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

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Who Crafted, Exchanged, and Displayed Gold in Pre-Columbian Panama?

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Introduction

An oft-discussed problem is how to relate a specific category of material culture and technology (crafting gold ornaments) to a complex correlate of human behavior (power). Behavioral interpretations in archaeology are hugely dependent upon contextual precision, that is, being as sure as possible about time, space, and people, including their age and sex; their relationships with other individuals and groups; and their social categories (occupation, position, status, and rank). Being successful at this task not only presupposes good field archaeology, accurate recording, and careful illustration of artifacts, but also well-preserved human remains and sound bioanthropology.

Many more gold artifacts have been found in buried deposits in Panama by people with some kind of archaeological training than have been found in other modern nations in the Intermediate Area. At least 1,140 artifacts made out of auriferous metals have been recorded in controlled excavations by academically trained archaeologists or amateurs (Table 1).[1] Excavation and recording standards, however, have been uneven: some professionals have been as lax as some amateurs. The working sample of contextualized gold artifacts also has a strong geographical bias. All but two of the sixteen sites in Panama in Table 1 cluster in a tiny area—the coastal plains and foothills bordering Parita Bay and the Gulf of Montijo (Fig. 1). This creates interpretative quandaries, because there is more ethnohistoric information about the acquisition of auriferous ores and the use and distribution of metal artifacts from other areas of Panama, which are less well known archaeologically. Sitio Conte is likely the only site known to the majority of readers (Briggs 1989; Hearne and Sharer 1992; Lothrop 1937). It is the only site that has provided metal objects in sufficient quantity and with enough attention to spatial and temporal context to permit strong hypotheses about

[1] See pp. 140–141. This number is approximate because of variable recording systems and standards. It excludes beads, which are sometimes counted and at other times identified only as bracelets or necklaces.

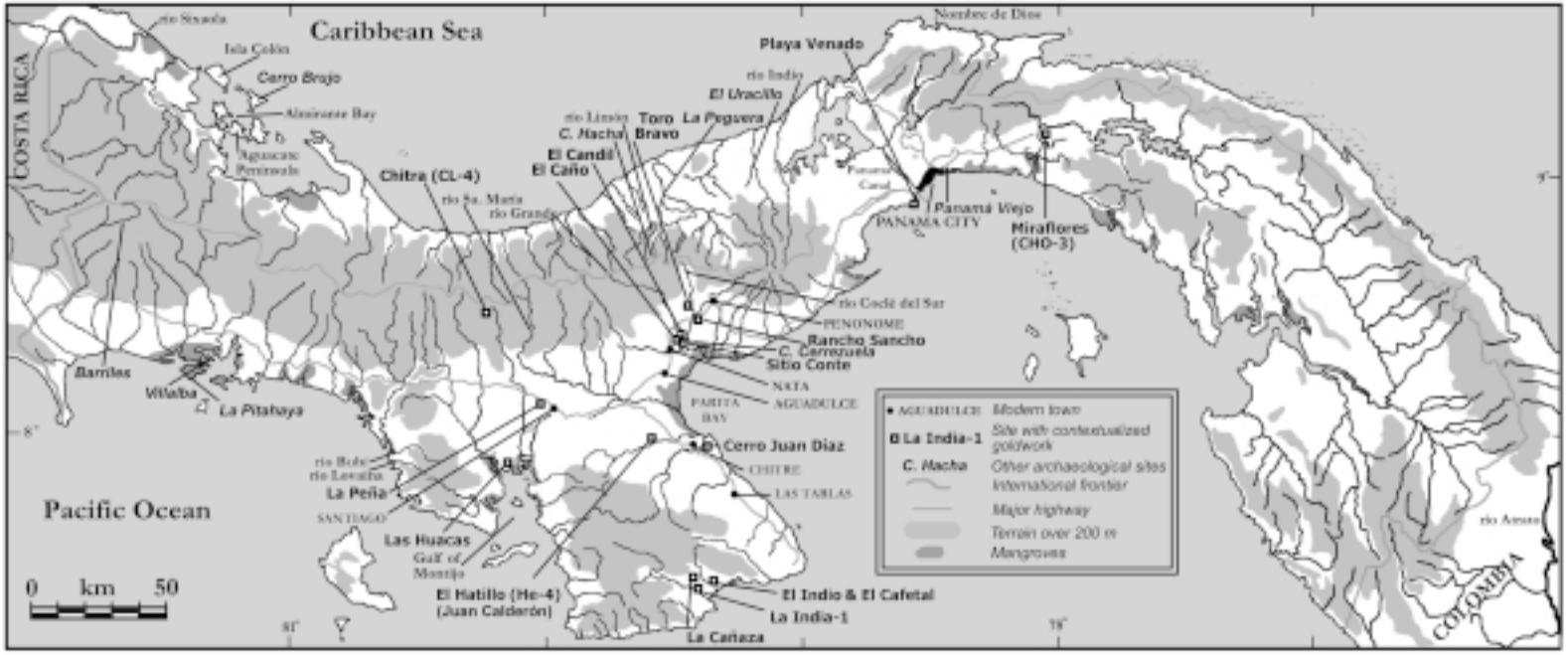


Fig. 1: Map of Panama, showing location of archaeological sites, modern towns and prominent geographical features

their numerical and qualitative relationship to human remains and to other categories of mortuary arts and, therefore, about their relevance to such a multifarious concept as power. Sitio Conte was excavated more than seven decades ago. All scholarly works that have discussed the role of metallurgy in pre-Spanish Panamanian society have built their interpretations around the 1070-plus gold artifacts found at this "paradigmatic example of a ranked or chiefdom society" (Briggs 1989: 63).

All the sites in Table 1 contained some human remains. In only two excavations did people with a specialized training in physical anthropology handle aging and sexing.[2] No attempt was made to estimate age and sex in some excavations and, at most sites, skeletons were not recovered for subsequent storage and re-analysis (Briggs 1989: 70). It is not clear who was responsible for aging and sexing the skeletons during the Harvard excavations at Sitio Conte between 1930 and 1933 (Briggs 1989: 72).

In view of these obstacles it is hardly surprising that ethnohistory and art history have exerted more influence on scholars' conceptualizations of the relationship between gold and human behavior in Panama than has the archaeological field record per se (for example, Sauer 1966; Helms 1979; Linares 1977). A notable exception is Peter Briggs's research, which took a matter-of-fact, but effectively novel approach to extracting information from published and unpublished field data (Briggs 1989; 1993).

We propose that *power* subsumes the following: influence, authority, social ascendancy, and physical control. In deference to the a priori assumption that metallurgy was a specialized craft and, hence, conferred a degree of power on the artisan (Helms 1979: 87, 1993: 69–70), the first topic will be manufacture: Who crafted gold artifacts in Panama? Knowledge in this area has advanced little since Samuel Lothrop (1937) discussed it, but the notion that Pre-Columbian Panama was not a major center for the production of "excellent" metal objects (Helms 1979; Sauer 1966) is often uncritically and incorrectly repeated as an established fact (for example, Gordon 1982); it has been causally linked, besides, to long-distance exchange, which specialists in social complexity consider to be a primary correlate of power in non-state societies (e.g., Earle 1991: 10; Helms 1979: 37).

This leads forthwith to the second question: Who acquired and exchanged gold? (in its mineral form and as crafted artifacts). "Gold" means combinations of gold and other minerals, such as copper, silver and platinum as natural ores, and intentional alloys.

The third question is: Who used gold ornaments and how were they displayed? Most archaeologists (including Richard Cooke [Cooke and Bray 1985: 36]) have at some time in their careers supported the idea that gold was the primary symbol of political and social ascendancy in Pre-Columbian Panama—the unquestioned apex of a hierarchy of artifact categories. Briggs (1989; 1993) has chided us for such intemperance while pointing out three important patterns in the excavation record; a few other items, such as whale teeth, were equally as valuable as gold. Some categories of gold artifacts, such as embossed plaques,

[2] John Corning participated in J. Alden Mason's 1940 excavations at Sitio Conte (Briggs 1989: 67–68, 72). Claudia Díaz analyzed 115 skeletons from Operation 4 at Cerro Juan Díaz in 1997–99 for her licentiate thesis (Díaz n.d.).

are restricted to especially rich or lavish mortuary features, suggesting their correlation with authority or social ascendancy of some kind. The mere fact that someone wore a gold ornament does not necessarily mean that he or she exercised power. Also popular in Intermediate Area archaeology is attributing gold ornaments to intellectual power, for example, to shamanism and healing (Saunders, in this volume; Reichel-Dolmatoff 1990).

The idea that Intermediate Area goldsmithing and gold artifacts were imbued with esoteric qualities—"knowledge of the meaning of sacred symbols, insights into the meaning of life, and the understanding of mythical origins" (Helms 1979: 119)—has also attracted the attention of many scholars. Archaeology and ethnohistory suggest, however, that in Pre-Columbian Panama gold was worn primarily for display, which can be construed as the opposite of esoteric behavior. Attributing meanings to prehistoric objects and images is predicated upon the accuracy of archaeological context and the appropriateness of analogies, making this a very difficult topic. Two groups of gold artifacts (cast figurine pendants and embossed plaques with anthropomorphic images) allude to the advertisement of power on a dual plane (supernatural and real). In our discussion of their meaning, we consider ornaments for which there are no field records.

Who crafted gold artifacts in Panama?

> All over Castilla del Oro . . . there are many rich gold mines and that no one could ask me to find a gold mine but that I could locate one within ten leagues, and it certainly has been worthwhile to search for them. Gold is found everywhere, but naturally in some places it is more plentiful than in others.[3] (Fernández de Oviedo 1959: 107)

> This land is ballasted with gold, which can be found everywhere where one digs a stade deep . . . and in all the rivers and streams one finds good mines and gold sources. (López de Velasco 1971: 171–178)

> [The Spanish] knew that gold was collected in many mountain streams and was carried to a few places to be manufactured, and that these centers were not located where the placer gold was found. They knew . . . that such a manufactory might point to the desired sources of gold. The absence of any such local industry . . . suggests that none was found. (Sauer 1966: 276)

Warwick Bray has assigned the oldest gold ornaments found in Panama to his Initial Group, a stylistic and chronological construct (Bray 1992; Cooke and Bray 1985). They occur in the same mortuary features as clay vessels painted in the Tonosí and Cubitá styles, sequential and thematically interrelated stages in the Gran Coclé polychrome pottery

[3] *Castilla del Oro:* the territory between the middle of the Gulf of Urabá and Veragua, which, at the time of Gonzalo Fernández de Oviedo's writings, was reckoned to comprise the Caribbean littoral from the Belén River to Cariay (Puerto Limón, Costa Rica).

sequence, which flowered between about cal A.D. 200 and 750 (Sánchez n.d.; 2000; Sánchez and Cooke 1998). Richard Cooke, Luís Sánchez, and Koichi Udagawa (2000) argue that the Tonosí pottery found with Initial Group gold ornaments in graves at El Cafetal and in the earliest cemeteries at El Indio (I) and Las Huacas (I) represented the transition of this style into Cubitá and that, therefore, one could not assume that the introduction of gold into Gran Coclé occurred before cal A.D. 400–500. New data from Cerro Juan Díaz suggest, however, that metal ornaments arrived somewhat earlier on the isthmus. In feature 16, a sub-cylindrical mortuary pit in which at least eighteen individuals were buried secondarily in packages, excavators found one complete metal ring with a high copper content and several fragments of gold ornaments (Cooke and Sánchez 1998: figs. 5c, g and 6c–f; Cooke et al. 1998: figs. 8.l, 10; Cooke et al. 2000: fig. 8.8 e, f, r). The copper ring was found inside a package at the bottom of the feature, which contained an adult and a pre-adult. Dentin collagen from the adult was dated to 1780 ± 40 BP (cal A.D. 130–370; Beta-147880),[4] an estimate that overlaps with a result of 1730 ± 80 BP (cal A.D. 120–530; I-18679) obtained from charcoal flecks scattered through this feature's fill.[5]

