

This is an extract from:

*Gold and Power in Ancient Costa Rica,
Panama, and Colombia*

Jeffrey Quilter and John W. Hoopes, Editors

published by

*Dumbarton Oaks Research Library and Collection
Washington, D. C.*

© 2003 Dumbarton Oaks
Trustees for Harvard University
Washington, D.C.
Printed in the United States of America

www.doaks.org/etexts.html

The Political Economy of Pre-Columbian Goldwork: Four Examples from Northern South America

Carl Henrik Langebaek

UNIVERSIDAD DE LOS ANDES

Introduction: The Problem

Some twenty years ago, Alicia Dussán de Reichel (1979: 41) complained that studies that “set out to place the prehistoric metallurgy of Colombia within a wider context of cultural development” were not very numerous. Despite a great deal of research on Pre-Columbian goldwork since, the same observation remains true today. One source of frustration comes from the fact that most archaeologists focus on the study of metallurgy as a goal in itself. Although researchers have produced detailed descriptions about the technological characteristics of Pre-Columbian goldwork (Scott 1981), timelines, definitions of “styles” and “traditions,” as well as correlations among styles across Colombia, Lower Central America, and Ecuador (Bray 1981; 1992a; 1997; Plazas and Falchetti 1983), and identifications of plant and animal species represented in ornaments (Legast 1987), they have rarely placed goldwork within a social context (Looper 1996) or incorporated it in models related to social change. Whatever improvement in the research on Pre-Columbian metal objects there has been, further progress will be limited if it is not aimed at understanding the way societies function and change (Lechtman 1984).

Thus far, studies of Pre-Columbian goldwork have produced several important contributions: evidence of the possible correlations between the distribution of certain objects and cultural units, particularly relating to the Macro-Chibchan question (Bray 1992a); the argument that societies where goldwork is found most likely indicate a “relatively complex political organization that include[s] social stratification and centralized power” (Plazas and Falchetti 1983); and the assertion that goldwork was closely related to shamanistic activities (Reichel-Dolmatoff 1988; Looper 1996). These arguments have been proffered in an interpretation of the trajectory of southwestern Colombian societies, including those of the Calima, Tierradentro, San Agustín, and Quimbaya archaeological regions (see Map 1), which are thought to have had a relatively homogeneous goldworking tradition that produced some of the most impressive goldwork between 550 B.C. and A.D. 900. The societies of this period exhibited highly developed political organization, some cultural unity, and power relations



Map 1 Shaded area locates the southwest Colombian goldwork tradition between 550 B.C. and 400 A.D.

involving shamanistic activities. After A.D. 900, this tradition was replaced by less impressive goldwork, indicative of cultural decline or even the arrival of “less-developed” groups to the area.

This interpretation has led to some of the most productive research in Colombian archaeology, but at the same time it has notable analytical flaws. Comparisons between goldwork styles have been based on somewhat arbitrarily selected lists of traits of gold ornaments found in the Colombian southwest; a complete inventory of traits does not exist. Furthermore, explanations for the distribution of similar traits have rarely gone beyond the traditional “migrations” or “influences,” which contributes little to the study of social change in northern South America. A correlation between the presence of goldwork, or impressive adornments, and a specific kind of social organization has proven to be problematic: goldwork was present and produced among a wide variety of Pre-Columbian societies, including “egalitarian” ones (Helms 1981; Langebaek 1989; 1999). Additionally, basing the idea of a shared ethnic identity on stylistic similarities of a few elite objects is dubious at best (Langebaek 1990b; Doyon 1995). Many kinds of gold ornaments are found in southern and northern Colombia, and styles like Classic Quimbaya share numerous traits with southwest and northern styles though they have been considered distinct or even unrelated. Some ornaments correlate with the dispersion of linguistic families, but others certainly do not. Furthermore, the stylistic correlations used to indicate the direction from which these “influences” came are dubious given the lack of clearly established archaeological contexts and reliable dates. No doubt, although the use of goldwork as it relates to shamanistic activities is an immense contribution to the study of goldwork’s meaning, the presence of shamanism in a society does not necessarily correlate to a specific form of social and political organization (Gnecco 1996); also not all goldwork was used in shamanistic activities.

At least one major problem comes from the fact that researchers base their inferences about the meaning of gold objects on the cosmologies of contemporary indigenous societies. Pre-Columbian metallurgy clearly belongs in the domain of religious ideology, past (Hosler 1998; Falchetti 1997) and present (Reichel-Dolmatoff 1988; Isacson 1993; Morales 1997). Notwithstanding their deep roots in ancient times, however, present indigenous cosmologies interplay with present conditions. Furthermore, objects attributed a “shamanistic” meaning are found among a wide variety of Pre-Columbian societies, ranging from Formative societies to the diverse and otherwise culturally distinct societies the Spaniards came upon in the sixteenth century in what today is Colombia. Thus, the presence of goldwork does not help us understand how or why social diversity and change took place.

Theoretical Background

Changes in goldwork are related to the development of social complexity, particularly the ways in which elites acquired and maintained power. Robert Drennan (1995b) has posulated some ideas about the directions of such changes for the San Agustín region. Accord-

ing to him (1995b: 106), the eight-hundred-year Regional Classic Period in the Upper Magdalena, which corresponds to the impressive goldwork tradition in the southwest, was characterized by the limited accumulation of personal wealth. In contrast, the institutionalization of leadership as well as economic differentiation developed until the advent of the Recent Period, around A.D. 900. This interpretation can be applied, with some modifications, to other archaeological zones in Colombia (Gnecco 1996; Langebaek 1996a; 1999).

The introduction of goldwork in Colombia corresponds to a period of chiefly development (Reichel-Dolmatoff 1988: 31), chiefdoms here being understood as regional polities that were extremely diverse in demographic, economic, and political terms (Drennan 1995b). Differences among chiefdoms assumed various forms, including the ways in which aspiring leaders competed. The institutionalization of control over resources provides valuable information about social evolution. Power in pristine chiefdoms was primarily a short-lived phenomenon: prestige was tied to a particular individual's political career, whereas the consolidation of internal and external leadership was essential in institutionalizing power, including hereditary power, and ascribing positions (Spencer 1994; Redmond 1998). Polities with institutionalized and intergenerational chiefdoms often had less individual but more restricted access to resources (Spencer 1994).

David Anderson (1994; see also Bender 1985), suggests that ideological power pervades social relations in pristine chiefdoms, whereas economic control is a key issue in chiefdoms with institutionalized power. Noninstitutionalized leadership should be based on ideology grounded in the community's beliefs. Often enough, ideology in pristine chiefdoms implies competition over sacralization by competing leaders, which in most cases assumes the form of mediation between the society and firmly accepted values about the supernatural (Spencer 1994: 34). In the case of Pre-Columbian chiefdoms, some forms of shamanism seem reasonable candidates as means of sustaining chiefly status, particularly among pristine chiefdoms. In societies with strong authority structures, less supernatural power may have been required to keep followers subordinate (Anderson 1994: 72). In chiefdoms with institutionalized power, avenues for maintaining power were many (Earle 1987). Often enough, resource or labor control was more important in chiefly competition than competition involving prestige alone (Drennan 1995b); such control often implies the presence of external functions related to the control of trade (Spencer 1994). In chiefdoms with institutionalized power, the consumption of specialist-produced goods tends to be high among the nonelite (Wattenmaker 1998: 17). This is not to say that ideological means of control did not exist in chiefdoms built on institutionalized power. Elites of all societies must rely on ideology to attain and maintain power (Service 1962; Helms 1981), and this was certainly the case for the sixteenth-century chiefdoms described by the Spaniards (Helms 1979; Langebaek 1996a). What is meant is that when economic and political institutions regulate access to power, ideological institutions are not the basis of it.

Gold ornaments were often part of the political economy of chiefdoms, and transformations in the way they were produced and consumed are indicative of changes in political organization. Early developments in goldwork, and the elaboration of unique (and frequently

impressive) adornments are consistent with a social context in which power was a highly personalized and noninstitutionalized affair and in which leaders completely lacked the mechanisms to make status inherited. In such a situation, power has to be constantly negotiated, and ideology, often one that recalls communal ideology, becomes an important avenue of chiefly competition (Anderson n.d.). The modifications in goldwork that have been taken as indicative of late, less-developed groups in Colombia are here interpreted as indicating social transformations from ideological means of control to more institutionalized political organizations in which power relied on the control of labor and resources, and at least in some cases, power was inherited.

The way in which elites maintained power differed for all regions of Colombia during the sixteenth century and was probably more diverse before the arrival of the Spaniards. Again, by looking at the context in which goldwork has been found, it is possible to identify some of these differences. In a broad sense, leaders of sixteenth-century Colombian chiefdoms had limited means of maintaining power. Control over trade and the production of staples was not likely of importance. Control over a wide array of ecological niches was practiced at the household level, which made command over the production of staples difficult to manipulate (Langebaek 1996b). Instead, craft specialization and short-distance trade offered avenues of economic control. Contrary to what has been previously maintained, late chiefdoms actually stepped up external relations, at least in the economic sense—changes consistent with processes of population growth and increased institutionalized political leadership.

