition from
Dumbarton Oaks Publishing Service
P.O.B. 4866 Hampden Station, Baltimore, MD 21211 USA
\$10.00

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Library of Congress catalog number 77-86627

For Martin

Key to photographers and artists

| | |
|------------|-----------------------|
| R.C. | Richard Cooke |
| O.F.L. | Olga F. Linares |
| M.L. de J. | María Luz de Jiménez |
| R.McN. | Robert McNealy |
| F.M.S. | Francine Mendel-Sheet |
| M.H.M. | Martin H. Moynihan |
| A.J.R. | Anthony J. Ranere |
| A.R. | Arcadio Rodaniche |

ACKNOWLEDGMENTS

LIKE SO MANY WORKS of synthesis and reinterpretation, this volume owes its existence to the intellectual generosity and artistic talents of many colleagues and friends. I should first mention Richard G. Cooke, Anthony J. Ranere, and Alain Ichon. Without access to their recent archaeological research on the prehistory of the central provinces, this study would have been quite impossible. The scientists of the Smithsonian Tropical Research Institute, particularly Michael H. Robinson and Martin H. Moynihan, gave much useful advice on the ecology and behavior of the Panamanian fauna. In the key to photographers and artists I have listed the names of those whose illustrations add grace and clarity to the text. Among them I am particularly indebted to Francine Mendel-Sheets, Arcadio Rodaniche, and Robert McNealy.

The institutions mentioned in the captions gave permission to reproduce essential materials from their files and publications, for which I thank them sincerely. Marcela Camargo de Cooke, director of what was at the time of writing the Museo Nacional de Panamá (now the Museo del Hombre Panameño), greatly facilitated this work by her kind cooperation and encouragement. María Luz de Jiménez did some of the drawings and assisted me in many ways, while Vielka Vergel and Arilla Kourany did most of the typing.

To Elizabeth P. Benson, director of the Center for Pre-Columbian Studies, Dumbarton Oaks, goes my gratitude for having accepted this work for publication and for guiding it to completion. She, as well as Anne-Louise Schaffer, have also carried out the onerous task of improving the prose.

OLGA F. LINARES
Smithsonian Tropical Research Institute
Balboa, Panama Canal Zone
1976

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Frontispiece Hollow pottery figure of a drinking man reclining on a curved seat. Note face and body painting. Conte Polychrome (Period V, A.D. 500-700). Said to come from Montijo Bay, Veraguas province. Private collection, Panama City. Photo by F.M.S.

Ecology and the Arts in Ancient Panama

Introduction

SPLENDID Pre-Columbian objects from the central provinces of Panama have been accumulating in museums all over the world under the label “Coclé culture.” These funerary objects were excavated by American expeditions to Coclé more than thirty years ago (Verrill 1927a, 1927b; Lothrop 1937, 1942; Mason 1940, 1942). Important archaeological work in the adjacent provinces (Veraguas, Herrera, and Los Santos) has taken place since then. Reports of research in the last decades have appeared as specialized monographs (Willey and McGimsey 1954; Ladd 1964; Ichon 1974), or in journals of somewhat restricted circulation. More general textbook discussions (Willey 1971: 327-34; Stone 1972: 156-61) have been understandably concerned with chronology and description rather than with integrated explanations of why art styles develop.

In this essay, I hope to provide a new synthesis of published accounts and some unpublished material, and, even more important, a reinterpretation of “Coclé art” as a product of human adjustments to a fairly distinct environment stretching from Veraguas province, along the eastern part of the Azuero Peninsula, to Coclé province and beyond. On this wide coastal belt, with a dry, seasonal climate and sparse vegetation, numerous societies competed for rich alluvial and coastal land centuries ago. Studies of their art objects (their function, production, and distribution) may afford useful clues to the ecological patterning of social relations in the past.

The subject matter of art styles can be analyzed at

various levels of meaning. At one level, art styles reflect aesthetic preferences; at another, they mirror relevant parts of nature. In addition, the “Coclé styles” may have served as a special code for the expression of differences among societies for which succession to power was at least partly resolved by symbolic means. What at first glance may appear to be mere decoration was probably a rich symbolic system using animal metaphors to extoll aggression in several spheres of political and social life.