According to Cooke and Bray (1985: 35) the small Initial Group sample from Gran Coclé exhibits considerable technical variety and dexterity: beads, plaques, rings, pendants, and figurine pendants made by alloying copper and gold, hammering, annealing, sheathing, depletion gilding, open-back casting, and lost-wax casting over a clay core. Ilean Isaza's (n.d.) technological analysis of four metal fragments from feature 16 at Cerro Juan Díaz (carried out under Heather Lechtman's supervision) has added some interesting details. The microstructure of what seems to be the fragment of a tail of a spread-eagled bird pendant shows that it is composed of two different copper-rich layers, which were welded together (Cooke and Sánchez 1998: fig. 11d; Cooke et al. 2000: fig. 8.8f). Isaza hypothesizes that the second layer was attached to the original cast metal by pressure and re-heating in order to mend it, while Lechtman suggess that this was done in order to produce contrasting surface colors along the edges.[6]

In the light of Alain Ichon's suggestion (1980: 197, 321) that coastal Ecuador may have been the source of certain cultural traits on the Azuero Peninsula, including metallurgy, it is interesting that Isaza's scanning electron microscope analysis of the bird tail fragment just mentioned identified osmium, a heavy platinum-like element found in some native ores, particularly alluvial ores (Boyle 1979: 163). In the Americas, the intentional use of native platinum has been documented only in the La Tolita-Esmeraldas archaeological region on the Pacific coast of northern Ecuador and southern Colombia, where platinum was plated onto metal surfaces in order to bring out surface color (Scott and Bray 1994: 301).

[4] Calibrations of radiocarbon dates were calculated by Beta Analytic Inc.

[5] Feature 16 was probably used more than once. No intact clay vessels were found in it, and sherds in the fill are not typologically diagnostic. The fragmentary metal probably represents once-intact ornaments that were buried in an earlier feature (no. 26), which was disturbed by feature 16 (Cooke and Sánchez 1998:fig. 5h).

[6] Isaza determined that a small fragment of cast copper wire and a small bead with high gold content, also from feature 16 (Cooke and Sánchez 1998: figs. 11e, f; Cooke et al. 2000: fig. 8.8p, q), were forged and then reworked under heat.

Platinum, however, has been reported as a trace element in the Cerro Colorado and Petaquilla ore deposits in Panama (see p. 101), so its presence in a gold artifact is not a sine qua non of extra-Isthmian manufacture (USDI 1993: 949).[7]

These details support the hypothesis that the manufacture of gold ornaments was in the hands of skilled artisans when metallurgy was introduced into Lower Central America (Bray 1978: 26). Available archaeological data cannot determine whether local people traveled to Colombia or Ecuador to learn the trade (Helms 1979: 140) or if itinerant artisans brought it to Central America (see Bray 1996: 315 with regard to the Maya area). The fact that Initial Group metal ornaments from Panama and Costa Rica share several icons with the Tonosí- and Cubitá-style painted pottery with which they have been associated in mortuary features raises the issue of whether one technology's ideology influenced the other's (Cooke 1986; Sánchez and Cooke 1998; 2000; Bray 1992; Falchetti 1987; 1993; 1994; Snarskis 1985; Stone and Balser 1965; Uribe 1988). Much better control over the provenience and dating of gold ornaments is required to develop this topic. Nonetheless, improving knowledge of the La Mula painted pottery style from Gran Coclé that is dated to about cal 200 B.C.–A.D. 200 (Cooke et al. 2000: table 8.1) and has not yet been associated with metal, suggests that such motifs as crocodilians, amphibians, long-legged and long-beaked birds, and spirals appeared on pottery in this region before being incorporated in gold objects (Fig. 2; Desjardins n.d.; Sánchez and Cooke 1998).

Mineral Deposits in Panama

Before continuing this discussion about where gold ornaments were made and by whom, we shall pause to consider whether Panama possesses sufficient quantities and types of mineral resources to sustain local workshops for large numbers of costume and sumptuary items wrought in malleable auriferous metals. The following pages, maps, and tables will collate geological data on the distribution and nature of the mineral constituents of Pre-Columbian metal artifacts—gold, silver, copper, and platinum—with the few professional metallurgical analyses that have been applied to Panamanian Pre-Columbian gold artifacts. We will then discuss other researchers' ideas about crafting gold in Panama, paying special attention to the still influential notion that Panamanian goldsmiths were only capable of producing "simple" artifacts or gilding ornaments made elsewhere, while they imported the products of "skilled" crafting from manufacturing centers outside the isthmus (Helms 1979; Sauer 1966).

Gold. Since the Spanish conquest, gold has been mined from veins in quartz and andesite lodes (*vetas*) or obtained from *lavaderos* near placers: alluvial outwash deposits at the base of hills (known locally as *aluviones de cerro* or *hucicas*) or the "waste of weathering and erosion of mountains collected in stream channels" (Fig. 3; Sauer 1966: 197). Colonial docu-

[7] A. Hyatt Verrill, a journalist with a propensity for exaggeration, reported platinum in alluvial gravels in Darién rivers and near the city of Colón. He also commented that small emeralds had been collected in the Darién (1922: 194; 1935: 193, 264).

Fig. 2 Motifs painted in the early La Mula-style from Gran Coclé (cal 200 B.C.–A.D. 250) have parallels in Initial Group metalwork: (a) sherd showing stylized crocodile leg, Cerro Juan Díaz; (b) cast gold crocodile, Playa Venado, Dumbarton Oaks; (c) sherd depicting a feathered spiral, Cerro Juan Díaz; (d) stylized crocodilian (?) on a pot stand, unprovenienced, Museo de Antropología, Panama City; (e) sherds depicting the hind legs of an amphibian, Cerro Juan Díaz; (f) head of a serpentiform beast, from a necked vessel, unprovenienced, Museo de Antropología, Panama City; (g) long-legged bird from the shoulder of a necked vessel, unprovenienced, Museo de Antropología, Panama City; (h–i) abstract spread-eagled birds painted on necked vessels, (h) from Las Huacas, Veraguas, Museo de Antropología, Panama City; (j–k) stylized spread-eagled birds on sherds, Cerro Juan Díaz (drawing by R. Cooke based on photographs by R. Cooke and B. Desjardins).

ments and geological reports often specify if "mines" were tunnels excavated in search of veins in rock bodies or holes dug into outwash or fluvial deposits (Fig. 4b). The sources we have consulted suggest that the most important vein deposits of gold are those listed in Table 2 (see pp. 142–143). Some of these, such as Turlurí or Escobal, Cana[8] (Espíritu Santo), and Remance,[9]

[8] During its brief period of intense exploitation (1680–1724), the Cana mine was "the richest in Panama and one of the most productive on the (American) continent" (Castillero Calvo 1995: 229). Its abandonment was a catalyst for the Spanish withdrawal from Darién.

[9] Geologists told Cooke in October 2000 that the gold at Remance is found in mostly vertical, quartz veins, which would be visible from the surface if the area were cleared of vegetation. The principal vein is 2–2.5 km long. The gold is fine, but of good quality. In the 1920s, the British-owned Veraguan Mining Company processed it with cyanide and dug extensive tunnels. When the mine was closed during the Depression it had not been exhausted. A Peruvian company operated it from 1989 to 1997, extracting about 15–20 g/ton. They abandoned it because gold prices fell worldwide. The mine would be economical if prices rose to about $325 an ounce.

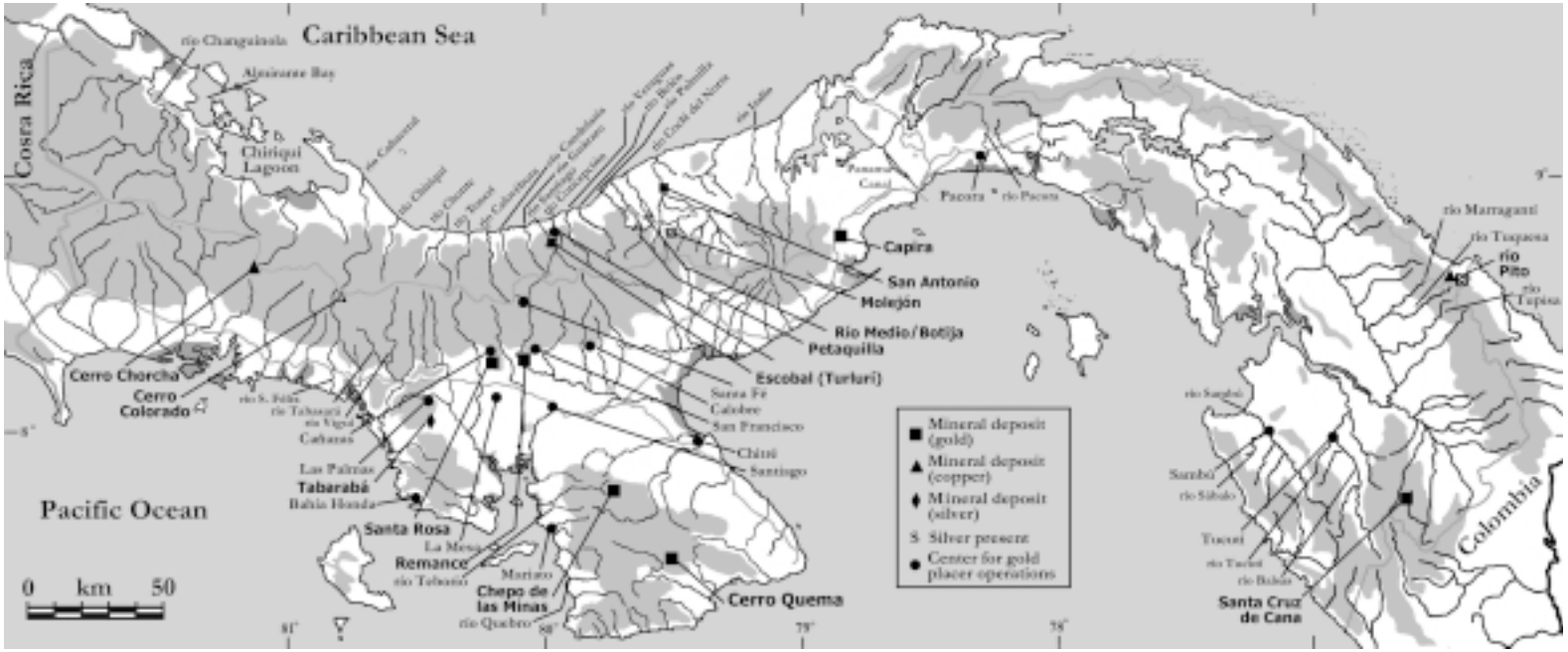
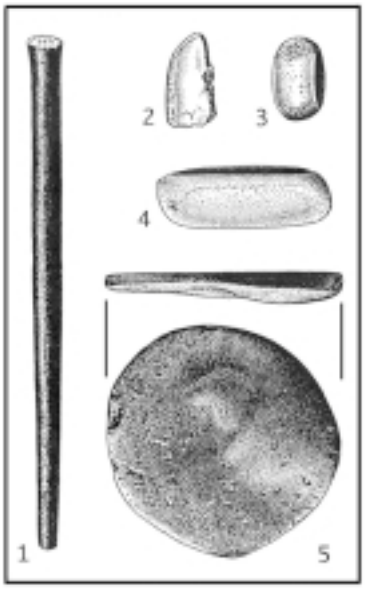


Fig. 3 The location of known gold, silver, and copper deposits in Panama and key centers for the processing of placers.

a

b



c

Fig. 4 (a,b): Placer mining operations at the Quebrada Barrera, Caribbean Veraguas, 1977: (a) A Ngöbé native American washes gravel looking for gold at a *lavadero* (photo by R. Cooke); (b) Extraction of fluvial gravel in a search for gold. The arrow points to the auriferous deposits, which are below the horizontal white line (photo by R. Cooke); (c) Raw materials for metalsmiths from Sitio Conte: 1. Copper bar found in Lothrop's grave 26; 2. Ingot, 89% gold, 11% copper, trace silver; 3–4. Ingots, 97.6% gold, 2.4% silver, apparently unprovenienced; 5. Ingot, composition not analyzed, Lothrop's trench II, general digging (based on Lothrop 1937: fig. 46).

were important mines in colonial times and were reopened in the nineteenth and twentieth centuries with considerable commercial success.