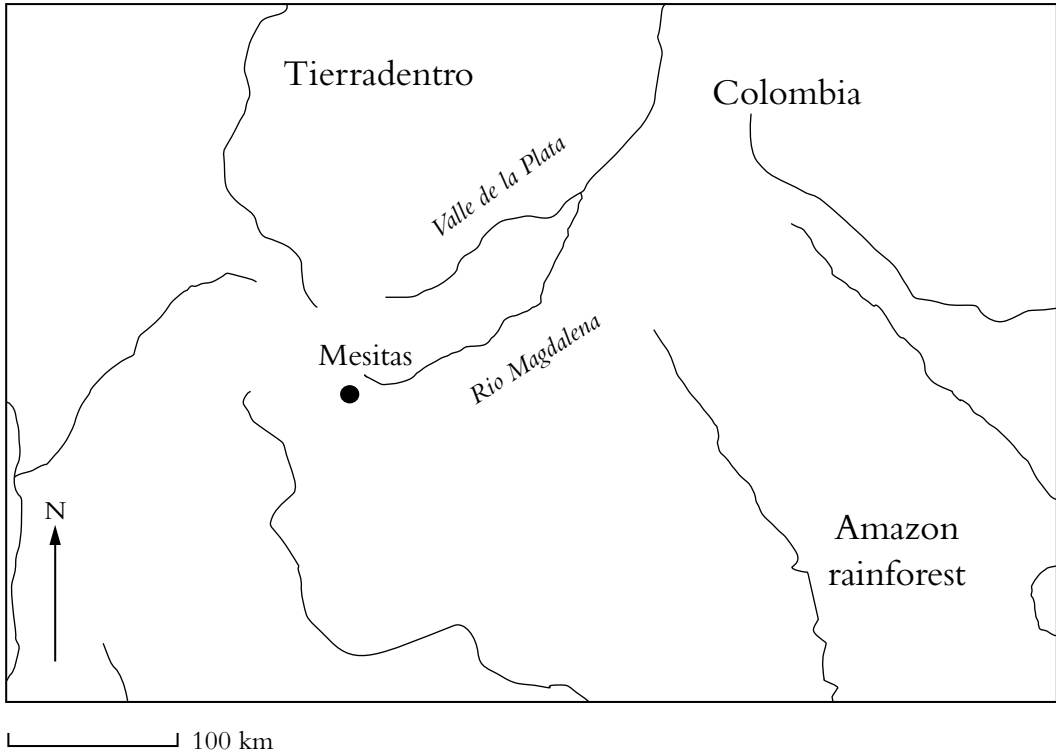
Methodological Considerations

The use of gold in four sequences of chiefdom development in Colombia will be considered in evaluating social changes and the way they relate to goldwork. The trajectories correspond to those of the Upper Magdalena and Calima regions, in southern Colombia, and the Eastern Highlands and the Sierra Nevada de Santa Marta, on the Caribbean coast (Map 2). These areas were selected because high-quality research has been carried out there including some of the better documented gold finds. Furthermore, the archaeological research in these regions allows comparative studies of key issues involved in chiefly development, such as settlement patterns and demography.

Some of the shortcomings of the archaeological information in all studies of Colombian goldwork apply here. Most objects have no archaeological context, the number of radiocarbon dates associated with goldwork is very small, and research on mortuary practices in Colombia is limited. As a result, the collections of gold frequently lack even the most basic information about provenience, chronology, or context. Despite such gaps in the archaeological record, it is still possible to suggest changes in the way it was used by looking at the archaeological context of the finds of Pre-Columbian gold. Here, “context” is not simply a reference to groups of artifacts found at the same locale or to stylistic similarities between objects from different places. Rather it also includes the social aspects of the societies that produced goldwork, that is, the archaeological and ethnohistorical data about settlement patterns, demography, and social organization.



Map 2 Archaeological Areas (map of Colombia by Robert Drennan, Dept. of Anthropology, University of Pittsburgh)



Map 3 The Upper Magdalena region.

The Upper Magdalena Region

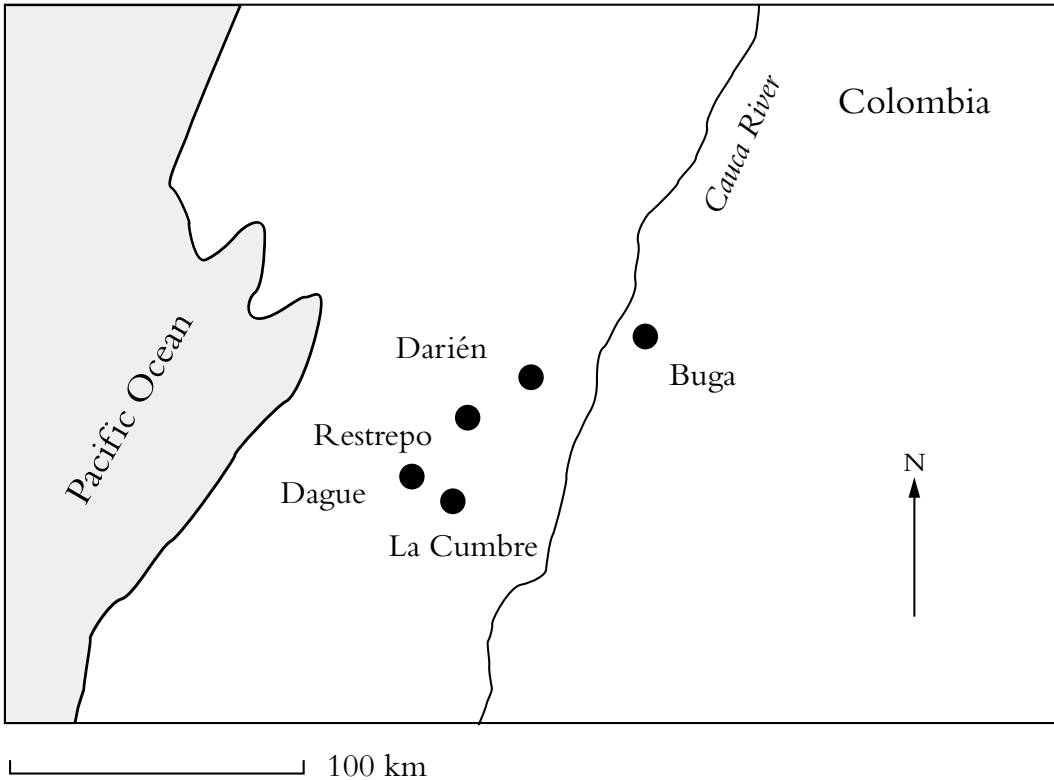
Luis Duque (1966) and, more recently, Hector Llanos (1994) and Drennan (1995b), have carried out the main body of archaeological research in the Upper Magdalena region, including at San Agustín and the Valle de la Plata (Map 3). For years, the study of tombs and statues, as well as the reconstruction of a regional chronology were of primary emphasis. Monumental tombs were in use in the Upper Magdalena region between 1 and 900 A.D., the Regional Classic period. The Late, or Recent, period followed (Drennan et al. 1991; Drennan 1995b). The Regional Classic has traditionally been interpreted as the society's apex, during which monumental tombs were constructed. It is believed that after 900 A.D., this community went through a period of crisis, when a group of shamans that controlled the territory was overthrown by small warring chiefdoms, probably invaders from the eastern lowlands, who lacked the ability to construct impressive funerary mounds and statuary (Llanos 1994: 116). San Agustín was likely the first region in Colombia where developments that preceded the Spanish conquest have been interpreted as the result of invasions or, more generally, some sort of decline. Recent archaeological research, however, suggests a different explanation (Drennan 1995b).

Duque (1966) and Duque and Julio Cesar Cubillos (1979) have investigated impressive Regional Classic mounds, with statues and stone slab tombs. Mortuary practices include clusters of burials in groups ranging from one barrow and half a dozen statues to ten barrows

and several dozen statues (Drennan 1995b: 89). Researchers associate such clusters with dense human occupation and domestic activities. In fact, the distribution of statues and barrows corresponds to concentrations of population at the regional level. The elaborate tombs at San Agustín are likely those of leaders. Such representation of leadership points to a society in which leadership was not highly institutionalized, but highly personal and based on status rivalries (Drennan 1995b: 94). Data recovered from Regional Classic households do not provide evidence of intensive craft specialization (Jaramillo 1996). Research at Mesitas, one of the sites with mounds and statuary, indicates that during the Regional Classic differences in agricultural productivity between settlements associated with mounds and those of the periphery were not significant. Also, although some households were involved in craft production, their centrality does not seem to result from those activities (V. González n.d.). The fairly elaborate tombs of the Upper Magdalena contain no evidence of offerings, which to Drennan suggests that the accumulation of wealth was not the basis for acquiring and maintaining leadership status. Instead, more “ideological” means of control were more likely. Additionally, the themes of the statuary, sometimes with lowland motifs, probably sanctified the social order and the role of the leaders.

Offerings in goldwork have been found in only a few tombs; the mounds are so conspicuous and have been sacked so many times that it is difficult to determine how important gold actually was. At any rate, most of the gold ornaments found in San Agustín are associated with funerary monuments and belong to the period when mounds were constructed (Duque 1966: 409–414). Some of the ornaments exhibit the same traits as the stone statues often found in association with the funerary mounds. Duque (1966: 407–408) reports a diadem found in tomb 19 of Mesita B that resembles those on statues. A necklace from the same burial includes a small metal representation of a bird similar to a statue found at the same mound. Another diadem from tomb 13 clearly resembles a statue found nearby in Mesita A (Duque 1966: 408). Also in Mesita A researchers found gold plates in a burial dated to 40 +/- 40 B.C. (Duque and Cubillos 1979: 25, 223). Duque also reports gold refuse and wire as well as evidence of a crucible near Mesita B indicative of a goldworkshop and dated 10 +/- 50 B.C., the beginning of the Regional Classic (Duque 1966: 409). A crucible was also found as an offering at tomb 2A, which is also related to Mesita B (Duque 1966: 409).

Following the Regional Classic, the construction of funerary monuments ceased. Few gold objects are reported found from this period. Furthermore, those that have been recovered are small *tumbaga* nose rings, frequently found not only in tombs but also in domestic contexts. Nonetheless, the notion of cultural decline is not consistent with the archaeological evidence. Regional population continued to grow after 900 A.D., albeit slightly, and while some large centers of the Regional Classic were abandoned, others emerged (Drennan et al. 1991: 314). Mortuary practices also changed. Impressive monuments were no longer built, but great numbers of pots began to be placed in tombs. This points to the declining importance of personal claims to legitimacy and the rise of institutionalized leadership (Drennan 1995b: 95). Other research in the Upper Magdalena region is consistent with this interpretation. Mary Taft’s (1993) study of ceramic production suggests that during the Regional Classic competition between pottery networks increased and that there was little centralized



Map 4 Sites in the Calima region

control over production. In contrast, during the Recent Period, pottery production shows evidence of being centrally controlled and the existence of one local ceramic distribution network that was larger than any network of earlier periods.