A long and complex history of adjustments lies behind the growth of rank and status differences in central Panama. The first hunter-gatherers on the Isthmus are important because they initiated ecological and demographic processes resulting, millennia later, in a riverine, agricultural way of life. In these well-endowed areas, populations expanded through the centuries, and systems of social ranking developed in which important individuals gained some control over scarce resources. Trade was concentrated in a few hands, and warfare became endemic to the land. Glimpses of what high status individuals did, how they lived, how they died, can be obtained from the objects created and decorated to manifest and enhance their prestige.

In what follows, my purpose is twofold: I should like to recount the history of settlement in the central provinces and then describe how Sitio Conte objects were made and subsequently destroyed. Since my thoughts on the aesthetic, ritual, and symbolic functions of the actual motifs and designs hinge on a

particular interpretation of the social history, an appeal is made to the chroniclers of the Conquest to support my interpretations. Thus, avoiding some approaches, combining others, and turning to human

ecology for insights on the development of social patterns in the central provinces, I shall proceed in this study from environment to society and then to art.

The Environment and Early Settlement of the Central Provinces

FOR THOSE who imagine Panama as a uniform tropical forest—a steaming jungle—the variation that exists in the topography and climate of the Isthmus may come as a surprise (see Fig. 1). While it is true that parts of the Atlantic coast receive 4,000 millimeters of rain a year, and some spots in the highlands get half again as much, the flat eastern sector of the Azuero Peninsula (Herrera, Los Santos, and coastal Coclé), around Parita Bay, gets only about 1,800 millimeters of rain, and in some years half that much. Yet, only fifty kilometers to the west or north, in eastern Veraguas and northern Coclé, the climate is as wet as on the Atlantic side or in the province of Darién.

During the pronounced dry months in Parita Bay and southern Coclé—beginning any time in December and lasting to any time in April—the land is parched by desiccating trade winds from the northeast, blowing steadily across the exposed coastal plains. Few years, of course, are completely dry, with less than a meter of rainfall. Downpours lasting for hours are not unusual even in the middle of the dry season in the central provinces. The problem of unpredictability is severe. Fluctuations in yearly rainfall, and frequent droughts, have set constraints upon human and other animal adaptations throughout the history of the Isthmus.

The entrance of man into the Isthmus undoubtedly increased the margin of ecological uncertainty. He first began to modify the environment by the use of fire, possibly to catch small animals or to surround larger game. In all likelihood, this process began in early preagricultural days (Bennett 1968: 26). With

the advent of agriculture, the extent of land-clearing increased, so that by the sixteenth century much of what originally had been a dry tropical forest (Food and Agricultural Organization 1971) became replaced by cultivated fields. Subsequent introduction of cattle by the Spaniards converted the land into savanna. These grasslands, maintained by fire, are covered with endemic low brush and fire-resistant, or drought-resistant, species: chumico (*Curatella americana*), nance (*Byrsonima crassifolia*), malagueto (*Xylopia* sp.), and marañón (*Anacardium occidentale*) (see Fig. 2). More recently, they have been invaded by imported African grasses.

It is important to emphasize that habitat diversity is characteristic of the central provinces (Cooke n.d.a). Marked contrasts in agricultural potential can be found between areas where there are only minor rivers (e.g., from Antón to the Río Coclé del Sur) and riverine areas annually flooded by fertile silts (e.g., the confluence of the Ríos Coclé del Sur, Grande, Caño, and Chico). Even allowing for recent deforestation, which must have increased the silt-load being carried by these rivers, the difference in fertility between alluvial soils and hinterland areas must have been as pronounced as in some parts of Amazonia.

The main biotopes in the central provinces can be visualized by following a hypothetical transect along either the Río Grande or the Río Coclé del Sur (Fig. 3). From coastal edge to mountain edge we would first proceed from a narrow strip along the Pacific shore—desolate, with mangrove vegetation or salt flats (*alvinus*)—through a wide (fifty kilometers) coastal

plain below 100 meters in altitude, traversed by several large rivers. This open, rolling, countryside corresponds to the zone of grasslands mentioned above. Beyond it, to the north, are hilly slopes, followed by the considerably more moist ridges of the Continental Divide at higher altitudes. In this hypothetical transect we have followed a vertical or longitudinal course, for the Panamanian Isthmus lies directly east to west, so that the major rivers, whose headwaters are in the Continental Divide, flow either straight north into the Atlantic Ocean or meander south into the Pacific coastal bays.