Gold-bearing fluvial gravels are widespread in Panama: United Nations survey reports and maps indicate that gold is present in river gravels virtually throughout the isthmus. Placer deposits that have been continually or intermittently exploited since colonial times are located on the Caribbean slopes between the Concepción and Coclé del Norte drainages, where the mining communities of Barrera, Nueva Lisboa, Real Minera de La Palma, and La Trinidad were located (Castillero Calvo 1967; 1995: 78, 142);[10] in the Pacific foothills of Veraguas around Bahía Honda, Cañazas, Calobre, La Mesa, Las Palmas, San Francisco de la Montaña (minerales de Aguacatal), Santiago, and Soná (Castillero Calvo 1995: 112, 123–124, 382, 436, 440; Restrepo 1979);[11] along the western shore of the Azuero Peninsula between the Tebario and Quebro rivers (Castillero Calvo 1967; 1995: 82; UN 1969); along affluents of the Sambú, Sábalo, and Tucutí rivers in Darién (Castillero Calvo 1995: 262, UN 1971); in the upper Tuyra drainage in Darién (particularly the Marragantí, Tuquesa, and Tupisa valleys [Carles 1962: fig. 319; USDI 1975: 1214; 1989: 991–992]);[12] the upper drainages of the Grande and Coclé del Sur rivers on the Pacific side of Coclé; and along rivers located between Panama City and the Bayano river, that is, Juan Díaz, Matasnillo, and Pacora (Esquivel n.d.; Restrepo 1979). During the sixteenth century missions were opened in the Changuinola valley (then known as La Estrella) in order to Hispanicize native peoples who interfered with placer gold extraction (Castillero Calvo 1995: 198).

Figure 3 identifies settlements that from time to time have acted as centers for placer mining operations during colonial and republican times. These deposits are easiest to exploit by artisanal methods in the faster-flowing sections of the rivers and streams, but even there production is complicated by frequent floods, which can quickly wipe out sluices (Morison and Obregón 1964: 204). The value of the effort expended on them (often in inaccessible now-forested areas) is strongly dependent upon world-wide gold prices.

Copper deposits. Lothrop (1937: 77) states that Panamanian natives could obtain "comparatively pure copper," and whether they secured naturally pure ores or refined copper they "had at their disposal a metal suitable for their requirements." R. H. Terry (1956: 86) observes that copper occurred as low-grade sulphide deposits in the Viguí, Tabasará, and Cobre rivers of Veraguas and at the head of the San Félix River in Chiriquí. It was the UN explorations of the 1960s and 1970s, however, that confirmed the ubiquity of copper and

[10] A precise location for Real Minera de La Palma has not been found. It was supposedly located along the Palmilla(s) River, which runs west of the Petaquilla (Fig. 3). For Nueva Lisboa and La Trinidad, see note 27.

[11] Vicente Restrepo (1979) quotes a report made by a Juan Antonio de la Mata, who refers to "minas abundantes de oro . . . se extienden considerablemente estos minerales pues llegan al río Lovaina donde los antiguos sacaron cuantiosas riquezas" (abundant gold mines . . . these mineral deposits are of considerable extent since they reach the Lovaina River where ancient people extracted many riches).

[12] In the 1970s and 1980s nine companies vied for mineral rights to placer deposits of gold and silver in this area. They planned an initial investment of $2.3 million, but the project was abandoned because of pressure from the Emberá, in whose *comarca* the deposits are located (USDI 1975: 1214; 1986: 1055).

the magnitude of ore deposits in the central cordillera of Chiriquí (Cerro Chorcha and Cerro Colorado), the central Caribbean (Petaquilla, Río Botija, and Río del Medio), and the eastern San Blas *serranía* (Río Pito).[13] The El Gallo ore body in the Azuero Peninsula also produces copper, but we have not found mineralogical details (UN 1969).

The surface deposits of Petaquilla and Botija, in the heart of the contact period trading district of Veragua, cover two square kilometers (Esquivel n.d.: 5; Quirós 1968). The original UN survey report determined that the copper is not found in veins but is disseminated in all rock types. Peter Folk (personal communication to Griggs, 2000), who participated in mineral surveys for the Teck Corporation, observes that native copper and cuprite are present in the superficial environment at Petaquilla and "would have been available for extraction by (native peoples)." A similar situation presumably prevails at Cerro Colorado, Botija, and Río Pito. UN exploration geologists reported native copper at Las Uvitas, near Santiago (UN 1969). Sauer's (1966: 246) statement that Central America lacked suitable copper ores (for reduction to its metallic form) is incorrect.

Silver as a geographic diagnostic. Materials analysis demonstrates that the majority of gold ornaments found in Panama are intentional alloys of gold and copper in different proportions (generally more gold in hammered artifacts and more copper in cast ones, for well-known technical reasons). Although silver is frequently an important component of finished objects (and in a few cases, the most important), it is generally accepted that Pre-Columbian metalsmiths north of the Andes did not refine it. Lead and iron have also been recorded as impurities in Panamanian artifacts (Fleming 1992; Lothrop 1937; 1950; 1952; Root 1937; 1950). Both these minerals are present as trace elements in a few Panamanian gold ore bodies (UN 1971).

Archaeologists have interpreted variations in silver content (expressed as a percentage of gold, copper, and silver) as indicators of the "local" or "foreign" origin of Pre-Columbian ornaments. For example, Lothrop (1937: 71–79) originally proposed that Sitio Conte ornaments devoid of silver were manufactured at or near this site, whereas other argentiferous ornaments were introduced from Colombia or made locally from imported ores or, alternatively, blends of local and foreign ores.[14] Lothrop (1950) later discovered that many ornaments from tombs in south-western Veraguas also had a high silver content. W. C. Root

[13] Reserves at Cerro Colorado, one of the largest deposits in the world (USDI 1977: 1171) and the subject of acrimonious controversy (Gjording 1983; 1990), were estimated in 1980 to be 1.4 billion metric tons of low-grade porphyry copper (USDI 1980: 1258). In 1979 Petaquilla's reserves were estimated as 300 million tons averaging 0.7% copper (USDI 1978–79: 1167); Botija's at 130 million tons at 0.72%.

[14] Lothrop (1937: tables 9–10) argues that eight out of nine Sitio Conte artifacts with more than 9% silver were of "foreign origin." The truth is that the Peabody Museum archaeologists recovered only one of these "foreign" artifacts in a Sitio Conte mortuary feature. Since they purchased the remainder, there is no proof that these were found at Sitio Conte nor, for that matter, in central Panama (Howe 1986: 172). The single in-context object of this group of nine is a figurine pendant that depicts a human face with stylized arms and legs and a headdress that has been described as "seahorse-shaped" (Lothrop 1937: fig. 151). This pendant was found in Sitio Conte's grave 32, alongside an adult skeleton; ceramic associations suggest a date of cal A.D. 700–750. A similar figurine pendant (Hearne and Sharer 1992: plate 21) was found in grave 74. It is cross-dated by pottery associations to cal A.D. 750–950 (Table 1).

(1950: 93) recorded as much as 46 percent and 74 percent silver in two of these artifacts and concluded that "at least one source of Veraguan gold contained far more silver than any gold found in Coclé or Colombia." Stuart Fleming (1992) determined that ores used to make objects from "western Panama" were silver-rich (10 artifacts that he examined had a silver content of 3.3–33 percent. His term *western Panama* is assumed to mean the provinces of Chiriquí and Veraguas) (see Table 3, p. 144).

Silver is present in many Panamanian ore deposits that also contain copper and gold. It is less ubiquitous than the latter minerals, but in some areas it has a high frequency. Panama exported small amounts of silver in the late nineteenth century (Bulletin du Canal Interocéanique 1882) (Table 2; Fig. 3). What is not clear is how accessible placer silver would have been to Pre-Columbian smiths. Peter Folk (personal communication, 2000) comments on the basis of his experience at the large ore deposit at Molejón, that an assay from a drill would not necessarily be maintained in downstream placers because of the propensity of silver to leach out more rapidly than gold; when he sliced and examined nuggets by electron microscopy, a rind of essentially pure gold could sometimes be seen enveloping the gold-silver amalgam in the center. Fernández de Oviedo understood this process: "the further gold has been carried from the place of its origin to the place where it is discovered, the smoother and more purified it is, and of higher carat. The nearer it is found to its place of origin, the rougher, less pure, and of lower carat it is" (1959: 109).

In conclusion, it is unwise either to use silver content as an indicator of the geographic provenience of finished artifacts or to assume that it independently substantiates stylistic divisions (Lothrop 1937; 1950), that is, that finished artifacts with high silver content are by definition from Colombia, western Panama, or Veraguas-Diquís. Clearly, the central Caribbean slopes—particulary the Belén and Coclé del Norte drainages—are just as likely to have been a source for silver-rich ores.