Calima Region

The term *Calima* has been used to describe the archaeological region around the towns of Restrepo and Darién in the Cauca Valley. Research during the 1970s and 1980s defined three archaeological periods (Map 4). The first occupation, where pottery was found, dates to the first millennium B.C. and culminated around 1 A.D. More than thirty sites of this period, the *Ilama*, had been reported by 1988. Most of them include cemeteries consisting of clusters of two to eight burials and occasionally up to thirty (Bray, Herrera, and Cardale de Schrimpf 1988: 3). Nonetheless, information regarding *Ilama* burials remains scant (Bray, Herrera, and Cardale de Schrimpf 1988). Some gold ornaments have been found with *Ilama* pottery, but there is no reason yet to believe that goldwork in the Calima region is as old as the oldest *Ilama* ceramics. Thus far, the oldest dated goldwork found is a fragment of a trumpet dated 210 +/- 80 A.D. and associated with pottery from the next period, the *Yotoco* (Cardale de Schrimpf, Bray, and Herrera 1989a: 57).



Fig. 1 Ilama Pottery

Ilama burials are most frequently of the shallow shaft and chamber type, between 1.5 and 2.0 meters deep. Offerings usually consist of one or two pots, although sometimes there is no evidence of offerings at all (Salgado and Rodríguez 1989: 123–124). Reports of considerably larger burials do, however, exist. At Llano Grande, near Restrepo, two large burials—one 8 meters deep with a chamber 3 by 3 and 1.2 meters high and the other somewhat smaller—were found to contain a golden mask each (Cardale de Schrimppff, Bray, and Herrera 1989a: 63). In most cases, pottery vessels seem to have been the only grave goods (Fig. 1). At El Topacio, an Ilama cemetery consisted of six graves, all of them of the shallow shaft and chamber type. Four contained double-spout and bridge-handle pots in the shape of woodpeckers, a dove, and an armadillo (but no anthropomorphic figures) (Bray, Herrera, and Cardale de Schrimppff 1988: 6). Other grave goods from the Ilama period include pipes, probably associated with the consumption of narcotics, as well as a wide variety of zoomorphic and anthropomorphic representations in clay. Available data indicate that gold ornaments are associated with larger burials and that in some cases elite burials contained offerings not found elsewhere in the Ilama territory (Cardale de Schrimppff 1992: 57).

During the Yotoco Period, population growth and agricultural intensification are indicated (Bray 1992b). The swampy lands of El Dorado Valley were drained and used as maize fields, and a network of roads was built to connect the Middle Cauca with other regions in southern Colombia (Herrera, Cardale de Schrimppff, Bray 1982; Cardale de Schrimppff, 1996). Some evidence suggests that Yotoco was a continuation of the Ilama Period, inasmuch as archaeological sites, including cemeteries, often contain material from both periods (Cardale



Fig. 2 Yotoco goldwork

de Schrimpff 1992: 57), and there is some continuity in pottery and goldwork styles (Cardale de Schrimpff, Bray, and Herrera 1989b). Evidence also exists that points to social distinctions. Burials from the Yotoco Period resemble those of the Ilama Period, but the Yotoco goldwork is more impressive, and the status items are more grandiose. Spectacular diadems, ear spoons, pectorals, and bracelets of hammered gold are reported (Fig. 2). Finely cast flasks and dippers associated with coca chewing have also been found (Bray 1992b). Yotoco pottery is well crafted and covered with a lustrous white slip and red painting with curvilinear designs. More important, it is clear that access to these items was limited to a small number of individuals. Most Yotoco burials contain one or two pots, and few are found with large quantities of rich gold adornments and fine examples of pottery.

Two characteristics of Yotoco Period burial offerings stand out. First, as has been reported for the Ilama Period, some burials are more elaborate than others, and it seems possible that some individual burials contained special ornaments not found elsewhere. Typological differences can be discerned in terms of the construction of burials at different cemeteries. At Hacienda Samaria, the four Yotoco burials investigated are unlike other burials of the same period from the Calima region (Salgado and Rodríguez 1989: 124). At La Primavera for example, a single grave contained more than twenty-one gold objects. Unlike other findings in the Calima territory, six of the pieces are figurines in a hieratic position, representing seated personages (Plazas 1983). This impressive Yotoco goldwork, and in general the items associated with the elite, is not of entirely local inspiration. The figurines from La Primavera resemble the statues and some of the gold figurines from San Agustín (Plazas 1983) (Fig. 3). In fact, Yotoco goldwork shares many iconographic traits of the statuary in the Upper Magdalena Valley (Pérez de Barradas 1954: 324). At La Badea (Dosquebradas, Quindío), archaeologists found an impressive burial with gold offerings including two anthropomorphic plaques, three tweezers, two rounded pectorals, an H-shaped diadem, and several necklaces made of green stone and quartz (Cardale de Schrimpff, Morales, and Osorio 1988). These findings recall those in other areas of the Colombian southwest. The tweezers are



Fig. 3 Yotoco goldwork similar to San Agustín statues

identical to some found in the Calima region from the Yotoco Period, as is also the case of the quartz beads. On the other hand, the H-shaped diadem is found in Calima, San Agustín, and Tierradentro iconography. The two anthropomorphic figures resemble findings in the Magdalena Valley (but are by no means identical to anything found there).

Sonso is the last archaeological period before the Spanish conquest of the Calima region. This period, dating from around the twelfth century to the sixteenth century probably represents one that includes similar developments in a large area of the Colombian southwest along the Cauca River (Rodríguez 1989; Bray 1989; 1992b). At the time of the Spanish conquest the region contained several distinct societies (Romoli 1974). In contrast to the goldwork and pottery of the Yotoco Period, Sonso pottery and goldwork are less diverse and lavish. Gold ornaments are rarely found in burials and those that are most often consist of tumbaga nose rings (Scott 1981: 22). Archaeologists have traditionally interpreted this change as evidence of decline. Having a less “brilliant” society, the people of the Sonso Period represent the arrival of invaders who replaced the Yotoco inhabitants (Cardale de Schrimppff, Bray, and Herrera 1989b; Gähwiler-Walder 1992: 127). Certain archaeological information, however, suggests that instead of decline, the Sonso Period represents a time when social stratifications existed but were expressed differently. For example, during this period large platforms more than 100 meters in length were built on top of hills, indicating a capacity for mobilizing labor. Although a transformation of the landscape for agriculture is known to have occurred during the Yotoco Period, nothing compares to the investment of

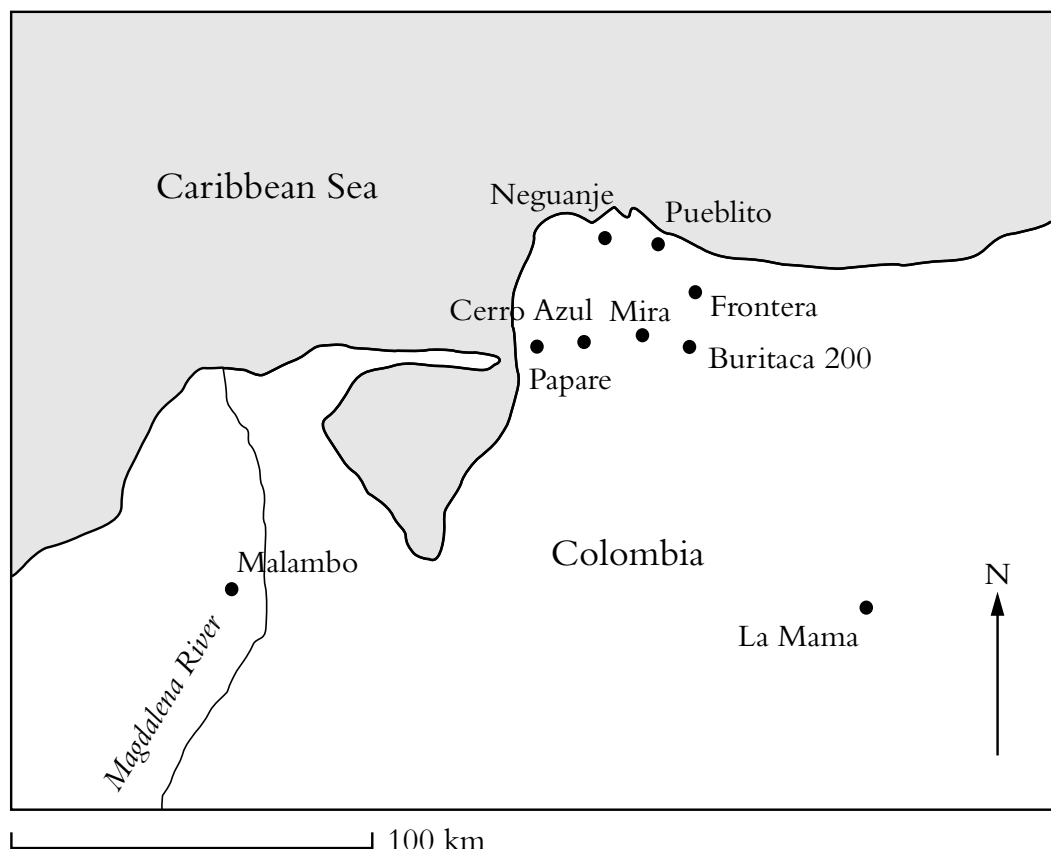
labor by the Sonso population in order to cultivate crops (Herrera 1992: 156). House structures are more numerous and varied than those of the Yotoco. Although regional demographic estimates are not available, the population was probably much larger than during previous periods. Sonso sites appear to be more numerous and larger, despite the fact that Sonso is the shortest of the Calima region archaeological periods (Salgado and Rodríguez 1989: 124; Gähwiler-Walder 1992: 137).

Most Sonso burials are of the shaft and chamber type, between 4 and 15 meters deep. There are, however, strong differences that seem to be regional in character. Shaft and chamber burials are reported in the Calima Valley (Caldas, Chávez, and Villamizar 1972: 27). Burials in wood sarcophagi appear to be more common around Darién (Gähwiler-Walder 1992: 138), while in Guabas large urns with secondary burials predominate (Gähwiler-Walder 1983; Rodríguez 1989: 74). In Buga, shaft and chamber burials between 5 and 10 meters in depth are found without urns (Rodríguez 1989: 82–83). Other burials display individual differences, such as varying depths, but one burial at La Rancho Grande in La Cumbre contains a carving of an anthropomorphic figure, a unique occurrence for the period (Gähwiler-Walder 1992: 141–142). Funerary furniture is considered “poor” in relation to previous periods. In addition to pottery, some burials include wooden spear throwers and *duhos* (stools). Burials of the wealthy and poor burials do not differ so much in terms of the quality of the objects, but in the quantity of the offerings. Funerary urns are indistinguishable from domestic pots and frequently contain the remains of more than one individual. Gold ornaments are often small tumbaga nose rings, and the iconography lacks exotic motifs. They are rare in burials, but frequently represented in pottery. The gold ornaments of wealthy and poor burials are often indistinguishable, as is the case with pottery, but again the quantities are different. In the cemetery at Guabas, archaeologists excavated fifteen tombs. Only two contained gold ornaments: one included thirteen metal objects, the other one tiny earring (Rodríguez 1985: 51). A Sonso burial at Darién contained a wooden coffin, a wooden spear thrower, parts of three darts, and six pots (Schuler-Schoming 1981). Other Sonso graves usually contained one single pot. In some cases, no chamber was associated with the burial, in which case it is normal not to find any kind of offering (Gähwiler-Walder 1992: 137).