The schematic ecological transect just described can be duplicated by following the course of any of the other important rivers that traverse the central provinces: the Ríos Chico, Santa María, Parita, and so forth. These rivers were the main pathways along which the first human inhabitants moved from the highlands to the coast, either seasonally or permanently. Unfortunately, we still know nothing about these groups.

The more specialized Paleo-Indian hunters that followed later on—some 12,000 to 10,000 years ago—chased large game animals, the browsing herbivores, many of them now extinct. The weapons these hunters used were stone projectile points known in North American archaeology as “Clovis” points (see Gorman 1972). In Panama, six complete but isolated points, without other associations, have been found 154 kilometers east of the Río Grande, as the crow flies, on the surface of temporary islets and strand ridges in the midst of an artificial reservoir called Madden Lake, east of the Canal (Fig. 4; Sander 1959; Bird and Cooke n.d.b; Cooke 1976a: 19). According to Bird and Cooke (n.d.b), one of the Madden points looks “Clovis,” while the other should be classified with the “fishtail-stemmed points” distributed in South America from Ecuador to the Magellan Straits. In the latter region, at Fell’s cave, Bird (1946, 1969) found the same types of points, in contexts dated between 10,000 and 11,000 years ago, in association with a megafauna that included the giant ground sloth and the extinct horse. The remains of extinct

herbivores, including the same species (the *Eremotherium* sloth and the horse), plus a number of other animals, such as the giant capybara (the *Noerchus*), and modern species (the white-tailed deer and the Muscovy duck), have been found at Ocú and Pesé in Herrera province (Gazin 1957). But man-made tools were neither recovered, nor indeed looked for, in these same deposits. Although the search for Paleo-Indian remains associated with extinct fauna will continue in Panama, it is to subsequent occupations that we must now turn.

SHORELINE GROUPS OF PARITA BAY

In the eastern bend of the Azuero Peninsula, in the province of Coclé, just north of the Río Santa María which forms the border with Herrera province, lies Cerro Mangote, a preceramic shell-midden used for habitation and burial 7,000 years ago (McGimsey 1956; McGimsey, Collins, and McKern n.d.). Like other middens of later date, Cerro Mangote is located on an ancient shoreline which has since filled in. Between the old and the new coastlines there are eight to ten kilometers of salt flats and offshore bars with mangrove vegetation. This sector of Parita Bay was once covered with brackish water lagoons, but it is now one of the most arid and sterile portions of coastal Panama. However, it is still an extremely rich marine environment due to the dry-season upwelling which brings yearly enrichment of the fish fauna to the entire Panama Gulf (Glynn 1972). The large rivers discharging into the bay also contribute to the formation of “extensive tidal flats, flooded at high water, which are fringed by mud flats that are exposed at low water” (Linares and Cooke n.d.). These factors are “responsible for the large populations of molluscs, crustaceans and fish present today, and to judge from the archaeological record, present for the last 7,000 years” (Ranere and Hansell n.d.).

At the time Cerro Mangote was occupied, about 4800 B.C. (McGimsey 1958: 434), the sea was only one kilometer away, and between it and the site there was probably an active brackish-water tidal lagoon. Hence, there were mud flats to gather shellfish in, a