Pre-Columbian mines. In his *Natural History of the West Indies*, Fernández de Oviedo states that most gold in Castilla del Oro was found on the slopes of hills and in the beds of rivers and streams (as placer deposits) (1959: 107–109). Since he was the royal overseer (*veedor*) of mining and smelting, one can assume he knew what he was talking about. He does not give precise geographical locations for the mines, which were worked by native peoples under Spanish supervision, but his curriculum vitae suggests he must have observed them between the environs of Santa María la Antigua and those areas of Veragua that had been penetrated by Spanish troops by the 1520s. Oviedo reports that gold was obtained either by digging shallow pits and washing sediments in trays or by diverting a stream and then gathering ores collected under and around rocks in the dry bed, processes still used today (Fig. 4a,b).[15] Restrepo (1979: 133) quotes an 1812 report on Veraguan mines by Juan Antonio de la Mina, who claimed that "the ancients worked . . . *hucicas* be-

[15] During his survey of the Petaquilla mining concession in 1998, Griggs located three goldworking operations. One was a series of trenches adjacent to a creek. The other two appear to have been ground-sluicing operations, one of which was adjacent to a brook and the other near a faster-flowing section of the river. Their age is unknown.

cause many tools and other objects have been found in them."[16]

There is no field evidence for Pre-Columbian mining of Panamanian vein deposits: some "mines" described by the first Spanish military expeditions, like the one seen by Diego Porras (see p. 110) were probably holes dug through fluvial or outwash deposits (Fig. 4b). Robert West (1952) summarizes data for pre-Spanish mining of veins in Colombia (at Buritica in Antioquia, Frontino in the Cordillera Occidental, and Mariquita in the Magdalena Valley). Bray (1978: 24–26) presented evidence from nineteenth-century travelers for shafts dug by Pre-Columbian miners in order to reach gold-bearing quartz veins in the cordilleras of Caldas and Antioquia. He classified Buritica as a "true industrial centre, exploiting both alluvial and vein gold and exchanging the surplus for food and other necessities." A purposive survey undertaken by Shimada (1994) in the Andes located small mines for target veins. Systematically searching for evidence of Pre-Columbian activities at Panamanian vein or alluvial outwash mines and ground-sluicing operations would be a time-consuming but worthwhile field project. So would consolidating knowledge about the distribution, availability, and metallurgical potential of native copper.

Ores and Artifact Production: The Documentary Record

Cori, Comogre, and Dabaibe. One paradox has been obvious to scholars since the Sitio Conte discoveries in the 1930s and 1940s. The widespread use of locally produced gold ornaments in Panama is indicated by contact period descriptions of the dead and living bedecked with gold, Pre-Columbian graves replete with the same kinds of artifacts that the Spanish described, and representations in gold of images commonly depicted on other media, including pottery, shell, and bone. On the other hand, there is very little written information about crafting gold and tantalizingly few objects or tools from archaeological sites that allude to this activity.

This contradictory situation was noticed by Lothrop (1937: 72) and explored by geographer Carl Sauer and anthropologist, Mary Helms. Sauer (1966: 244–245) is adamant that too little gold was produced in Panamanian placer deposits to allow much local production; his belief that copper was not obtained locally led him to propose that it was imported from Mexico and Peru (1966: 246). Although Sauer acknowledges that nose and ear pieces of fine gold may have been hammered out from locally obtained nuggets, the casting of gold and its alloying were, in his opinion, special skills that demanded a metallurgical knowledge of which the native Panamanians were unaware. If the Spaniards were so intent on getting gold, he concludes "would they have failed to mention artificers of gold objects if they had found any?" (1966: 276)

Helms undertook *Ancient Panama* in order to explore the implications of Sauer's conclusions (1979: 3). She constructed her detailed text around two important ideas: that power on the Pre-Columbian isthmus was intimately related to the acquisition of crafted objects

[16] Interestingly, the *hucicas* in question are described as a series of low hills located between the Santiago and Barrera Rivers, just south of the Turlurí mine.

and esoteric knowledge from "distant" realms, and that the appearance of rank societies in Panama coincided with the development of trade in "sophisticated" gold pieces and contacts with culturally superior Colombian chiefdoms (1979: 168).

Helms accepts that a moderate supply of raw gold existed in Panama, especially in interior regions, where it was traded to more populous areas. She also acknowledges (1979: 127) that documentary and archaeological evidence supports the existence of metallurgical processes she considers "simple," such as gilding, hammering, embossing, annealing, and alloying. Contradictorily, she also accepts the presence of "a long-established gold manufacturing region in the general Talamanca-Veragua area of northeast Costa Rica and northwest Panama" (1979: 3, 35, 84, 149). Nevertheless, Helms insists that many of the "elaborate" gold pieces—particularly cast gold or tumbaga effigy pendants and nose clips showing "outside influence"—must have been crafted beyond the isthmus and obtained through contacts with geographically distant regions, perhaps in exchange for raw gold (1979: 86, 139, 153, 156). Convinced by Lothrop's assessment of the origin of "foreign" pieces at Sitio Conte, Helms accepts Colombia as their most likely source, especially the Sinú and Quimbaya regions, to which, she surmises, Panamanian élites from regionally influential centers made visits of political, religious, and educational natures (1979: 58–59, 65). She also argues for a trade imbalance, proposing that although several Colombian ornaments had been found in Panamanian graves, the opposite was not true (1979: 201).

In *Ancient Panama*, Helms constantly apologizes for the poverty of primary data that would substantiate her hypotheses (1979: 80, 140). At the same time, her judgment of written source material is as uneven as her appreciation of what constitutes technological and artistic excellence. She has no qualms about accepting the secondhand reports of Vasco Núñez de Balboa about an exchange system on the San Juan (or Atrato) River, in Colombia, whereby raw gold obtained in alluvial gravels in outlying districts was sent to workshops at the chief Dabaibe's settlement in exchange for humans, peccaries, fish, salt, cotton clothing, and cast gold ornaments "made to order" (*como ellos las quieren*). It was reputed that 100 artisans worked in Dabaibe's house (Cieza de León 1945: 51; Jopling 1994: 23–24; Sauer 1966: 227).

On the other hand, two other hearsay accounts of similar exchange systems in Panama were rejected by Helms (and by Sauer) as unrealistic. One appears in Pedraria Dávila's 1510 letter that criticized Balboa (Jopling 1994: 21–22). Pedrarias had heard reports about the chieftain of Panama—Cori, Coli, or Coti, (depending on the transcription)—who was famed as an accomplished smelter of gold.

Another influential Darién chieftain, Comogre, was also described to Balboa as a recipient of raw gold: "The Indians of the other sea," he was told, "come to the house of this chieftain Comogre in canoes . . . [T]hey bring gold from the mines in grains up a river that reaches Comogre's house in order to melt it down in very large grains" (Jopling 1994: 24; Sauer 1966: 276). Cotton clothes and young men and women were given in exchange. Subsequent Spanish visits to Comogre's principal village confirmed the use of gold objects to embellish desiccated corpses in large wooden mortuary houses, but produced no more details about crafting gold (Martyr 1912).

Sauer objects to the story about Cori the goldsmith, because the native settlement at Panama was subsequently shown to be a mere fishing village "of little interest for treasure and none for gold-smelting" (1966: 276). C. L. G. Anderson (1914: 192) makes the same comment. A settlement called Panama was first visited by Tello de Guzmán in 1515. The following year Espinosa found only a few huts and a single woman. It was presumably the place where the original Spanish city of Panama was founded (in August, 1519), one kilometer east of the now ruined Panamá la Vieja where archaeologists have demonstrated the existence of a sizeable Pre-Columbian settlement with burials, which was surely more than a fishing village (Biese 1964; Martín 2003a, b). A possible clay crucible (Fig. 5c) was found here. Helms (1979: 46) ripostes thus to the Comogre story: "although the . . . gold grains were brought to Comogre to be melted there is no . . . specific mention in the Spanish documents of metallurgical works at Comogre." Her explanation? "Gold grains and perhaps some pearls obtained by Comogre in exchange for (locally produced?) textiles and war captives were further exchanged by him with still other peoples, perhaps in return for fabricated (hammered) gold-work obtained from hill groups of the northern Serranía de Cañazas" (Helms 1979: 46). A simpler exchange/production model is proposed: there were goldsmiths in Comogre's village who produced ornaments with gold nuggets acquired through barter with other areas.

How "simple" is simple? Sauer's and Helms's opinion that hammered artifacts are inferior to cast ones is not shared by other commentators. Lothrop asserts (1937: 139) that the "vigor and confidence" of the designs on the Sitio Conte hammered and embossed plaques and the height of their relief represent the most complex form of "Coclé art." According to Emmerich (1977: 95) "the embossed breast-plates of Coclé are among the most beautiful objects produced by this culture and the finest accomplishment achieved with the repoussé technique anywhere in ancient America since Chavín times." Bray (1978: 29) also criticizes the idea that hammering is a primitive and, therefore, primeval technique. Most Colombian sheet metal objects are made of man-made alloys, and most would have required alternating hammering and annealing, by no means simple tasks. It is likely that most Panamanian hammered objects were made in the same way.

Adducing that if the Spanish failed to mention a particular craft it was not practiced in contact times is also questionable. Sauer (1966: 271) uses Gaspar de Espinosa's observation that the territory of Escoria, on the Santa María River in central Panama, manufactured arms for surrounding areas (Jopling 1994: 54) to support his idea that had the Spanish encountered goldsmithing they would have described it. Espinosa, however, does not detail what kinds of arms these were. There are no extant contact period descriptions of Panamanian polychrome pottery, which was widely used in domestic and ritual contexts when the Spanish arrived. Chroniclers describe woven goods in better detail, though not the ways in which they were made. Therefore, the absence of early-sixteenth-century descriptions of goldsmithing does not constitute proof that native Panamanians were unable to cast and depletion gild artifacts.

Two Franciscan priests who attempted to convert "free" natives to Catholicism in the first two decades of the seventeenth century describe the manufacture of cast and hammered items. Agustín de Ceballos, who resided with Talamancan peoples on the Caribbean watershed of Costa Rica, remarked that "the Indians hereabouts make . . . eagles, lizards, toads, spiders, medals, plates and many other items of gold, many kinds of which they make by pouring gold into molds after melting it down in clay crucibles . . . [T]heir poor skill obliges them to mix copper in order to melt the gold . . . but in the plates, which they only beat and extend without having to mix (copper), the purity of the gold is noteworthy, reaching 20 carats" (Fernandez Guardia 1968: 9–10; translation by R. Cooke). At this time these Talamancan peoples—antecedents of the modern Bribri, Cabécar, and Naso (or Térraba)—were few in number, and lived in dispersed hamlets on hill tops along rivers.

De Ceballos's observations are substantiated by a document written by Fray Gabriel Téllez in which he summarizes information obtained from other Franciscans between 1614 and 1616 in "Veragua," probably, but not definitely, in modern Panamanian territory. Téllez (1974: 376) notes that an unnamed people who wore bark cloth skirts also wore around their necks "trinkets of low grade gold or copper, which are like misshapen creatures, eagles, and other little animals crudely made in molds."[17]

Ores and Artifact Production: The Archaeological Record

Cooke and Bray (1985: 35) mention a find made by an amateur archaeologist in 1951, eight kilometers from the archaeological site of El Caño, of "the tomb of a goldsmith. . .with seven collapsed furnaces, molds, a quantity of river sand with flakes of gold and copper, and painted plates and personal jewelry, including gold-capped ear rods" (see also Linares 1977). This person was likely Neville Harte, an active and dishonest looter, who, nonetheless, carefully recorded details of his excavations (Cooke et al. 2000). Cooke and Bray (1985) also refer to a basalt chisel with a "heavy residue of gold at the tip" (possibly used for embossing). This observation has not been verified mineralogically. Sounder evidence for the manufacture of lost wax figurines is a miscasting from an un-provenienced tomb in Veraguas, that was photographed by Junius Bird in the old Museo del Hombre Panameño in Panama City in the 1970s. Figure 5a is a slide he made of it (see also Cooke and Bray 1985: fig. 1). The pouring sprue is clearly visible.