In short, instead of representing a period of decline, the Sonso presents changes in the way goldwork was used. Rather than few impressive ornaments, large quantities of adornments were used by a large proportion of the population. This is consistent with evidence of a population larger than that of the previous periods, as well as a more institutionalized basis of power.

Sierra Nevada de Santa Marta

The Sierra Nevada de Santa Marta and a narrow ring of land on its northern and western slopes corresponds to what has been called the Tairona region (Map 5). The archaeology of chiefdoms in the Santa Marta region is little developed, although one of the best known sequences of social change on the Colombian north coast is documented there (see Bray, this volume). Unfortunately, uncontrolled excavations have provided the most infor-



Map 5 Sites in the Sierra Nevada de Santa Marta

mation about its goldwork (Mason 1939). Other research has concentrated on refuse deposits, and systematic regional surveys have not been carried out in the region, making it difficult to infer demographic patterns. Available information about the emergence of complex societies in the region, however, provides examples of how gold objects were used at different stages of chiefdom evolution.

The initial settlement by agriculturists in the region relates to the Lower Magdalena Malambo occupation, before the first century A.D. (Langebaek 1987a). Evidence of this first occupation is poor at best, and there is no information about goldwork from this period. The first evidence of goldwork surfaces in the Neguanje Period, which dates from about 300 to 800 A.D. (Fig. 4), and goldwork appears to continue through the last Pre-Columbian period, known as the Tairona. According to Henning Bischof (1969), this period dates from 800 to 1500 A.D.

During the Neguanje Period, the population concentrated along the coastal region, with a lower density in the mountains. Nonetheless, overall population density, even on the coast, seems to have been low. In terms of social organization, little is known, but an impressive burial in Neguanje implies some degree of social differentiation. One of the most impressive burials reported by John Alden Mason (1931: 32–36) belongs to the Neguanje Period



Fig. 4 Neguanje goldwork.

and was found in a mound 14 by 15 meters in diameter and bounded by a 30-centimeter wall made of piled stones. A stone-lined grave was located in the center of the mound, which Mason considered “the most interesting and unique individual site discovered” (1931: 32). The burial offered numerous adornments, including twenty-one pots, among them barrel-shaped cups, fine pot vases, bowls, a black pottery bowl with an annular base and animal heads in relief, and one olla. Some pots held beads. Some were painted; all were found within the burial. Local farmers had recovered other findings from the mound, including seven pots and “several other vessels with gold ornaments and beads” (Mason 1931: 35). In total, the mound yielded eight thousand stone beads—nearly half of the 16,247 collected by Mason’s expedition (Mason 1939: 213)—as well as a number of gold ornaments, all of which are “of exceptional quality and many of types not encountered elsewhere” (Mason 1931: 36). Among them are winged ornaments and human figurines of greenstone of a kind not found elsewhere and most of the stone pendants (Mason 1936: 185, 187, 189). Other objects found exclusively in the Neguanje grave include large tubular beads, ornamental plaques of thin gold, what is described as the “only gold figurine . . . the finest metal object found,” as well as most of the rings (Mason 1936: 246, 252–254, 265).

One of the striking features of these findings of the Neguanje burial’s objects is that they are unique and in many cases resemble “foreign” materials. The pots have a white slip and elaborate designs uncommon in the Neguanje Period materials found in domestic contexts in Neguanje and elsewhere. They are also distinct from the Neguanje painted sherds found in domestic refuse (Langebaek 1987a). As noted by Bischof (1968) and Ana María Falchetti (1987: 9), this goldwork shares features with the so-called Classic Quimbaya style (Fig. 4); the stone pendants are similar to the jade bat-wing pendants popular in Central America, and the pottery has been compared with that of the La Loma and El Horno

Periods from the Guajira Peninsula (Bischof 1968). The Neguanje materials, however, were not imported, but locally produced, and they are by no means identical to Quimbaya goldwork, Lower Central American stonework, or Guajiran pottery (Langebaek 1987a).

After 1000 A.D. population growth and agricultural intensification are documented. At the time of the Spanish Conquest, population density in the Sierra Nevada and on the coast appears to have been high (Reichel-Dolmatoff 1951; Cadavid and Fernanda Herrera 1985). Most radiocarbon dates from Sierra Nevada fall within the Late Period. Dates from Buritaca 200 are 1000 +/- 70 A.D. (Oyuela 1986:28), 1090 +/- 110 A.D. (Cadavid 1986:23), and 1385 +/- 50 A.D. (Groot 1980). Carbon-14 dates from Alto de Mira (1350 +/- 60 and 1400 +/- 70 A.D., Ardila 1986:38) and Frontera (terrace 22b dated 1160 +/- 80 A.D., Cardoso n.d.: 139) are also late. The only relatively early date (660 +/- 90 A.D.) in the Sierra Nevada comes from this place (terrace 18), located just 500 meters above sea level (Cardoso n.d.: 113). Furthermore, abundant evidence exists of public works, including a network of roads that connected the main settlements (Serje 1984), house platforms, and agricultural drainages and terraces (Cadavid and Fernanda Herrera 1985; Groot 1985).

The Tairona burials excavated by Mason (1931) suggest gold ornaments were more widely distributed among the population during this period than during the Neguanje Period. Matthew Looper (1996: 121–123) has suggested that certain ornaments were used by chiefs and others by *naomas*, or priests. Nonetheless ethnohistorical documents make clear that all segments of the population wore gold ornaments. Spanish accounts describe the Tairona people as wearing gold ornaments for ceremonial occasions and military encounters; no mentions are made that such items were restricted to the elite (Reichel-Dolmatoff 1951: 83–85). Aguado explicitly describes how men and women had access to gold ornaments; women used the same gold adornments as men—earrings, nose rings, and pectorals—in addition to bracelets, beads, breast covers, and torques (Reichel-Dolmatoff 1951: 84). Furthermore, small nose rings are frequently represented in Tairona pottery (Mason 1939) (Fig. 5); fine stone beads were also used by the populace, as is suggested by the fact that they are commonly found in domestic refuse in house platforms (Mason 1936; Groot 1985; Cardoso n.d.).

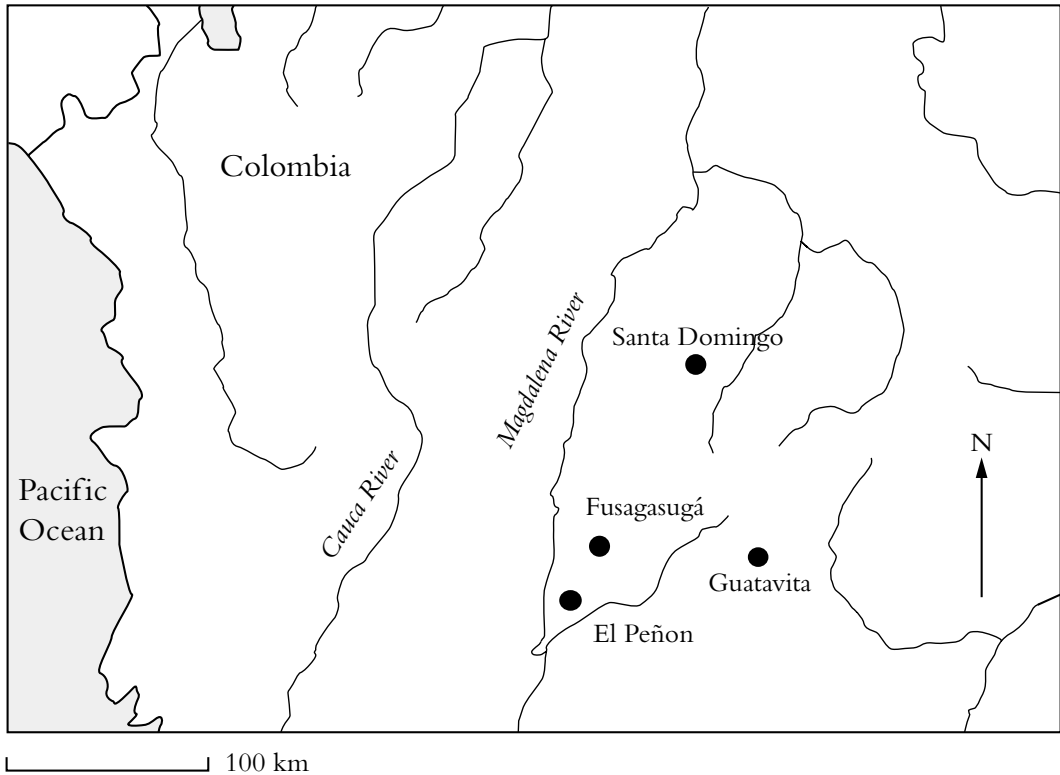
Gold is not rare enough in Tairona burials to propose that it was exclusively used by the elite. Few gold ornaments have been uncovered in archaeological excavations, but when found they are in burial and domestic contexts, and, unlike finds from the Naguanje Period, they are not exclusively from impressive burials. Gold ornaments were found at burials in Gairaca, Los Naranjos, Pueblito, and Buritaca 200. At Buritaca 200, a tumbaga nose ring and two pendants in the shape of anchors accompanied a burial in a house platform dated 1385 +/- 50 A.D. (Groot 1985:73). A large offering jar in Jirocasaca also contained tumbaga ornaments (Reichel-Dolmatoff 1958: 73). Others are reported to come from a looted house platform in Pueblito (Reichel-Dolmatoff 1958: 73). A small nose ring is also reported from a grave in La Mesa (Reichel-Dolmatoff 1958:78). In Frontera, beads and stone adornments were found in burials, but most frequently as offerings in caches in house platforms (Cardoso n.d.: 163). In Buritaca 200, stone beads were found in burials (Castaño Uribe n.d.: 126) and in small platforms, on the side of paths, and in greater quantities in larger platforms (Castaño Uribe n.d.: 111).