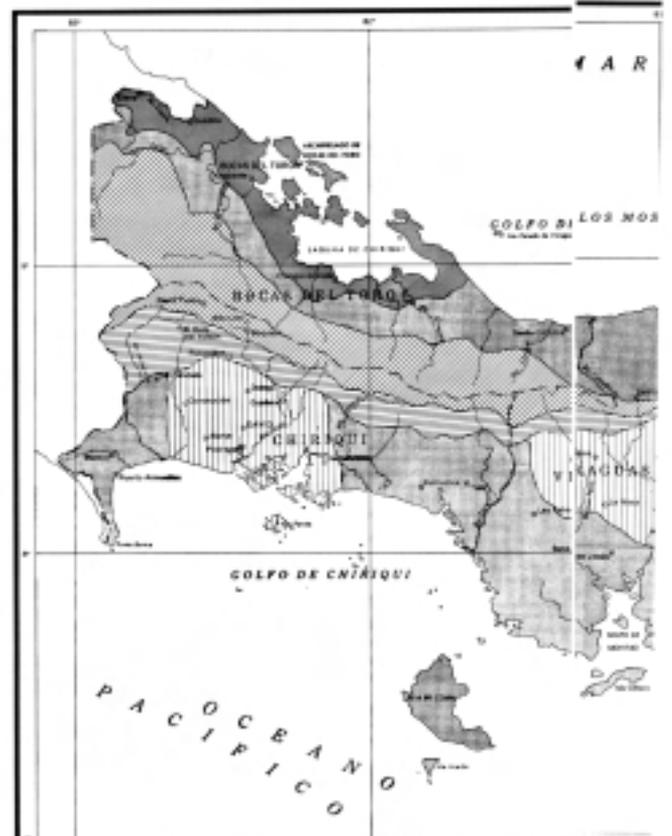


Fig. 1 Maps of Panama. (above) Topographic. (below) Climatic. Prepared by the Instituto Geográfico Nacional Tommy Guardia, Panama City.



Fig. 2 Panoramic views of the eastern part of the Azuero Peninsula. (above) Grasslands. (below) *Curatella* fields. Photos by O.F.L.