Lothrop found a few items at Sitio Conte that appear to be ingots (Fig. 4c). The bar (1) is 97% copper, weighs 43 g and was found in grave 26, which was one of the richest in gold ornaments (Briggs 1989: 269–277). One of the small ingots (2) contained 89% gold and 11% copper; two (3–4), which were analyzed together, 97.6% gold and 2.4% silver; and one (5), weighing 114 g, 91.9% copper. They may be materials imported for goldsmithing (Bray 1978: 29). In the Sitio Conte mortuary features, masses of copper recorded in the field catalogue were mostly corroded artifacts, but "oxidized copper ore" in grave 1 (Lothrop 1937: 215) and "three lumps of copper" in grave 13 (Lothrop 1937: 37) may have been native copper for crafting metal ornaments. Lothrop (1937: 77–78) hypothesizes that some

[17] "Joyuelas de oro vajo y cuando de cobre, como son sauandijas mal formadas, águilas y otros animalillos toscamente formados."

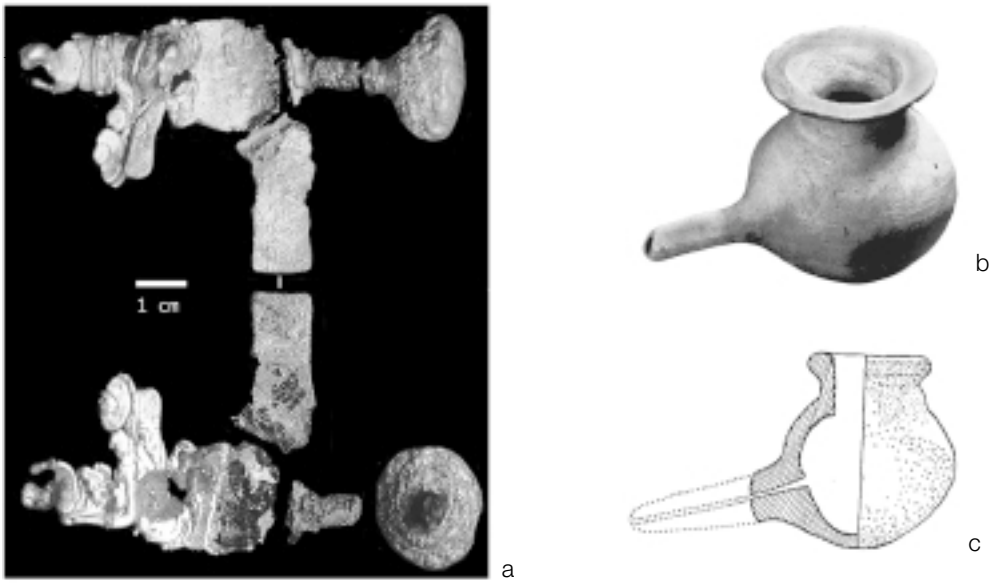


Fig. 5 Evidence for the production of gold artifacts in Panama: (*a*) miscasting purportedly found in Veraguas, Panama, Museo de Antropología, *Reina Torres de Araúz*, Panama City (photo by J. B. Bird), (*b-c*) clay vessels with lateral basal spouts (possibly crucibles), respectively from Sitio Conte (Lothrop 1942: fig. 337a) and from Panama Viejo (after Biese 1964: fig. 9c). The Sitio Conte vessel is fire-blackened on the right-hand side.

small pottery vessels from Sitio Conte may have been crucibles. They showed traces of heat, although remains of slag were not detected on their walls. Figure 5b–c illustrates two small collared vessels with long spouts projecting from the sides. One (b), from Sitio Conte (1942a: fig. 337a), is fire-blackened on the right hand side. The other (c) is from Panama Viejo (Biese 1964: fig. 9c).

The ubiquity of gold and copper in Panamanian fluvial gravels and hill slope outwash deposits, the presence in some areas of gold, copper, and silver veins in quartz and andesite lodes, and various documentary reports of the contact period exploitation of placer ore suggest that mineral deposits were sufficiently productive and accessible in Pre-Columbian Panama to support the production of the numbers and kinds of metal artifacts that have been found archaeologically. Clearly, as Fernández de Oviedo remarks, not every political territory in Pre-Columbian Panama possessed copper and gold ores. Some would have had more productive sources than others. These ores were probably not as widely or evenly distributed as, say, clays for making pots or siliceous stones for making cutting tools, but their accessibility may have been similar to that of other vital commodities, such as lavas and tuffs for grinding implements and basalt and andesite for polished stone axes. Spanish soldier Pascual de Andagoya pithily remarked that "the [Isthmian] chiefs either got their gold by barter or in the mines that the Indians dug for them" (Jopling 1994: 30; our emphasis).[18] Among several contact period references to alluvial gold, Balboa's letter of 20 January

[18] "El oro que ellos tenían o era de rescates o que en las minas se le cavaban los indios."

1513 mentions that the territory of Careta, on the central San Blas coast, contained rivers with gold and describes the collection of gold nuggets in river gravels (Jopling 1994: 30).[19]

The extraction of gold and pearls remained Panama's most important economic activity until its consolidation as transit point for the Peruvian trade (Mena García 1984: 132–136). Many of the vein, alluvial, and *aluvión de cerro* deposits that were exploited during the colonial era have been reused off and on by artisanal prospectors and small mining companies. Often, mining operations were abandoned not because the ores ran out, but because of Native American hostility (e.g. Turlurí and Cana), world-wide economic depression (as with Escobal and Remance), low gold prices (which affected Remance), and, recently, environmentalist pressure (as with Cerro Colorado and Cerro Quema).

To sum up: it is apparent from modern mineralogical surveys and the history of mining in Panama that its gold and copper resources would have been sufficiently abundant and accessible for supplying local production centers, whose existence, in spite of unsatisfactory contact period documentation, is made likely by the widespread use, after cal A.D. 700, of technically competent gold artifacts decorated with the same images that were widely used on other media (Cooke 1998b; Cooke and Bray 1985; Lothrop 1937; 1942; Sánchez and Cooke 2000). The miscasting is the soundest archaeological evidence for goldsmithing in Panama (Fig. 5a), but it is unprovenienced and undated. The underemphasized fact that some cast pieces are clearly unfinished is also evidence (Biese 1967: 207, right; Fig. 9d). De Ceballos's and Tellez's references to casting were made almost a century after conquest, but they surely describe an indigenous tradition with pre-contact roots. Talamanca and Veragua were peripheral to Spanish society and economy (Castillero Calvo 1995). Before A.D. 1502, however, they were roundly integrated into well-organized and ancient social and commercial networks that took advantage of a particular geographical property of the Lower Central American isthmus: contrasting habitats and resources located on opposite watersheds traversed by streams that run perpendicular to major mountain chains.

Who acquired and exchanged gold?

The Traders of "Veragua"

> The natives of Veraguas were perhaps the greatest exporters of jewelry in the New World. (Lothrop 1952: 99)

> [The people of Veragua] valued objects of gold alloy which had been traded in from elsewhere, and also nose and ear pieces beaten out of fine gold that may have been made locally. (Sauer 1966: 133)

[19] "La manera como se coge es que lo ven estar en el agua y lo apañan y lo echan en sus cestas; asimismo lo cogen en los arroyos desde que están secos."

The Caribbean coast of Panama between the Chiriquí Lagoon and the Panama Canal is known for its lack of natural harbors and its strong winds and torrential rains, which abate for only a few weeks each year. Livestock raising and slash-and-burn agriculture have eaten away at the edges of the humid forest, but a sizeable tract with imposing trees still exists between the Guázaro and Belén rivers (Fig. 3). Eyewitness accounts verify that in 1503 the area between the Belén and Calovébora Rivers was likewise forested. Human activities would have been more noticeable than today, for example, villages with scattered houses on hills and spurs, a paucity of terrestrial wildlife, and many palms, mamee-apples, and other fruit trees (Christopher Columbus in Jane 1988; Ferdinand Columbus in Lothrop 1950; Martyr 1912; Méndez 1988; Porras 1984).[20]

Christopher Columbus first heard of "Veragua" when he was anchored at "Cariay" (Puerto Limón, Costa Rica) (Morison and Obregón 1964). It was here that he witnessed the generalized Lower Central American customs of embalming corpses and bedecking them with gold finery and where he was told of copper mines, silversmiths, and crucibles.[21] Taking Cariay natives with him as interpreters (an indication either that they were multilingual or that a trading lingua franca was used), Columbus sailed down the coast to Colón Island at the western end of Almirante Bay, whose name was a four syllable combination of S-r-b-r.[22] At this most westerly port of the territory known as Veragua, he happened upon twenty canoes manned by naked people, some of whom sported gold plates and a gold eagle. On his journey eastward, Columbus obtained forty-six of these plates, as many as the entire sample of embossed plaques from Sitio Conte.[23] Two were taken by force and the remainder were exchanged for copper bells and cloth at the ships or on the beaches.

After Guaiga (either the Chiriquí or Cañaveral Rivers), Columbus encountered increasing trading activity. Between Guaiga and Cubiga—that is, between the Belén and Coclé del Norte Rivers—he identifies five "towns of great trade" (in Lothrop 1950: 4), one of which was Veragua on the river of the same name. Columbus obtained twenty gold plates there and, according to his son "hollow pieces like joints of reeds and some grains never melted, which to make their value the more, they said they were gathered a great way off from uncouth mountains" (in Lothrop 1950: 4).

After traveling east, Columbus soon turned back, arriving on 9 January 1503 at the mouth of the Yebra or Belén River, where he built a small settlement, Santa María de Belén. On 6 February, Bartholomew Columbus took a troop of men to the mouth of the Veraguas River, a league west of Belén, and then traveled 1.5 leagues upstream to the house of the *quibian* or local headman.[24] Today, the mouths of the Belén and Veraguas Rivers are about

[20] These references provided the ethnohistoric data in this section.

[21] "Ai grandes mineros de cobre . . . i fraguas con todo su aparejo de platero, i los crisoles" (Jane 1988: 101).

[22] According to Carlos Meléndez (1976: 131), one of the two chiefs of the Naso or Térraba was called Corabarú. It is conceivable, therefore, that these people were antecedents of the Naso.

[23] His son Ferdinand said they were "like the paten of a chalice, some bigger and some less, weighing 12 ducats more or less" and were worn "about their necks, hanging by a string, as we do relicks" (in Lothrop 1950: 5).

[24] This would place the *quibian*'s house at the modern *caserío* of Las Cruces, which is adjacent to a prominent 100-meter-high hill alongside the river.

four kilometers apart, but the latter river flows abruptly southwest so that one kilometer upstream the two courses are five kilometers from each other, closer to historians' estimates for a Spanish league. The following day the Spanish contingent traveled 4.5 more leagues inland (about 22.5 kilometers southward toward the cordillera), commenting that they crossed a river forty-four times. The morning after, they walked 1.5 leagues to some mines where, in two hours, the troops gathered gold around the roots of trees that "reached to the sky." These may be the same ones as Diego de Porras's "mines deep down, that belonged to these very Indians, about half a stade deep [1 meter]; they are very clever at getting the gold out. A group of 75 of us went to the mines and we extracted two or three *castellanos* in a single day without any kind of apparatus.... The gold is very fine" (1984: 303).[25] Peter Martyr (1912) later heard from some of Columbus's men that the ores were sought at certain times of the year, without women being present, under some kind of dietary controls, and accompanied by ceremonies involving "deities" (see also Helms 1992: 321).