Fig. 5 Tairona nose rings

The number of goods worn in life and left in burials mark social differences, as does the use of certain kinds of adornments. According to Aguado, sixteenth-century Tairona women used as many adornments as men were able to provide them (Reichel-Dolmatoff 1951: 84). At any rate, it seems that burials of the kind reported by Mason in Neguanje are rare or did not exist in later periods. None of the Tairona Period burials described by Mason includes such a large number of offerings. Many contain a few objects of gold, shell, bone, or pottery. Others hold greater quantities of similar goods (Mason 1931).

A striking feature of Tairona Period pottery found in burials is that it belongs to the same class of pottery found in domestic contexts (Cardoso n.d.: 101). In Frontera, some large structures contain higher amounts of stone beads and adornments, but they are not restricted to a few terraces (Cardoso n.d.: 154). The iconography represented in pottery or gold is basically of local inspiration in terms of traits and manufacture. Tairona gold items, contrary to the objects excavated in the Neguanje burial, are not inspired by foreign motifs but present a wide variety of local fauna or mythical beings of symbolic importance (Reichel-Dolmatoff 1988; Legast 1987; Echavarría 1994; Looper 1996). In other words, Tairona elite maintained their status using completely different strategies. It is possible that some goods were of exclusive use by part of the elite, including monolithic axes, batons, some large gold ornaments, and stone winged pendants, but many of them did not find their way into elite burials but were instead handed down from generation to generation (Zuidema 1993), as described among the Kogi *mamas* today (Mason n.d.: 167, 176). Ethnohistorical and archaeological information also report the existence of villages specialized in the production



Map 6 Distribution of early Muisca goldwork.

of great amounts of goods. Spanish documents mention that the production of pottery was particularly common in Bonda, near Santa Marta (AGI Santa Fe 50), whereas the production of gold ornaments was carried out in Bondigua (Reichel-Dolmatoff 1951: 86). Furthermore, Gerardo Reichel-Dolmatoff (1986: 188) reports a workshop of stone bead production at Cerro Azul, on the western slopes of the Sierra Nevada, associated with Late Tairona pottery. All these sites suggest mass production for a large number of consumers.

As is the case with the Recent Period of the Upper Magdalena region, and the Sonso Period in Calima, the Late Tairona Period includes evidence of increasing population and craft specialization. The elites in the Santa Marta region probably relied more on the production of crafts than in displaying a few exclusive gold ornaments inspired by foreign motifs.

Eastern Highlands

The Muisca of the Eastern Highlands were described by the Spaniards as one of the most complex societies in northern South America (Map 6). The Herrera Period, defined by Marianne Cardale de Schrimppff (1987) and dating from 400 B.C. to 800 A.D. (Langebaek 1995), corresponds to the introduction of pottery and agriculture to the Eastern Highlands. The Early Muisca (800–1000 A.D.) and the Late Muisca (1000–1600 A.D.) Periods follow the



Fig. 6 El Infiernito, an early Muisca site, Eastern Highlands

Herrera. During the Herrera in the Valle de Fúquene, where a systematic regional survey was carried out (Langebaek 1995), evidence was found of a modest population that had settled in small villages near the region's most fertile soils. The Early Muisca changes in the archaeological record are indicative of an increasing social complexity, characterized by population growth and the introduction of a wide variety of pottery forms, some of which are probably related to an increase in feasting. The Fúquene survey suggests that most of the Early Muisca population did not live close to prime agricultural land. Rather, settlement patterns indicate social competition and probably warfare. Available radiocarbon dates are consistent with the idea that mummification, long-distance trade in seashells, and goldwork were introduced during the Early Muisca. It has also been suggested that this period brought the construction of El Infiernito, an enclosure surrounded by impressive stone arrangements, perhaps the most impressive pre-Hispanic construction in the Eastern Highlands (Fig. 6). Additionally, increased political centralization is reported for the Late Muisca Period.

Archaeological information suggests differences between strategies to acquire and maintain status during the Early and Late Muisca. During the Late Muisca there was considerable population growth, as well as evidence of interregional trade in pottery, which is not reported for the Early Muisca. Patterns of conspicuous competition developed during the Early Muisca, but control over prime agricultural land and labor had not been established. Conversely, large Late Muisca villages, the seats of chiefly power, were located in the immediacy of prime agricultural lands by the time of the Spanish Conquest. Agricultural terraces and earthen mounds for farming are reported for this period (Broadbent 1968). Also, ar-

chaeological information documents the existence of locales specialized in the production of pottery (Falchetti 1975) and spindle whorls (O'Neal n.d.). According to the Spaniards, the Muisca measured the status of their leaders in terms of their ability to attract people to live in such villages. Ethnohistorical evidence suggests that Muisca leaders mobilized labor to construct impressive wooden palisades and to work their fields, accumulating surplus from the population under their control. Part of the surplus went toward retaining specialists, including goldsmiths, weavers, and women who produced *chicha* for the populace. Succession to high office was inherited through matrilineal lines.

The earliest dates associated with goldwork in the Eastern Highlands are 620 +/- 100 A.D. (Mielke and Long 1969: 183), 645 +/- 95 A.D. (Plazas 1975: 53; Reichel-Dolmatoff 1986: 178), 800 +/- 60 A.D. (Falchetti 1989: 8), 860 +/- 100 A.D. (Mielke and Long 1969: 173), and 960 +/- A.D. (Reichel-Dolmatoff 1986: 178). In some cases, the gold ornaments associated with C-14 dates have not been described in detail, and in other instances context is lacking. The two earliest dates, one from a burial in Santo Domingo and the other from Guatavita, were obtained from the charcoal cores of nose rings that are unlike any other finds in the Eastern Highlands, as Muisca nose rings are usually flat and lack any kind of core. Other probable Early Muisca goldwork is reported from Fusagasugá and El Salitre (El Peñon, Cundinamarca). Those from Fusagasugá include an anthropomorphic figurine, three bird-shaped figurines, and one figurine of an animal with a raised tail (Fig. 7). The find from El Salitre is an anthropomorphic pendant (Langebaek 1990a: 205, Fig. 1). All these ornaments are similar, although by no means identical, to findings related to the Classic Quimbaya style in the Middle Cauca, Antioquia, and the Magdalena Valley (Castaño Uribe 1988).

Late Muisca goldwork is characteristic of styles in northern South America (Museo del Oro 1974: 28). Despite the fact that the Muisca lacked gold placers, active metallurgy is described from the time of the Spanish Conquest. The most well-known figurines are the *tunjos*, flat votive objects made of gold or copper, but more frequently of tumbaga that depict figures of warriors with trophy heads, weapons, miniature pots, animals, and as coca chewers (Fig. 8). More frequently, goldwork did not find its way into burials. *Tunjos* are usually found as offerings in caves, holes, and the refuse left at house platforms (L. González n.d.). Sixteenth-century documents confirm that access to *tunjos* was not restricted to elites. According to the Spaniards, common Muisca had access to metal *tunjos*, and they were specially made as offerings for a large proportion of the population.

Besides the *tunjos*, flat nose rings, pectorals, and other adornments have also been found. Some ethnohistorical evidence suggests that the use of these gold adornments was limited to the elite (Ramos 1972: 298; Cey 1995: 119). Documents indicate that leaders amassed great amounts of gold and tumbaga as personal wealth and handed it down from generation to generation; this was the case concerning gold *tejuelos*, several meters of necklaces and rattles passed down by the chief of Guasca to his successor (AGN Vis Cund 10 f 708tr). Spanish accounts also describe large deposits filled with gold, stone beads, textiles, and seashells that were the property of chiefs. Commoners' gold offerings were usually not collected. Instead they were expediently thrown into lakes, caves, and other places of difficult access (Simón 1983 [1625]: 377).



Fig. 7 Early Muisca goldwork



Fig. 8 Late Muisca goldwork (tunjo)

Some of the ethnohistoric information details part of the economic process of producing gold objects. The Spanish accounts describe villages that specialized in the production of gold ornaments, as well as at least two kinds of specialists in gold production (Langebaek 1987b). Some producers specialized in votive figurines (*tunjos o santillos*), and they apparently worked from special centers, such as Guatavita. Others specialized in the mass production of gold ornaments, with the help of stone molds, and probably lived in villages where the Muisca population settled (Langebaek 1987b: 49). In some cases, it is reported that Muisca leaders had specialists in their service to produce gold ornaments (Cortés 1960; Rojas 1965).

Late Muisca chiefdoms, as well as those found by the Spaniards in the Upper Magdalena, Calima, and Santa Marta regions, did not emphasize the construction of impressive monuments. Nonetheless, great quantities of gold ornaments and tunjos were produced. Gold was probably used more extensively than during previous periods, by the elite and by commoners. The processes of population growth and increasing political centralization are well documented. Members of the elite were able to accumulate and inherit objects of high status, and they controlled labor and such goods as textiles and frequently had specialists under their control.

Conclusion

Available information helps to define both differences and similarities between chiefdoms in pre-Hispanic Colombia. Trajectories of social change in pre-Hispanic Colombia are not well dated, but it seems reasonable to argue that there are chronological differences in the development of goldwork in its various regions and in early chiefdoms as well. In the four regions discussed here, the first evidence of social differentiation is reported early in the sequence. Population densities were initially low, and goldwork appeared long after social differences developed. Monumental manifestations of chiefdoms are found from different periods: around 0 A.D. in the Upper Magdalena region, somewhat earlier in the Calima region, from around 400 A.D. to 1000 A.D. in the Sierra Nevada de Santa Marta, and from 800 to 1000 A.D. in the Eastern Highlands. Conspicuous evidence of monumentality varies—mounds and statuary in the Upper Magdalena, mounds and impressive ceramics and adornments in Neguanje, El Infiernito in the Eastern Highlands, impressive goldwork and ceramics in the Calima region—but early chiefdoms are associated in all four archaeological areas with impressive investments in mortuary practices that developed in different periods.