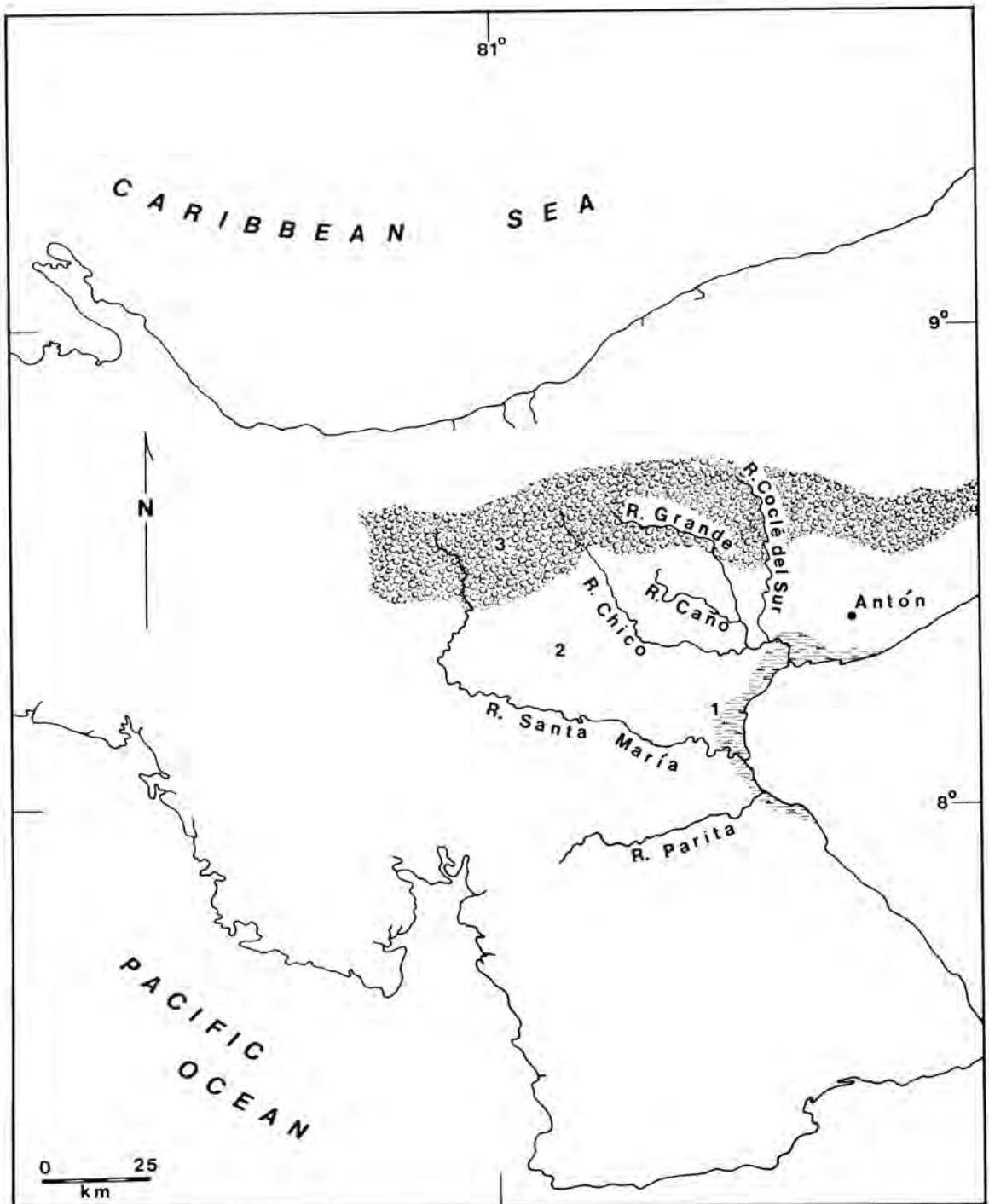


Fig. 3 Map showing the major rivers of the central provinces and the principal biotopes: (1) mangrove and *alvinas*, (2) savanna, (3) montane forest. Drawing by O.F.L.

river and sea for fishing, and savanna or forest in the back-hills where the inhabitants could hunt. Because of the preservation afforded by the presence of shell, which neutralizes the acids in tropical soils, a total of about 6,000 animal bones was found in the excavations. Only the bones of large mammals like deer (*Odocoileus virginianus*) were probably recovered in anything like representative numbers. Small mammals (e.g., rodents), birds, turtles, crab, and, most especially, fish escaped adequate detection. Undoubtedly, a heavy reliance on aquatic resources, marine as well as riverine, characterized the life of the Cerro Mangote people. They also ground and crushed plant products with the aid of stone tools like edge-ground cobbles (or pebble-grinder-choppers), pebble pounders, boulder milling stones (or boulder *metates*), pebble *manos*, and nutting stones. Although flakes and cores abound at Cerro Mangote, no projectile points were found, a fact that may suggest they did their hunting elsewhere. A few shell ornaments, mostly beads and circular pendants cut from bivalves, accompanied the modest burials.

Concerning the sixty-seven burials found at Cerro Mangote (McGimsey, Collins, and McKern n.d.), these displayed marked differences in burial habit: some were articulated and flexed, others were disarticulated and bundled; some were oriented to one direction, others to another; some were mutilated, others untouched; some grave pits contained single bodies, others several bodies. All this variation may indicate a seasonal use of the site by different groups. Although the possibility that the Cerro Mangote burials belonged to a later period was considered by the excavators, more recent finds of burials at another preceramic site nearby (the Aguadulce shelter, discussed later on) strengthen the association between the Cerro Mangote refuse deposits and the cemetery.

Several millennia passed between the Cerro Mangote people and the pottery-making Monagrillo people whose remains have been found in Herrera province at three sites near the mouth of the Río Parita and at another site, Zapotal, near the mouth of the Río Santa María. All of these sites are on the old shore-

line. The occupations at the Monagrillo mound (Fig. 5) intercalate in a complex chronological scheme with remains found in the other Parita Bay shell-middens (Willey and McGimsey 1954). In the Monagrillo mound itself the earliest phase was dated originally at 2131 ± 70 B.C. (Deevey, Gralenski, and Hoffren 1959: 166-7). A series of eight new radiocarbon dates, including one of 2185 ± 8 B.C. (Si-2844) taken from the wall of Willey and McGimsey's trench, from the same stratigraphic unit as their 2131 B.C. date, confirms the original estimate, thus placing the Monagrillo mound occupation between 2500 and 1200 B.C. (Ranere, personal communication). The most characteristic tools, including edge-ground cobbles, are almost indistinguishable from those of Cerro Mangote.

The life of the Monagrillo people was also intimately related to the formation of a lagoon. Before the lagoon came into existence, the site was on an active shoreline. At that time it was annually flooded, and only a few people lived temporarily on the mound. As the lagoon formed, it teemed with shellfish (mostly *Tivela* bivalves), and the occupation of the mound became most intense. When the lagoon silted up and finally disappeared, so did much of the lagoon fauna. The occupation waned, and the people who visited intermittently again turned to gathering oysters nearby. The small inventory of animal bones recovered by Willey and McGimsey (1954: 151-2) includes white-tailed deer, peccary, and a few other unidentified species. Fish and crab were also present, but, as in Cerro Mangote, they were numerically underrepresented in their excavations. Recent work by Ranere, myself, and others, using fine screening, flotation, etc., showed that fish and crab were by far the most abundant fauna at Monagrillo, even though deer, small mammals, and freshwater turtle were also present (Linares 1976d: 74-5; Ranere and Hansell n.d.).