Columbus's men realized the quibian had deceived them. These mines were not in his territory at all, but in those of a rival headman, Urirá, whose village is recorded by Ferdinand as being seven leagues west of Belén and a league upstream, a distance which would place Urirá about where the small Candelaria River flows into the Caribbean between the much larger Calovébora and Guázaro Rivers. The mines Bartholemew's men happened upon were in dense, tall forest. In this terrain it is difficult to keep track of the number of individual water courses one crosses, so, bearing in mind that they left the quibian's territory, it is likely that they wandered into the Concepción Valley just west of the Veraguas River. The sixteenth-century Turlurlí mine at present-day Escobal is located along the Santiago, a western tributary of the Concepción that rises closer to the Guázaro than to the Veraguas. Fernández de Oviedo (1959: 65) estimates that it was four leagues from the Caribbean Sea (twenty kilometers based on a five kilometer league), but other documents (Jopling 1994) put the figure as three leagues (or fifteen kilometers). If one goes to the mine up the Concepción River to Barrera and then up the Santiago, one ends up walking about thirteen kilometers, as Cooke did when he visited Escobal in 1977. It is thus feasible that Bartholomew's men extracted their fine nuggets not far from the Turlurí mine which went into production fifty years later with hundreds of African slaves. This suggests that gold was extracted at Turlurí in pre-Spanish times.

On subsequent visits to Urirá, Cobrava (surely Calovébora), and Cateba (further west still), the Spanish were regularly offered gold plates and food. They returned to the house of the quibian of the Veraguas River that was built of fine timber and palm thatch near a plaza on a flat spur (not in a real town, but in a cluster of houses on hills). Columbus's men thought this settlement was the most imposing on the Veragua coast.[26] Included in the 300

[25] "Hallamos muchas minas afondadas de los mismos indios fondura de medio estado; son muy diestros en sacar el oro. Fuimos setenta y cinco hombres a ellas y, en obra de un día, sacamos dos o tres castellanos sin aparejo ninguno sino de las mismas minas que los indios tenían fechas; es el oro muy menudo."

[26] Diego de Porras states "Su poblacion era la mejor que avía en la costa e de mejores casas de muy buena madera, todas cubiertas de fojas de palmas." (His town was the best there was on the coast and had the best houses of very good wood, all covered with palm leaves.)

ducats worth of plunder were more gold plates, eagles, and small quills, which the local people strung around their arms and legs, and gold twists worn around their heads like coronets (Lothrop 1937: figs. 106, 141).

Sauer (1966: 138) concluded from all these data that the admiral had not seen any placer deposits in Veragua, just a few hastily gathered nuggets, a "modest prospect" that was exaggerated by Columbus's ignorance and confusion. Helms (1978: 127; 1979: 61–63, 147, 190) was more positive, proposing that the chiefdom of the quibian of Veragua was "a focal point for regional exchange" and that some gold plates were hammered out locally in deference to Ferdinand Columbus's remarks about crafting gold in the quibian's territory.[27]

In contrast to Sauer's understatements, Lothrop (1950) proposes that Veraguas was the second great center of isthmian gold production after Coclé, although he argued that technical and iconographic differences existed between the two regions.[28] Lothrop's 1952 study of the materials dredged from the bottom of the cenote at Chichén-Itzá reaffirmed his belief that Veraguas was a center for "primitive mass production, which occupied an important place in the luxury trade of distant lands."[29]

Bray (1977; 1996; 1997) cautions that many of the cenote ornaments that Lothrop attributed to Veraguas, particularly human effigy pendants, belong to his pre-A.D.-1000 International Style. In fact, he proposes (1996: 313) that "almost every category of Isthmian metalwork found in Maya territory could have been obtained from the Atlantic side of Costa Rica." He also argues that after the fall of Chichén-Itzá trade contacts with Costa Rica and Panama slackened, while Honduras developed its own metallurgy, specializing in copper bells. Even so, at the time of Columbus's 1502 landfall, traders from further up the Central American isthmus were plying the Caribbean waters of Panama. Diego Méndez came across a canoe manned by two "foreigners" in the Veraguas river. By the time of

[27] It is possible that at a later date the Spanish really did exploit the quibian's mine. In 1566 Alonso Contreras de Guevara established a settlement three leagues up the Belén River at La Trinidad, on the west bank. Thirty miners resided here (Anderson 1914: 284; Castillero Calvo 1967: 48; Jopling 1994: 409–416, 474–478). It had been abandoned by 1760 (Castillero Calvo 1995: 376). In the first decade of the seventeenth century López de Siqueiros founded another mining settlement, Lisboa, on the Coclé del Norte, and later refounded it at the mouth of the Belén as Nueva Lisboa. The express objective of this campaign, which led to the subjugation of the Coclé people, was to find gold sources and to provide native levies to fight the rebellious Kuna (Castillero Calvo 1995: 141–142).

[28] Lothrop (1950) illustrates ornaments found by local grave looters who conveyed approximate (and in a few cases) definite locations of some finds. Most sites are along the Bubí river in the southwestern corner of the province, on the Pacific side (Fig. 1). Lothrop deduces that figurines were by far the most abundant ornament type in Veraguas, but unlike Coclé, where they were invariably cast in the round, they relied mostly on open-back casting. Sheathing was unusual in Veraguas but common in Coclé. Although there was some iconographic overlap between the two regions, certain animal icons, such as spread-eagled birds, felids, monkeys, frogs, and realistic crocodiles, were more prevalent in Lothrop's Veraguas sample, than in the Coclé one from Sitio Conte. Chronology is as likely to be responsible for these differences as geography. Lothrop proposed, too, that whereas gold ornaments had only been recovered in Pacific-side graves in Veraguas, the Atlantic was probably the origin of the ores.

[29] At this time Lothrop still believed that the Sitio Conte graves spanned the period A.D. 1330–1520 (1942: 482). Consequently, he thought that the Veraguas sample represented a regional style coeval with that of Coclé.

Columbus's fourth voyage, foreigners called *chuchures* were established near Nombre de Dios, down the coast from Veragua. Andagoya states that they came from Honduras by canoe and spoke a different language from their neighbors (Jopling 1994: 32). Another group of people, who spoke a "Mexican" language, was living at Coaza, between the Sixaola and Changuinola Rivers, by at least A.D. 1541. These were the Sigua. One sixteenth-century document notes that they had been sent by Moctezuma to collect tribute and very fine pieces of gold. A 1595 document records that 6,000 Sigua still had traffic with Mexican native peoples. Yet another document, from 1620, recalls the native population along the river Changuinola River being "subject to Moctezuma" and living "where the Mexicans came to get their gold for their idols and offerings" (Lothrop 1942b). The Sigua later moved to Seraboró (Colón Island, Bocas del Toro), where they intermarried with Chánguenas, Dorasques, and Térrabas, ethniae that spoke or still speak Chibchan-stock languages (Constenla 1991). They continued to trade hatchets and machetes for necklaces and belts of shell, and are last mentioned in 1763, when a Spanish priest, Manuel de Urcullú, fantasized them as monkey-men, and rationalized them as traders who exchanged local cacao (Lothrop 1942b).

Social complexity and trade in Veragua. One thing that struck the Spaniards as anomalous along the Veragua coast was that in spite of the abundance of finished gold artifacts the people who wore them did not stand out sartorially as especially important: Ferdinand Columbus was surprised to find the leader of the territory of Cateba dressed like everybody else. What most impressed him about the quibian of Veragua was the number of women he lived with.

Before the 1990s, the only trustworthy archaeological data about settlement pattern and lifestyles along the Pre-Columbian Caribbean had been recovered on the Aguacate Peninsula at the eastern end of the Chiriquí lagoon, where, between A.D. 600 and 950, small farming populations purportedly derived from Pacific polities lived in hamlets considerably less permanent and less complex than communities on the other side of the cordillera (Linares 1980a, b, c). This low-key, low-density lifestyle is consistent with the ostensibly unimpressive sartorial wealth distinctions witnessed by Columbus and his crew. New field data, however, caution us against applying the Aguacate Peninsula model to other areas of the Panamanian Caribbean. John Griggs (n.d.a) documents the human occupation of the extremely humid upper Coclé del Norte drainage as early as the second millennium B.C. by farming people who used simple pottery of the Monagrillo style (Cooke 1995), thus corroborating paleoecological data for third-millennium-B.C. agricultural activities in Caribbean forests further east in the Chagres valley (Cooke, Norr, and Piperno 1966; Piperno and Pearsall 1998: 296–297). His foot surveys of the Belén and lower Coclé del Norte drainages indicate that sites occupied after cal A.D. 700 are mostly situated on inland spurs overlooking rivers like the village of the quibian of Veragua. A small precontact settlement, SE-1, on the highest hill between the Veraguas and Escribano Rivers could well have been the coastal trading outlet of a larger village upstream (Griggs n.d).

Not all archaeological sites in this area, however, are small, shallow and unimposing. In May 2001 Griggs revisited Matthew Stirling's site of La Peguera, whose cultural refuse covers at least twelve hectares. It is located just to the north of the Spanish gold mines at San Antonio and Santa Lucía, whose tunnels and dykes are still visible. It appears to have been occupied at contact. It is therefore possible that its importance was related to the presence of gold ores. Some sites in the western and central Caribbean possessed features as complex as any that have been found on the Pacific side of Panama, where only Barriles (Chiriquí), Villalba (Chiriquí), Isla Palenque (Chiriquí), Sitio Conte (Coclé), and El Caño (Coclé) have provided field evidence for sizable above-surface structures, such as mounds and arrangements of stone columns (Haberland 1960; Linares and Sheets 1980; Linares et al. 1975; Linares de Sapir 1968; Lothrop 1937: 39–43; Verrill 1927a; 1927b; Torres de Araúz and Velarde 1978). Stirling (n.d.) reports a stone pavement in a test excavation at Quebrada Pilón on the mouth of the Indio River just east of the territory known in Columbus's days as Cubiga. He also found terracing at the modern settlement of El Uracillo further up the same river.[30] Griggs (n.d.a) has identified walled terraces at Cerro Hacha in the headwaters of the Limón river, a tributary of the Coclé del Norte. Emmerich (1977: 110) received second-hand information about mounds in Bocas del Toro associated with monumental sculptures of ferocious mien.

Another feature of recent archaeological work is evidence for close and longeval similarities between artifact styles found in the central Caribbean and at sites on the opposite side of the cordillera. For example, many of the pottery types that Griggs found on his surveys, from Early Ceramic A (Monagrillo) times on, are so similar in form and technical qualities to those from the adjacent Pacific slopes that it is reasonable to infer that their homogeneity derived from continual exchange of people and information across the mountains (Cooke and Ranere 1992b). When the Spanish were preparing to exploit the Turlurí mine, they had just survived a long war with chief Urracá, who resided in the Veraguas cordillera near Santa Fé and died in 1531. The fact that Urracá called on warriors from both watersheds in his struggle against the Spanish suggests that he held sway over or was in alliance with territories on both sides of the central cordillera.[31]

This situation is better documented for other contact period territories that stretched from coast to coast or from mountain to coast, such as Perequeté, Careta, and Comogre in Cuevan-speaking lands and Natá in Gran Coclé. Careta and Comogre, whose principal villages were in the cordillera controlled ports on the Caribbean coast (Acla and San[c]ta

[30] Stirling (n.d.) describes this feature as "a stone floor 18 feet by 9 feet, made of stone slabs of a hard green indurated sandstone. Some of the stones weighed more than a ton. They were very well fitted. The shape of the floor was elliptical with the outer edges not too symmetrical considering how well fitted the stones were. . . . I excavated under the floor thinking it might be a tomb cover, but encountered undisturbed hard clay." Stirling also records some finds of gold ornaments along the Indio River. At the Quebrada Torno Sábalo, near El Uracillo, guides told him they had found a "gold frog" and a "gold pencil" on a high ridge above the Quebrada Pilón, "some gold" on another ridge further up the Indio, a "gold alligator," and south of the terraced Pre-Columbian settlement at El Uracillo, a "gold frog" and a "gold cat."