All the early chiefdoms described here reveal evidence of highly individualistic emergent elites. Their burial objects are frequently unlike others excavated in the same region. Burial goods from Neguanje, Ilama and Yotoco, and San Agustín are not only different from materials found in domestic contexts, but are also different from those found at other elite burials. Frequently, elite objects are inspired by foreign iconography. The San Agustín statuary incorporated lowland representations. In Calima, the goldwork was similar to Upper Magdalena statuary. Neguanje offerings have been compared to Lower Central American goods, and Early Muisca goldwork is similar to Quimbaya goldwork. Nonetheless, long-distance trade of luxury items during the periods of chiefly development seems to have been limited. Calima goldwork imitated the statuary of San Agustín—or, due to the lack of confidence in chronological sequences, Agustinian statues copied Calima goldwork—but elite objects from San Agustín are yet to be found in the Calima region. Likewise, the La Batea burial in Dosquebradas includes gold ornaments similar to those found in the Calima region during the Yotoco Period, but are not identical. The Neguanje burial includes goldwork similar to what has been called Classic Quimbaya, as well as pottery that has been compared to that of La Guajira and stone adornments comparable to those of Lower Central America. These goods are not, however, identical to anything found in other burials, and they seem to have been locally crafted. In the Muisca territory, early goldwork was probably inspired by the so-called Classic Quimbaya style but was locally produced. This is not to argue against the fact that during the early period of chiefly emergence some objects were traded, sometimes over long distances, for this was certainly the case. It merely means that copy and imitation were practiced more often than was trade. Whether this indicates a common cultural identity is unknown. What is clear, however, is that local conditions are important in explaining when and how goldwork was adopted.

The role that imitating crafts from abroad played in early chiefdoms was probably related to the desire of leaders to act as intermediaries with the outside world, as Mary Helms (1971) has proposed. If Reichel-Dolmatoff (1988) is right about the iconography of many Colombian gold objects, it is likely that shamanistic icons played important roles in leaders' legitimacy. The fact that most of the early goldwork in all four regions was locally crafted contradicts the idea that emerging elites concentrated on long distance trade. Instead, goldwork would have functioned in highly competitive systems within the context of primarily local changes in demography, settlement patterns, and economic conditions. As most elite objects were locally crafted, and undoubtedly of extraordinarily elaborate craftsmanship, it seems reasonable to assume that the production of elite objects was of importance to early chiefs, whether they or attached craftsmen were in charge of such production. Thus far, the direct evidence of such craftsmanship is scant. Besides isolated objects, like an llama metallurgy tool kit and the fact that an early workshop for goldworking was found in San Agustín associated with a mound and an elite burial, no other workshops have been found. At any rate, production of gold adornments seems to have been limited precisely because they were elite objects, limited to a few individuals. The only reason early craftsmen had a "market" was because prominent leaders passed away, and their goods left with them.

Contrasts between early chiefdoms and late chiefdoms is evident in all four regions. Materials once associated with elites, (for example, gold or luxurious stones) became used extensively by the populace. Gold adornments usually did not find their way into burials because they were passed to the next generation. In the case of the Muisca and Tairona, the use of gold was not limited to the elite. That nose rings are so frequently represented in Sonso pottery suggests that this might have been the case in the Calima region as well. This would be consistent with the assumption of increasing craft specialization. Although some objects remained attainable only by the elite, a characteristic of late chiefdoms in the Sierra Nevada de Santa Marta, the Eastern Highlands, Calima, and the Upper Magdalena was that production became specialized and oriented toward supplying a greater number of consumers. Late Muisca, Tairona, and Calima pottery became so standardized as to suggest the existence of centers dedicated to their production. In Muisca territory, sites dedicated to the production of great quantities of pots, gold offerings, and spindle whorls have been reported. In the Valle de la Plata region, it is only during the last pre-Columbian period that a distribution network for a pottery-producing center prevailed. This was probably not the case with ceramics. In the Sierra Nevada de Santa Marta, ethnohistorical information documents the existence of villages specializing in the production of stone adornments or goldwork.

Another common trait among late chiefdoms is that most of the labor force was not used for the construction of monuments, but rather for the construction of earthworks for the production of food. Terraces for agriculture and irrigation and drainage systems were common in the Sierra Nevada. In Calima, the landscape was transformed as never before by agricultural practices. Prior to the arrival of Spaniards in the Eastern Highlands, mounds and terraces were also related to agriculture. Archaeological surveys of the Upper Magdalena and the Muisca territory suggest that settlement was not oriented toward the exploitation of the

best soil during the period of early chiefdom emergence. Conversely, in the case of the Muisca, it seems that in the sixteenth century large villages and seats of chiefly power were located on some of the best soils in the region.

There are few documents providing detailed descriptions of the production of ornaments in northern South America, but two reveal that either leaders themselves were goldworkers, as was the case on the Magdalena River (Martínez 1989), or the job belonged to specialists attached to leaders' service, as is the case of the Muisca. In this territory it seems that the position of goldsmith was inherited (Langebaek 1996a: 130). In all the regions in later periods the production of gold objects, and probably of other goods as well, was directed toward supplying a large portion of the population with adornments, as was the case among the Tairona, or with offerings, as reported among the Muisca. In all cases, it seems that a greater demand relates to processes of population growth (clearly documented in the cases of the Upper Magdalena, the Late Muisca, and most likely among the Late Tairona and Sonso populations). Available research does not allow comparisons between the production of late chiefdom metal ornaments and that of earlier chiefdoms. The often small, mostly tumbaga ornaments that constituted a large proportion of production in late chiefdoms are not very attractive to museums and are therefore often disregarded. Given that access to such goods was in most cases open to the populace, it seems safe to assume that production was considerable.

Another feature of later Colombian chiefdoms was an increase in external relations that were at least partially controlled by the elites. The traditional view is that early elites depended on long-distance exchange networks and that they collapsed for some reason before the Spanish Conquest. Early goldwork, however, was not only locally produced in the areas discussed, but in many cases it was highly individualistic, and probably made for specific individuals. Thus it is difficult to speculate about extensive trade networks and even less about their demise. In contrast, sixteenth-century sources detail active trade routes (Langebaek 1987b; 1996a; Kurella 1994), including the long-distance exchange of luxuries as well as the exchange of raw materials and crafts (Szaszdi 1983; Boomert 1987; Whitehead 1990). Goods such as seashells, stone beads, and some gold ornaments from the coast found their way to the Eastern Highlands. Such crafts as pottery circulated across ethnic frontiers, but this usually involved short distances within ethnic boundaries. It is difficult to quantify changes in the intensity of regional exchanges, but the only documented case, that of the Eastern Highlands, clearly indicates that the production and exchange of pottery stepped up not long before the Spanish Conquest.

The exchange of cotton and gold from the lowlands was crucial for Muisca chiefs' maintenance of specialists attached to their service for producing the goods the chiefs traded or gave away (Langebaek 1987b). Documents that discuss trade are detailed in describing the kinds of objects involved but usually provide little information about their social contexts. The bulk of information at hand suggests that trade was a highly political affair. In the case of the Muisca, markets were centralized and supervised by the political elite. Commoners attended to trade and reportedly "admired" the political leader who served as host (Langebaek 1987b). Santiago Giraldo (2000) has been able to demonstrate that trade among the Tairona,

at least with the Europeans, was controlled by the elite. Still, our knowledge about trade in goldwork at the time of the Spanish Conquest is rather limited.

I would like to suggest some ramifications of the hypotheses advanced here that are, in my view, promising avenues for research. Stylistic comparisons and interpretation based on ideology will continue to make exciting contributions to Pre-Columbian archaeology. Nonetheless, such studies will have to be coupled with more emphasis on social, political, and economic issues. Objects of gold were not only aesthetic: they were also produced and politically manipulated, that is, consumed within the context of a chiefdom's political economy. They involve technological and ideological aspects that are not only fascinating in themselves, but that also relate to ways in which societies were politically and economically organized. A closer look at these aspects, to which archaeological research can contribute enormously, will be another way of increasing knowledge about how societies changed in the past.

Bibliography

- AGI ARCHIVO GENERAL DE INDIAS, SEVILLE, SPAIN. SANTA FE 50.
- AGN ARCHIVO GENERAL DE LA NACIÓN. FONDO VISITAS CUNDINAMARCA IO. (VIS CUND IO).
- ANDERSON, DAVID G.
- 1994 Factional Competition and the Political Evolution of Mississippian Chiefdoms in the Southeastern United States. In *Factional Competition and Political Development in the New World* (E. M. Brumfiel and J. W. Fox, eds.): 61–76. Cambridge University Press, Cambridge.
- n.d. Political Change in Chiefdom Societies: Cycling in the Late Prehistoric Southwest United States. Ph.D. diss. University of Michigan, 1990.
- ARDILA, GERARDO
- 1986 Alto de Mira: Dos fechas de C-14 de el alto Buritaca. *Boletín de Arqueología* 1 (1): 38–39.
- BENDER, BARBARA
- 1985 Emergent Tribal Formulations in the American Midcontinent. *American Antiquity* 50: 52–62.
- BISCHOF, HENNING
- 1969 Contribuciones a la cronología de la cultura tairona: Sierra Nevada de Santa Marta. In *38 Amerikanistenkongress. Verhandlungen*, vol. 1: 259–280.
- 1983 Indígenas y españoles en la Sierra Nevada de Santa Marta, siglo XVI. *Revista Colombiana de Antropología* 24: 75–124.
- 1991 Arqueología tairona. In *Arte de la Tierra-Taironas*: 8–14. Fondo de Promoción de la Cultura, Bogotá.
- BOOMERT, ARIE
- 1987 Gifts of the Amazons: “Green Stone” Pendants and Beads as Items of Ceremonial Exchange in Amazonia and the Caribbean. *Antropologica* 67: 33–54.
- BRAY, WARWICK
- 1981 Gold Work. In *Between Continents/Between Seas: Precolumbian Art of Costa Rica* (Elizabeth P. Benson, ed.): 153–166. Harry N. Abrams, New York.
- 1989 Cerámica buga: Reevaluación. *Boletín del Museo del Oro* 24: 102–119.
- 1992 Sitio Conte in Its Pan-American Context. In *River of Gold: Precolumbian Treasures from Sitio Conte* (P. Hearne and R. J. Sharer eds.): 32–46. University Museum, University of Pennsylvania, Philadelphia.
- 1992a El Período Yotoco. In *Calima-Diez mil años de historia en el suroccidente de Colombia* (Marianne Cardale de Schrimppff et al., eds): 73–124. Fundación Pro Calima, Bogotá.