During the most intense occupation of the Monagrillo mound, people lived on one of the ridges, disposed of their refuse on the other ridge, and probably buried their dead far from where they lived. Pottery



Fig. 5 Views of the Monagrillo mound, Parita Bay, Herrera province. (above) Panoramic view of the mound. Photo by O.F.L. (below) The 1948 initial excavations, directed by the late Matthew W. Stirling. Photo courtesy of the National Geographic Society, Washington.

consisted mostly of simple bowls and jars without special appendages. A few ceramics were painted with red bands; others were decorated with incisions and deeply cut punctations. In general, the painted motifs are simple and geometric, while the incisions are usually curvilinear and arranged in scrolls, hooks, and hachures.

The succession of occupations of the Parita Bay *alvinas* represents an intriguing series of economic adjustments to a coastal shoreline-riverine existence. Cerro Mangote people fished, gathered shellfish and crab in large quantities, did some hunting, and probably crushed wild (?) seeds to supplement their diet. Where they lived and ate, they also disposed of their rubbish and buried their dead. Monagrillo subsistence activities were just as much oriented toward marine resources (Ranere, work in progress). Of the ill-defined Sarigua occupation which came after Monagrillo, we can say very little except to point out the need for more information.

PRECERAMIC OCCUPATIONS IN THE WESTERN HIGHLANDS AND ON THE COCLÉ PLAINS

Until recently it had been assumed that hunting-gathering occupations were to be found in Panama only along the coast, where marine resources could provide a stable living base. The evidence we now have (Linares and Ranere 1971; Ranere 1972, 1975, 1976, n.d.a) of human occupations in four rock shelters and one open camp site in the Chiriquí highlands, 160 kilometers west of Parita Bay, has drastically changed such assumptions. The forest and the highlands at mid-altitudes (600 to 900 meters) in the canyon of Río Chiriquí were occupied by man as early as the coast.

The Casita de Piedra (Fig. 6a) and Trapiche shelters—only ten kilometers from the Talamanca Range, but forty-five kilometers from the sea—provide us with a cultural sequence spanning the last 6,500-7,000 years. From the beginning of the fifth millennium B.C. to the end of the first millennium B.C., the stone tool inventory displays remarkable continuity. Cobble edge-grinders (or edge-ground cobbles), boul-

der milling stones (or grinding-stone bases), wedges, choppers, and a variety of scrapers were used during this 5,000-year period. Despite this strong continuity, the preceramic occupations of the shelters can be divided into an early and a late phase, primarily on the basis of new tools and stone-working techniques added after 3000 B.C. (Fig. 6b). The most significant additions are ground and polished stone axes and celts. In all probability these were used to clear fields in a typical slash-and-burn system of agriculture. Along with their appearance, the late preceramic phase is characterized by the occurrence of numerous small tabular splitting wedges (which replace the large bifacial wedges of the earlier phase) and the frequent use of materials such as chalcedony, quartz, and obsidian in the manufacture of stone tools.

The majority of the chipped stone tools recovered by Ranere were wood-working implements. It is assumed, on the basis of ethnographic data, that tropical hardwoods like the *chonta* palm were used for making spear points as well as spear shafts. Such tools as drills, knives, awls, and perforators were probably also made of wood or some other perishable material; stone examples were either absent or scarce. The cobble edge-grinders and boulder milling stones were almost certainly employed in processing plant foods, perhaps for mashing or pounding starchy roots.

The acidity of the shelter deposits prevented the preservation of bone, so we have little information on the kinds of animals hunted by the Chiriquí canyon occupants. Of the plant foods utilized in the preceramic phases we have more knowledge. Several hundred carbonized plant remains from the shelters have been preliminarily identified by C. Earle Smith (n.d. and work in progress). Among these are "palm nuts, tree legumes, and nance seeds, but not one maize kernel or cob fragment" (Ranere and Hansell n.d.).

Two recent radiocarbon determinations for the end of the preceramic Boquete phase, and the beginning of the unnamed ceramic phase, are 350 ± 75 B.C. (I-1846) and 940 ± 70 B.C. (SI-844) for the Trapiche and Casita de Piedra shelters, respectively.