[31] It is unknown whether the "minas de Urracá" (Jopling 1994: 220) were those of Turlurí or others on the Pacific slope of Veraguas, that is Remance, which arguably would have been within his sphere of influence.

Cruz) through which fish were obtained (Fernández de Oviedo 1853: 9, 37, 58; Jopling 1994: 5; see also Helms 1979: 41). The tradition of barter between Atlantic and Pacific populations survived the conquest in many areas. Fernández de Oviedo, who visited Natá in 1527, reported how his compatriots would send Christianized indigenous people to Veragua with cotton blankets and hammocks to barter them for good-quality gold (1959: 76; quoted in Cooke and Ranere 1992b: 285).[32] He also (1853: 140) reports that when the Cueva were not fighting, they spent their time bartering. "They carry their goods on their slaves' backs," he relates, "some carry salt, others maize, others blankets, others hammocks, others spun or un-spun cotton, others salt fish; others gold."[33] Frequent references in later colonial documents, which refer to polities that speak or spoke Chibchan-stock languages in western Panama and adjacent parts of Costa Rica, vouch for the importance of the following goods in regional exchanges: tamed wild animals, cotton cloth, salt, dogs, *caraña* (used for embalming corpses), shell beads, war captives, and, "gold pieces, eagles, lizards, toads, spiders, medals, and patens"(Castillero Calvo 1995: 295, 302, quoting 1610 and 1697 documents).[34]

The archaeological record for cross-cordillera, short-distance exchange is not as detailed as the ethnohistoric record, but it does attest to the antiquity and complexity of this behavior. Linares (1980b) argued that basalt axes, andesite blades, and certain kinds of non-local pottery were brought into Cerro Brujo on the Aguacate Peninsula from the central cordillera or Pacific. At least two shell taxa (*Oliva caribaea* and *Calliostoma* sp.) found in the earliest mortuary unit (cal A.D. 170–700) at Cerro Juan Díaz are from the Caribbean (Cooke and Sánchez 1998; Cooke et al. 2000). So, too, is manatee bone found at Late Preceramic B Cerro Mangote (Cooke and Ranere 1992b: 268) and at Finca Calderón (He-4) and Sitio Conte, two sites at which it was elegantly carved (sometimes sheathed with gold) (Ladd 1964: 270, pl. 1; Lothrop 1937: 170). (Manatee bone was also used for the sword-clubs depicted on warrior figurines [Fig. 9c–d and h].) Griggs (n.d.a.) found *Humiriastrum diguense* seeds in his excavations at Limón. Although this particular species is not a documented source for balsam, as *Humiria* is (Gentry 1975), local residents say it provides an aromatic sap. It is likely that embalming agents were an important exchange commodity in Pre-Columbian Panama where multistage burial rites demanded the preservation of cadavers.

[32] "En mi pressencia se ha fundido muchas veces oro, llevado de Veragua en patenas é otras piecas que por rescates avian: é en un tiempo desde la villa de Natá enviaban continuamente los chripstianos allí vecinos a sus indios mansos á rescatar en Veragua con mantas de algodon é hamacas, é traian al quarto o quinto dia que tornaban, muy buen oro. E yo lo hice fundir, como digo, muchas veces, y he visto harta cantidad trayda de ellí en diversos tiempos." (Gold has frequently been melted down in my presence, brought from Veragua as patens and other objects obtained by barter: and there was a time when the Christian residents of the town of Natá would continually send their docile Indians on bartering trips to Veragua with cotton blankets and hammocks, and after four or five days they would bring back very good gold. I would often have this melted down, as I said, and I have seen a goodly amount brought thence on many occasions.)

[33] "Llevan sus cargas á cuestas de sus esclavos: unos llevan sal, otros mahiz, otros mantas, otras hamacas, otros algodon hilado o por hilar, otros pescados salados; otros llevan oro (al qual en a lengua de Cueva llaman yrabra)."

[34] "Piezas de oro, águilas, lagartillos, sapos, arañas, medallas, patenas."

In the Caribbean foothills near Limón, Griggs (n.d.a.) has also located some extensive quarries and workshops for basalt axes with abundant bifacially reduced, but unpolished blanks. Quarry produce was probably exchanged with Pacific-side communities, including Sitio Sierra and Cerro Juan Díaz, where there is evidence for axes being re-worked and re-sharpened (Cooke 1977).

In conclusion, although we cannot yet demonstrate with contextualized archaeological data that gold ornaments were produced along the central Caribbean slopes of Panama in Pre-Columbian times, ethnohistoric data from 1502 to 1610 indicate that it is highly likely that they were and that they included cast pieces as well as hammered ones. Intensive modern geological reconnaissance shows that gold-silver amalgam ores and copper (often with high silver content) would have been as abundant in central Caribbean placers and vein deposits as anywhere else in Panama and especially concentrated between the Santiago and Coclé del Norte Rivers. There is field evidence for primitive sluicing operations the age of which has not been established. The fact that the particularly extensive contact period La Peguera site is located in the vicinity of two important Spanish gold mines (San Antonio and Santa Lucía) suggests its importance may have been related to the extraction of ores. The quibian of Veragua and chief Urirá are likely to have exploited alluvial or vein deposits that were productive in Colonial times. Archaeologists should be mindful that finds of copper in future excavations could represent cuprite and native copper from superficial deposits such as those at Petaquilla and Botija.

External Trade

Although it is tempting to assume that the Sigua who arrived in Bocas del Toro in search of cacao and gold sought crafted artifacts, historical documents are ambiguous on this point. Bray (1996) is unaware of gold imports from Central America that date to the Late Post-Classic and proposes that since Maya metalsmiths were autonomous at this time, their interest had shifted from ornaments to raw metal. That is perhaps what Mexican traders were after in Caribbean Panama. In later times, the Mískito and other outsiders would come to this stretch of the coast in order to obtain zarzaparilla (*Smilax* spp.), manatee skins, cacao, and turtle-shell (Castillero Calvo 1995: 313). Whether these activities really represented *exchange*, with a degree of reciprocity, or whether the above-mentioned commodities were acquired in other ways (including coercion) by Central Americans remains moot.[35] If this really was exchange, what was received in return? For all the mileage that long-distance trade has been given in the literature, archaeological evidence for objects fashioned outside Panama remains surprisingly scarce: a bifacial carnelian tool (Fig. 6a) reminiscent of sacrificial knives from central Mexico that was found on the Belén River, a

[35] It is, of course, possible that the contact period appearance of people culturally Mexican in Panama was a result of social disruption caused by the arrival of the Spanish. Another possible scenario is that the Spanish coincided with a very recent drive by these peoples into Panama with the intent to colonize. Andagoya (Jopling 1994) relates how chief Parita defeated an invading army that had entered Panama from Nicaragua just before Gaspar de Espinosa's incursions of 1516–17.

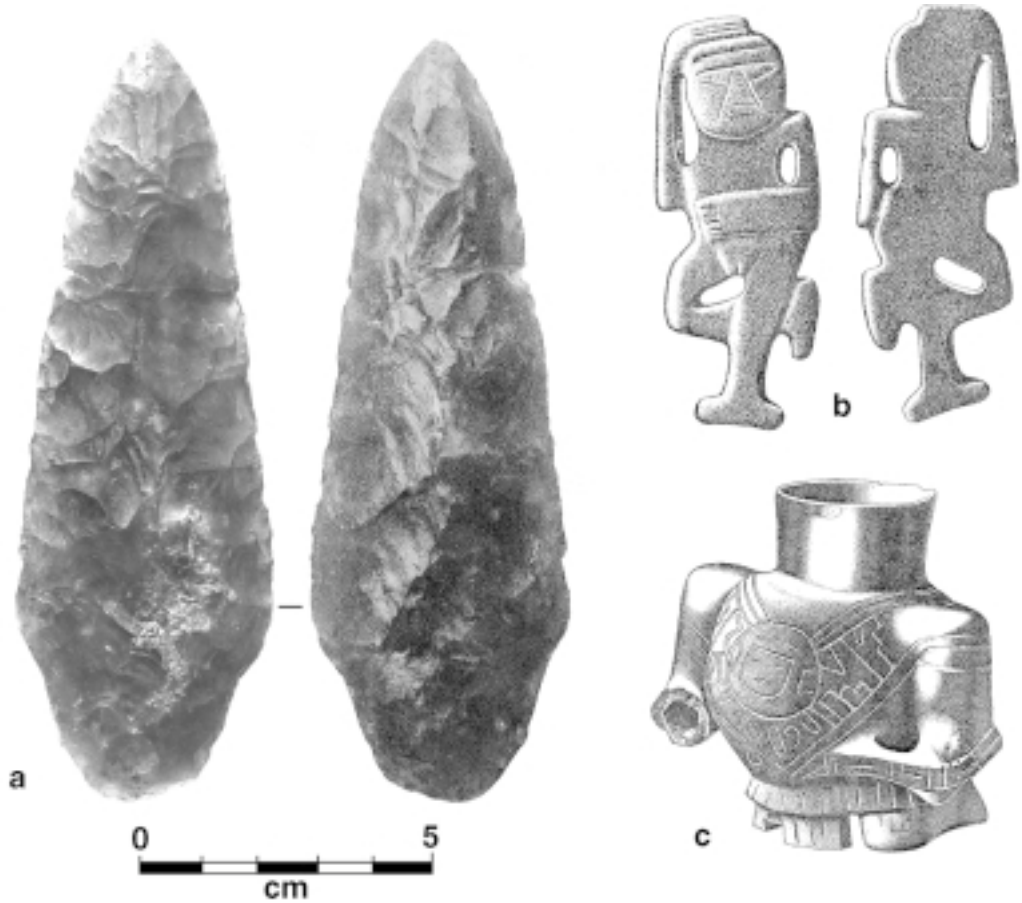


Fig. 6 Very few artifacts crafted outside the isthmus have been found in Panama: (a) bifacial carnelian (brown chalcedony) knife, atypical in terms of Panamanian lithic traditions (Ranere 1992; Ranere and Cooke 1995; 1996). Its dimensions and flaking characteristics recall Mixteca-Puebla and Aztec sacrificial knives (photo by Richard Cooke); (b) jade figurine in female form supposedly found in Veraguas (after Lothrop 1950: fig. 142); (c) broken plumbate vessel, Chiriquí (after Lothrop 1950: fig. 143).

jade pendant from Pacific Veraguas (described by Lothrop [1950: 87] as "Olmec" and referred to Oaxaca or Guerrero) (Fig. 6b), a Plumbate vessel from Chiriquí (Fig. 6c), a pebble engraved with a Maya design purportedly found on a beach in Chiriquí (Bray 1996: 311, fig. 4), and a black Late Chimú effigy vessel supposedly found near Panama City (Lothrop 1942a: fig. 440).

Who used gold artifacts and how were they displayed?