271 *The Political Economy of Pre-Columbian Goldwork*

- 1997 Metallurgy and Anthropology: Two Studies from Prehispanic America. *Boletín del Museo del Oro* 42: 57–86.

BRAY, WARWICK, LEONOR HERRERA, and MARIANNE CARDALE DE SCHRIMPF

- 1983 Report on the 1981 Field Season in Calima. In *Procalima* 3: 2–30.
1988 Report on the 1984 Field Season in Calima. In *Procalima* 5: 2–42.

BROADBENT, SYLVIA

- 1968 A Prehistoric Field System in Chibcha Territory, Colombia. *Nwapa Pacha* 6: 135–143.

CADAVID, GILBERTO

- 1986 Análisis de C-14 para un basurero en Buritaca 200. *Boletín de Arqueología* 1 (1): 21–27.

CADAVID, GILBERTO, and LUISA FERNANDA HERRERA

- 1985 Manifestaciones culturales en el area tairona. *Estudios Antropológicos* 1: 5–54.

CADAVID, GILBERTO, and ANA MARÍA GROOT

- 1987 Buritaca 200: Arqueología y conservación de una población precolombina (Sierra Nevada de Santa Marta-Colombia). *Boletín del Museo del Oro* 19: 57–82.

CALDAS, ANA MARÍA; ALVARO CHÁVEZ, and MARINA VILLAMIZAR

- 1972 Las tumbas del valle del El Dorado. *Antropología* 5. Universidad de los Andes, Bogotá.

CARDALE DE SCHRIMPF, MARIANNE

- 1987 En búsqueda de los primeros agricultores del altiplano cundiboyacense. *Maguaré* 5: 99–126
1992 La gente del Período Ilama. In *Calima-Diez mil años de historia en el suroccidente de Colombia* (Marianne Cardale de Schrimpf et al., eds.): 23–72. Fundación Pro Calima, Bogotá.

CARDALE DE SCHRIMPF, MARIANNE, SORY MORALES, and OSCAR OSORIO

- 1988 Nota sobre una tumba de cancel hallada en el Municipio de Dosquebradas, Risaralda: Orfebrería de la tradición metalúrgica del suroccidente hallada en el Cauca Medio. *Boletín del Museo del Oro* 22: 103–116.

CARDALE DE SCHRIMPF, MARIANNE, WARWICK BRAY, and LEONOR HERRERA

- 1989 Ornamentos y máscaras de oro de la cultura Ilama: Metalurgia del Período Formativo tardío en la cordillera Occidental colombiana. *Boletín del Museo del Oro* 24: 55–72.
1989a Reconstruyendo el pasado Calima. *Boletín del Museo del Oro* 24: 3–34.
1996 *Camino prehistóricos en Calima: El estudio de caminos precolombinos de la cuenca del alto río Calima, cordillera Occidental, valle del Cauca*. Fundación de Investigaciones Arqueológicas Nacionales, Banco de la República, Santafé de Bogotá.

CARDOSO, PATRICIA

- n.d. *Aproximación arqueológica al conocimiento de las casas de un asentamiento tairona: Frontera*. Undergraduate thesis, Universidad de los Andes, 1986.

CASTAÑO URIBE, CARLOS

- 1988 Reporte de un yacimiento arqueológico “Quimbaya Clásico” en el valle del Magdalena: Contribución al conocimiento de un contexto regional. *Boletín Museo del Oro* 20: 3–11.
- n.d. *Dinámica y procesos de conformación en las unidades sincrónicas de asentamiento en Buritaca* 200. Undergraduate thesis, Universidad de los Andes, 1981.

CORTÉS, VICENTA

- 1960 Visita a los santuarios de Boyacá. *Revista Colombiana de Antropología* 9: 199–273.

CEY, GALEOTTO

- 1995 *Viaje y descripción de las Indias, 1539–1553*. Fundación Banco Venezolano de Crédito, Caracas.

CURET, L. ANTONIO

- 1996 Ideology, Chiefly Power, and Material Culture: An Example from the Greater Antilles. *Latin American Antiquity* 7 (2): 114–131.

DOYON, LEÓN, G.

- 1995 La secuencia cultural Charqui-Nariño vista desde Quito. In *Perspectivas regionales en la arqueología del suroccidente de Colombia y norte del Ecuador* (Cristobal Gnecco, ed.): 59–84. Universidad del Cauca, Popayán.

DRENNAN, ROBERT

- 1995a Chiefdoms in Northern South America. *Journal of World Prehistory* 9 (3): 301–341.
- 1995b Mortuary Practices in the Alto Magdalena: The Social Context of the “San Agustín Culture.” In *Tombs for the Living: Andean Mortuary Practices* (Tom D. Dillehay, ed.): 79–110. *Dumbarton Oaks*, Washington, D.C.

DRENNAN, ROBERT, LUIS GONZALO JARAMILLO, ELIZABETH RAMOS, CARLOS AUGUSTO SÁNCHEZ, MARÍA ANGELA RAMÍREZ, and CARLOS A. URIBE

- 1991 Regional Dynamics of Chiefdoms in the Valle de la Plata, Colombia. *Journal of Field Archaeology* 18: 297–318.

DUQUE, LUIS

- 1966 *Exploraciones arqueológicas en San Agustín*. Instituto Colombiano de Antropología, Bogotá.

DUQUE, LUIS, and JULIO CESAR CUBILLOS

- 1979 Arqueología de San Agustín: Alto de los ídolos, montículos y tumbas. Fundación de Investigaciones Arqueológicas Nacionales, Banco de la República, Bogotá.

DUSSÁN DE REICHEL, ALICIA

- 1979 Some Observations on the Prehistoric Goldwork of Colombia. In *Pre-Columbian Metallurgy of South America* (Elizabeth Benson, ed.): 41–52. *Dumbarton Oaks*, Washington, D.C.

EARLE, TIMOTHY

- 1987 Chieftdoms in Archaeological and Ethnohistorical Perspective. *Annual Review of Anthropology* 16: 279–308.

ECHAVARRÍA, CRISTINA

- 1994 Cuentos y cantos de las aves wiwa. *Boletín del Museo del Oro* 37: 2–33.

FALCHETTI, ANA MARÍA

- 1975 *Arqueología de Sutamarchán*. Biblioteca Banco Popular, Bogotá.
- 1987 Desarrollo de la orfebrería tairona en la provincia metalurgica del norte colombiano. *Boletín del Museo del Oro* 19: 3–24.
- 1989 Orfebrería prehispánica en el altiplano central colombiano. *Boletín del Museo del Oro* 25: 3–42.
- 1997 La ofrenda y la semilla: Una Nota sobre el simbolismo del oro entre los Uwa. *Boletín del Museo del Oro* 43: 3–38.

GÄHWILER-WALDER, THERES

- 1983 Preliminary Reconnaissance in the Pavas-La Cumbre Area. *Procalima* 3: 43–47.
- 1992 Los inicios de la tradición Sonso. In *Calima-Diez mil años de historia en el suroccidente de Colombia* (Marianne Cardale de Schimpff et al., eds.): 125–148. Fundación Pro. Calima, Bogotá.

GIRALDO, SANTIAGO

- 2000 Del rioja y otras cosas de los caciques: Patrones de intercambio tairona en el siglo XVI. *Arqueología del Area Intermedia* 2: 47–69.

GNECCO, CRISTOBAL

- 1996 Relaciones de intercambio y bienes de elite entre los cacicazgos del suroccidente de Colombia. In *Chieftains, Power and Trade: Regional Interaction in the Intermediate Area of the Americas* (C. H. Langebaek and F. Cárdenas, eds.): 175–196. Universidad de los Andes, Bogotá.

GONZÁLEZ, LAURA

- n.d. Una vivienda en el cercado indígena de El Santuario. Undergraduate thesis, Universidad de los Andes, 1991.

GONZÁLEZ, VICTOR

- n.d. Prehispanic Change in the Mesitas Community: Documenting the Development of a Chieftdom's Central Places in San Agustín, Colombia. Ph.D. diss., University of Pittsburgh, 1998.

GROOT, ANA MARÍA

- 1985 Arqueología y conservación de la localidad precolombina de Buritaca 200 en la Sierra Nevada de Santa Marta. *Informes Antropológicos* 1: 55–102. Instituto Colombiano de Cultura, Bogotá.

HELMS, MARY

- 1979 *Ancient Panama: Chiefs in Search of Power*. University of Texas Press, Austin.
 1981 Precious Metals and Politics: Style and Ideology in the Intermediate Area and Perú. *Journal of Latin American Lore* 7 (2): 215–238.

HERRERA, LEONOR

- 1992 El período sonso tardío y la conquista española. In *Calima-Diez mil años de historia en el suroccidente de Colombia* (Marianne Cardale de Schrimppff et al., eds.): 149–177. Fundación Pro Calima, Bogotá.

HERRERA, LEONOR, MARIANNE CARDALE DE SCHRIMPPFF, and WARWICK BRAY

- 1982 El hombre y el Medio Ambiente en Calima (altos río Calima y río Grande). *Revista Colombiana de Antropología* 24: 381–424.

HOSLER, DOROTHY

- 1998 Sound, Color and Meaning in the Metallurgy of Ancient West Mexico. In *Reader in Archaeological Theory: Post-Processual and Cognitive Approaches* (D. S. Whitley, ed.): 103–118. Routledge, London.

ISACSSON, SVEN-ERIK

- 1993 *Transformations of Eternity: On Man and Cosmos in Emberá Thought*. University of Goteborg, Goteborg.

JARAMILLO, LUIS GONZALO

- 1996 *Prehispanic Chiefdoms in the Valle de La Plata*, vol. 3, *The Socioeconomic Structure of Formative 3 Communities*. University of Pittsburgh, Department of Anthropology, Pittsburgh.

KURELLA, DORIS

- 1994 *Handel und soziale Organisation im vorspanischen nördlichen Andenraum: Zur politischen Ökonomie subandiner Häuptlingstümer im Gebiet des ehemaligen Nuevo Reino de Granada vor der Eroberung durch die Spanier im frühen 16. Jahrhundert*. Holos Verlag, Bonn.