Fig. 6 Preceramic evidence from the Chiriquí highlands. *a.* (above) Casita de Piedra rock shelter. Photo by A.J.R. *b.* (left) Stone tools from both phases of the Casita de Piedra occupation: (a,b) celt-like wedges, the index artifact of the Talamancan Phase; (c) scraper-plane, Talamancan Phase; (d) grooved stone axe, Boquete Phase; (e) chisel-bit, Boquete Phase; (f,g) celt fragments, Boquete Phase. Drawings by R.McN.

In short, the Río Chiriquí sequence is thought by Ranere to represent an initial preceramic hunting-gathering adaptation to tropical forests (the Talamanca Phase: ca. 5000-3000 B.C.) which is replaced by a second adaptive pattern based either on the cultivation or protection of root and tree crops (the Boquete Phase: ca. 3000-500 B.C.). The late appearance of pottery in the sequence, ca. 500 B.C., marks the introduction of still a third adaptive pattern, one based on maize agriculture.

The existence of preceramic occupations right on the plains of Coclé, at some distance from the old Parita Bay shoreline, has been confirmed by two sets of excavations. Those by Ranere and McCarty (1976) were in a rock shelter near Aguadulce, right by the side of the Inter-American Highway. The Aguadulce shelter is eighteen kilometers from the present coast and about ten kilometers from the old shoreline, near the middle reaches of the Río Membrillar, which joins the Río Estero Salado to flow into Parita Bay. Its location is thus solidly within the coastal plains of the central provinces, near a major river, but away from the sea and its deltas.

Contemporaneity between the preceramic occupation at the Aguadulce shelter and Cerro Mangote, nine kilometers away, has been inferred from the existence of identical tool types, such as edge-ground cobbles and boulder milling stones, and possibly also from the presence of four burials, discussed later on. Like Cerro Mangote, the Aguadulce shelter includes thousands of flakes and chipped stone tools. Unlike Casita de Piedra, however, few carbonized plant remains, besides many palm nut fragments, were found in the preceramic level, or even in the ceramic Monagrillo-like occupation of the shelter, despite careful screening and water separation techniques. (However, hundreds of kilograms of sediment collected from the site remain to be carefully inspected.) On the fauna we have more details. "Faunal remains were abundant, with white-tailed deer dominating the assemblage followed by significant amounts of turtle (fresh water) and fish, with some remains of large rodents, armadillos and lizards. Modest quanti-

ties of crab and shellfish were also present" (Ranere and Hansell n.d.: 6). In contrast to Monagrillo, then, the inhabitants of the Aguadulce shelter practiced a terrestrial hunting-gathering subsistence pattern with considerable dependence on riverine resources.

Six months after Ranere and McCarty conducted their pioneer excavations, Bird and Cooke (n.d.a) dug another shelter, Cueva de los Ladrones, also in Coclé province, but even farther inland than the Aguadulce shelter. More precisely, the Cueva is situated at an elevation between 400 and 500 meters on the barren and broken slopes of Cerro Guacamayo, near a small perennial stream, but away from any major river. According to the excavators, a scantily represented late preceramic occupation (ca. 3000-2000 B.C.) was followed by a Monagrillo-like occupation.

Without going into too much detail, it is important to point out the absence of edge-ground cobbles and the presence of only a few milling stones in the Cueva deposits, a fact which accords well with the lack of carbonized plant remains. Many of the stone tools associated with wood-working activities at the Chiriquí shelters were also absent—scraper-planes, bifacial or tabular wedges, scrapers, and chisels, for example. Instead, we find at Cueva de los Ladrones twenty stone projectile points. These do not occur in the other Panamanian shelters investigated so far; they are even absent from Monagrillo. A fauna that included white-tailed deer, collared peccary, armadillo, and smaller species was characteristic, while very few shells, and even fewer crabs, were present. The Cueva de los Ladrones was used mainly as a hunting camp, as Bird and Cooke (n.d.a: 34-5) have suggested.

SUMMARY THOUGHTS ON SETTLEMENT AND SUBSISTENCE DURING THE PRECERAMIC AND EARLY CERAMIC PERIODS

Between 5000 B.C. and 1000 B.C., small groups of hunting-fishing and collecting folk in the Isthmus displayed marked differences in subsistence strategies following the exploitation of localized resources. Where an unusually rich estuarine-marine environ-