LANGENBAEK, CARL HENRIK

- 1987a La cronología de la región tairona vista desde Papare, Municipio de Ciénaga. *Boletín de Arqueología* 2 (1): 83–101.
 1987b *Mercados, poblamiento e integración étnica entre los Muisca, siglo XVI*. Colección Bibliográfica, Banco de la República, Bogotá.
 1987c Supervivencia de las prácticas de orfebrería muisca en el siglo XVI. *Universitas Humanistica* 16 (27): 45–52.
 1989 El uso de adornos de metal y la existencia de sociedades complejas: Una Visión desde Centro y Suramérica. *Revista de Antropología y Arqueología* 7 (1–2): 73–90.
 1990a Aguilas y caricuríes: Venezuela y su coparticipación en el área orfebre de Colombia. *Revista Colombiana de Antropología* 27: 237–278.
 1990b Arte precolombino-culturas. *Gran Enciclopedia de Colombia* 6: 27–42. Circulo de Lectores, Bogotá.

275 *The Political Economy of Pre-Columbian Goldwork*

- 1990c Buscando sacerdotes y encontrando chuques: De la organización religiosa muisca. *Revista de Antropología y Arqueología* 6 (1): 79–103.
- 1995 *Regional Archaeology in the Muisca Territory: A Study of the Fúquene and Susa Valleys*. University of Pittsburgh, Pittsburgh.
- 1996a *Noticias de caciques muy mayores: Origen y desarrollo de sociedades complejas en el nororiente de Colombia y norte de Venezuela*. Editorial Universidad de Antioquia, Medellín.
- 1996b Patterns of Human Mobility and Elite Finances in Sixteenth-century Northern Colombia and Western Venezuela. In *Chieftains, Power and Trade: Regional Interaction in the Intermediate Area of the Americas* (C. H. Langebaek and F. Cárdenas, eds.): 155–174. Universidad de los Andes, Bogotá.
- 1998 Patterns of Coca Consumption in the Intermediate Area North of Ecuador: A Review of the Evidence. *Acta Americana* 6 (1): 51–77.
- 1999 Pre-Columbian Metallurgy and Social Change: Two Case Studies from Colombia. In *Archaeology in Latin America* (G. G. Politis and B. Alberti, eds.): 244–270. Routledge, London.

LECHTMAN, HEATHER

- 1984 Andean Value Systems and the Development of Prehistoric Metallurgy. *Scientific American* 250 (6): 56–63.

LEGAST, ANN

- 1987 *El animal en el mundo mítico Tairona*. Fundación de Investigaciones Arqueológicas Nacionales, Bogotá.
- 1996 Los símbolos animales de Malagana. *Boletín de Arqueología* 10 (3): 5–78.

LLANOS, HECTOR

- 1994 *El Huila prehispánico. Historia general del Huila*: 87–122. Fondo de Autores Huilenses, Neiva, Colombia.

LOOPER, MATTHEW G.

- 1996 The Iconography and Social Context of Tairona Gold Pectorals. *Journal of Latin American Lore* 19: 101–28.

MARTÍNEZ, ARMANDO

- 1989 Un caso de alteración aurífera colonial en el bajo Magdalena. *Boletín del Museo del Oro* 23: 47–60.

MASON, JOHN ALDEN

- 1931 *Archaeology of Santa Marta Colombia: The Tairona Culture*, pt. 1, *Report on Field Work*. Field Museum of Natural History Anthropological Series 20 (1), Chicago.
- 1936 *Archaeology of Santa Marta Colombia: The Tairona Culture*, pt. 2, sec. 1, *Objects of Stone, Shell, Bone and Metal*. Field Museum of Natural History Anthropological Series 20 (2), Chicago.
- 1939 *Archaeology of Santa Marta Colombia: The Tairona Culture*, pt. 2. *Pottery*. Field Museum of Natural History Anthropological Series 20 (3), Chicago.

MASON, GREGORY

n.d. The Culture of the Taironas. Ph.D. diss., University of Southern California, 1938.

MIELKE, JAMES, and AUSTIN LONG

1969 Smithsonian Institution Measurements V. *Radiocarbon* 11 (1): 163–92.

MORALES, JORGE

1997 Oro: Control al insecto y cultura entre los Cuna. *Boletín del Museo del Oro* 43: 39–48.

MUSEO DEL ORO

1974 *El Dorado: The Gold of Ancient Colombia from El Museo del Oro*. Banco de la República, Bogotá, Colombia, Center for Inter-American Relations, and the American Federation of Arts, New York.

O'NEAL, DENIS

n.d. San José: A late Terraced Site on the Sabana de Bogotá. Ph.D. diss., University of California, 1972.

OYUELA, AUGUSTO

1985 Excavación de un basurero en Ciudad Perdida, Sierra Nevada de Santa Marta. *Boletín de Arqueología* 1 (1): 28–37.

PÉREZ DE BARRADAS, JOSÉ

1954 *Ofebrería Prehispánica de Colombia-Estilo Calima*. Talleres Gráficos Jura, Madrid.

PLAZAS, CLEMENCIA

1983 Gold Objects from Primavera: Links between Calima, San Agustín and the Cauca Valley. *Procalima* 3: 40–42.

PLAZAS, CLEMENCIA, and ANA MARÍA FALCHETTI

1983 Tradición metalurgica del Suroccidente Colombiano. *Boletín Museo del Oro* 14: 1–32.

RAMOS, DEMETRIO

1972 *Ximénez de Quesada-Cronista*. Publicaciones de las Escuela de Estudios Hispanoamericanos, Sevilla.

REDMOND, ELSA

1997 Introduction: The Dynamics of Chieftaincy and the Development of Chiefdoms. *Chiefdoms and Chieftancy in the Americas* (Elsa M. Redmond, ed.): 1–17. University Press of Florida, Gainesville.

REICHEL-DOLMATOFF, GERARDO

1951 *Datos historico-culturales sobre las tribus de la antigua gobernación de Santa Marta*. Banco de la República, Bogotá.

1958 Notas sobre la metalurgia prehistorica en el litora Caribe de Colombia. In *Homenaje al Profesor Paul Rivet*: 69–94. Instituto Colombiano de Antropología, Bogotá.

1986 *Arqueología de Colombia: Un Texto introductorio*. Fundación Segunda Expedición Botánica, Bogotá.

277 *The Political Economy of Pre-Columbian Goldwork*

- 1988 *Orfebrería y chamanismo: Un estudio iconográfico del Museo del Oro*. Editorial Colina, Medellín.

RODRÍGUEZ, CAMILO

- 1989 Patrones de asentamiento de los agricultores prehispánicos de El Limón, Chaparral, Tolima. *Boletín de Arqueología* 4 (2): 41–50.

RODRÍGUEZ, CARLOS ARMANDO

- 1989 Archaeological Excavations in a Prehispanic Cemetery in Guabas, Cauca Valley, Colombia. *Procalima* 4: 49–52.

- 1989 La población prehispánica del valle medio del río Cauca entre los siglos VII–XVII DC: Culturas Guabas y Buga. *Boletín del Museo del Oro* 24: 73–89.

ROJAS, ULISES

- 1965 *El cacique de Turmequé y su época*. Imprenta Departamental, Tunja.

ROMOLI, KATHLEEN

- 1974 Nomenclatura y población indígena en la antigua jurisdicción de Cali a mediados del siglo XVI. *Revista Colombiana de Antropología* 16: 373–478.

SALGADO, HECTOR, and CARLOS ARMANDO RODRÍGUEZ

- 1989 Las costumbres funerarias prehispánica en el curso alto del río Calima. *Boletín del Museo del Oro* 24: 123–126.

SCHULER–SCHOMING, INMINA VON

- 1981 A Grave-lot of the Sonso Period. *Procalima* 2: 25–27.

SCOTT, DAVID A.

- 1981 Metallurgical Studies of Calima Ornaments. *Procalima* 2: 22–24.

SERJE, MARGARITA

- 1984 Organización urbana en Ciudad Perdida. *Cuadernos de Arquitectura* 9: 1–22.

SERVICE, ELMAN

- 1962 *Primitive Social Organization: An Evolutionary Perspective*. Random House, New York.

SIMÓN, FRAY PEDRO

- 1625 [1983] *Noticias históricas de las conquistas de Tierra Firme en las Indias occidentales*. Biblioteca Banco Popular, Bogotá.

SOTOMAYOR, LUCÍA, and MARÍA VICTORIA URIBE

- 1987 *Estuaria del macizo colombiano*. Instituto Colombiano de Cultura, Bogotá.

SPENCER, CHARLES

- 1994 Factional Ascendance, Dimensions of Leadership, and the Development of Centralized Authority. In *Factional Competition and Political Development in the New World* (Elizabeth Brumfiel and J. W. Fox, eds.): 31–43. Cambridge University Press, Cambridge.

SZASZDI, ADAM

- 1983 Las rutas del comercio prehispánico de metales. *Cuadernos Prehispánicos* 10: 5–128.

TAFT, MARY M.

- 1993 Patterns of Ceramic Production and Distribution. In *Prehispanic Chiefdoms in the Valle de la Plata*, vol. 2, *Ceramics: Chronology and Craft Production* (Robert Drennan, Mary M. Taft, and Carlos A. Uribe, eds.): 105–186. University of Pittsburgh, Pittsburgh.

WATTENMAKER, PATRICIA

- 1998 *Household and State in Upper Mesopotamia: Specialized Economy and the Uses of Goods in an Early Complex Society*. Smithsonian Institution Press, Washington, D.C.

WHITEHEAD, NEIL LANCELOT

- 1990 The Mazaruni Pectoral: A Golden Artifact Discovered in Guayana and the Historical Sources Concerning Native Metallurgy in the Caribbean, Orinoco and Northern Amazonia. *Archaeology and Anthropology—Journal of the Walter Roth Museum of Anthropology* 7: 19–38.

WYNN, JACK

- n.d. *Buritaca Ceramic Chronology: A Seriation from the Tairona Area, Colombia*. Ph.D. diss. University of Missouri, 1975.

ZUIDEMA, TOM

- 1993 Los Taironas de la antigua Colombia. In *La Antigua América—El Arte de los Parajes Sagrados*: 245–57. Grupo AZABACHE and The Art Institute of Chicago, Mexico.