The ostensibly reasonable idea that in Pre-Columbian Panama gold meant wealth goes back to W. H. Holmes, who studied collections obtained from looters in Chiriquí.[36] "[Gold] ornaments are found only in a small percentage of [Chiriquí] graves," he remarks,

"those probably of persons sufficiently opulent to possess them in life; a majority of graves contain none whatsoever" (Holmes, 1888: 36; see also MacCurdy 1911: 193). Holmes and G.G. MacCurdy worked only with artifacts obtained by American and European dilettanti from looters. The differential distribution of gold ornaments in mortuary contexts, and, by extrapolation, among the local population, did not receive archaeological confirmation until the Sitio Conte excavations in the 1930s (Lothrop 1937). Twenty of the 59 graves excavated by the Harvard team and 15 of the 41 burials studied later by Mason and his colleagues contained metal; they represented therefore 35 percent of the graves excavated during their four field seasons. This is a much larger proportion than at other Panamanian sites (Table 1) and reflects the fact that Sitio Conte was an unusual site.

Pre-Sitio Conte Mortuary Features

Radiocarbon chronology (Cooke et al. 2000) suggests that the Sitio Conte burials represent the period cal A.D. 750–950, a 200-year span that accords remarkably well with Lothrop's (1942a: fig. 486) proposal that the graves he excavated were used during a period of 190 years. Mortuary features at a handful of sites that border Parita Bay and the Gulf of Montijo have produced metal ornaments that are older.

At Cerro Juan Díaz, three burial features stratified under an unusual circular arrangement of stone-lined pits contained gold and copper jewelry. It has been proposed that these pits were ovens (Cooke and Sánchez 1998; Cooke et al. 2000). The only complete metal artifact recovered in situ in feature 16 there was a large ring with high copper content, which had been placed within a burial bundle containing an unsexed adult and a child. Its dating was discussed on page 95. In the same bundle, project archaeologists Luís Sánchez and Aguilardo Pérez found 55 perforated puma canines, another group of 18 puma (*Puma concolor*), ocelot (*Leopardus pardalis*), and raccoon (*Procyon lotor*) teeth, 31 *Spondylus* pendants and beads, two pearls, and two polished stone bars of very hard stone (Cooke 1998b: fig. 4.8; Cooke and Sánchez 1998: fig. 5). The two groups of mammal teeth were probably separate necklaces belonging, respectively, to the adult and the juvenile in the bundle.

Also located beneath the ovens was a subrectangular grave (feature 1), in which the principal occupant was a primarily interred adult (probably male). Alongside his left tibia were two hammered plaques in proximity to about 400 elongated beads of *Spondylus* and 24 canine teeth of jaguar and puma, perforated through the roots. Two ceramic incense plates were associated with the same individual, whose remains had been disturbed by a subsequent tomb. The gold plaques, felid teeth, and shell beads may have formed part of a single composite artifact, such as a shirt or apron (Cooke and Sánchez 1998: fig. 4).

The co-occurrence of goldwork, incense burners, necklaces of big cat teeth, polished stone bars, and garments decorated with shell tubes with a few individuals is consistent with the hypothesis that these associations refer to a special occupation, such as that of

[36] Now the Panamanian provinces of Chiriquí and Bocas del Toro and neighboring zones that have been under Costa Rican jurisdiction since the Coto war.

healer or shaman. Support for this idea is provided by the fact that none of the owners of metalwork and other special artifacts in pre-cal-A.D.-750 burials at Cerro Juan Díaz or elsewhere in central Panama was afforded a special burial treatment, unlike Sitio Conte where the wealthiest individuals were buried seated. Nicholas Saunders (this volume) has provided ethnographic evidence for a strong correlation between the concept of brilliance, epitomized by goldwork, *Spondylus* shell and felids, and ritual activities. In fact, it is not far-fetched to propose that the two individuals from feature 16 at Cerro Juan Díaz were an adult and his apprentice, symbolized by large and small species of cat (puma/jaguar—ocelot).

Graves at El Cafetal, La India-1, and Las Huacas are coeval or slightly earlier than features 1 and 16 at Cerro Juan Díaz. Their associated pottery suggests a date of cal A.D. 400–500 (Cooke et al. 2000). Raúl González (1971) recovered 38 skeletons at El Cafetal, 20 of which were aged in the field: ten adults, two adolescents, and eight children. Thirty-two individuals (84 percent) were accompanied by surviving mortuary arts, of which eight are metal.[37] Four of these objects were recovered in a single grave (#29) (Briggs 1989: 190; quoted on p. 59 of Briggs's publication as grave 26);[38] one of the two skeletons present in it seems to have worn a plaque with convergent spirals on its chest and a string of hammered gold beads around its neck. The relationship of the other four metal pieces in graves 25, 36, and 38 to the anatomies of individual skeletons is not clear. According to Briggs (1989: 61) "all shell, bone and metal mortuary arts [were] found only in adult burials [at El Cafetal]; none of these objects is present in the graves of adolescents or children."[39] That a non-hierarchical parameter such as occupation or position is being signaled by the presence of Initial Group goldwork in these mortuary features is underlined by Briggs's (1989: 59) observation that 13 of the 22 types of mortuary furnishings at El Cafetal were found in single occurrences.

The La India-1 burial ground was excavated by two amateurs, Russel Mitchell and J. F. Heidenreich (1965). They report finding twelve metal artifacts.[40] Since no excavation notes or bioanthropological details have been published, it is impossible to relate these artifacts to individuals, but some were found inside urns and one spiral nose-ring was found on top of a metate.[41]

[37] Four figurine pendants, a hammered plaque with convergent raised spirals, a set of beads (for a bracelet?), a twisted ring, and a thin plaque (Bray 1992: fig. 3.2a–e; Cooke and Bray 1985: fig. 13; Cooke et al. 2000: figs. 2e and 3b, g, k, and o; González 1971: figs. 10–12; Ichon 1980: fig. 56h–k).

[38] Briggs's (1989) system of grave numbering is used in the following descriptions for El Cafetal, La Cañaza El Indio, and Sitio Conte.

[39] Even so, Briggs's grave catalogue (1989: 190) lists the two skeletons from grave 29 as "adolescents."

[40] They found two disks, two spiral nose-rings, a conical nose-clip, and seven cast figurine pendants: a monocephalous bird with outstretched wings, a large bicephalous bird, a bell-eyed creature, a stylized anuran, and three figurine pendants representing conjoined vertebrates (Bray 1992: fig. 3.2; Cooke and Bray 1985: figs. 13–14; Cooke et al. 2000: fig. 3).

[41] The fact that at least one artifact (Cooke and Bray 1985: fig. 14) ended up in a German museum suggests that Mitchell and Heidenreich illegally sold this and other objects.

Perusal of Gladys Casimir de Brizuela's field notes from excavations at Las Huacas, on the shores of the Gulf of Montijo, Veraguas, indicate that metal items were found in three graves in which transitional Tonosí-Cubitá style pottery was deposited (Bray 1992: fig. 3.2f; Cooke and Bray 1985: fig. 13; Cooke et al. 2000: fig. 2f). Three of these, including two bird effigy pendants, were deposited on top of metates (Casimir de Brizuela n.d.).

Another site whose burials include Cubitá-style pottery is Playa Venado, located near Panama City (Lothrop 1964: fig. 18b,d). This site was explored mostly by amateurs from a local archaeological society who often forgot to mention gold finds in their reports. Hundreds of burials were found here, including 202 excavated by Lothrop in 1951 and 167 by Neville Harte who is probably the person responsible for selling most of the pieces from this site that are housed in U.S. museums (Lothrop 1954). One burial in a lidded urn is linked to Cerro Juan Díaz feature 16 by very similar *Spondylus* jewelry (cf. Bull 1961: fig. 2e–f and Cooke and Sánchez 1998: fig. 8). It contained the remains of a child reported as six years old who was probably buried with a single necklace of monkey and dog teeth, shell pendants and beads and a single gold spacer bead. Another Playa Venado burial investigated by Thelma Bull (1958) is described by her as belonging to a shaman because the robust adult male was buried with a pouch decorated with shell and gold beads. Dan Sander, Russel H. Mitchell, and R.G. Turner (1958b: pl. 4.3) found a miniature cast effigy pendant of a stylized quadruped and curly tail with adhering fragments of a woven fibrous material.

The other gold artifacts that have been reported from Playa Venado are much more spectacular. Many of them are beautiful single-piece, lost-wax castings whose relief gives the impression of filigree. They have been grouped by Bray (1992) into his Openwork Group.[42] Also present are a necklace of tubular and round beads (Lothrop 1956: fig. 2), a sub-conical noseclip similar to examples from early graves 1 and 32 at Sitio Conte (Bray 1992: fig. 3.7; Helms 1979: fig. 12b), large plaques with raised rims (Lothrop 1956: fig. 2), and a plaque with an embossed humanized animal figure (Lothrop 1956, fig. 2).

Sitio Conte

Because some of the pottery found at Playa Venado employs purple paint, which is unknown in the Cubitá-style, it is likely that some of the goldwork just mentioned belongs to the period cal A.D. 700–1050 during which four-color polychrome pottery of the Conte and Macaracas styles was manufactured around Parita Bay and the Gulf of Montijo. It is at this time that the relationship between goldwork and individuals in Panama becomes more complex. From now on, a few individuals are buried with very great numbers of metal ornaments and unusual quantities of beautifully crafted pieces, and also appear to be the

[42] They include two cast effigy pendants of frogs, a seahorse, a humanized animal figure with an antlered headdress, a sea creature with a human face and danglers, three conjoined animals, and a long-tailed creature (Emmerich 1965: fig. 108; Lothrop 1956; Lothrop, Oster, and Mahler 1957: cats. 263–268; Wardwell 1969: 112, fig. 4).

exclusive owners of certain categories of gold artifacts. The association between goldwork and ritual probably continued. But sites like Sitio Conte reflect a more materialistic trend as rich and powerful people use goldwork to symbolize political rather than (or in addition to) intellectual power. Accumulating, stealing, and showing off possessions add a new—exoteric—dimension to the meaning of metal.

After comparing artifact distribution by grave with contact period descriptions of the use of gold ornaments, Lothrop (1937: 64, 202) concluded that the richest interments at Sitio Conte belonged to paramount or supreme chiefs (*sacos* or *quevíes*), and the less opulent ones belonged to sub-chiefs (*cabras*). His readings also suggested to him that the categories of gold ornaments found in the largest graves corresponded to the funerary accoutrements and battle regalia of people whom the invading Spanish identified as first- and second-order community leaders (Lothrop 1937: 60). Ranking was evident, for example, at the oft-described funeral of París (also called Parita, Cutatará, or Antatará), whose desiccated body was rudely exposed by Gaspar de Espinosa lying on a long bier in July 1519 (Jopling 1994: 63–64; Lothrop 1937: 46). Espinosa recognized the dead cacique as the leader who had defeated Gonzalo de Badajoz four years earlier. His body was adorned thus: *head*, helmet; *neck*, four necklaces "like a gorget"; *arms*, cylindrical cuffs; *chest and back*, several items, including "patens" and disks; *waist*, belt with bells hanging from it; and *legs*, "gold armor" (greaves?). A woman's body lay at París's head and other women at his feet, all of whom sported undescribed gold ornaments. In two other burial bundles were the remains of two caciques who had succeeded París. They were also bedecked with gold, but not so "richly or attractively" (*ni tan rica ni apuestamente*). Captured chiefs from neighboring territories awaited execution; the mother of one of them (Pacara) had brought a basket of gold to buy her son back.

That gold ornaments were displayed in battle was illustrated three years prior to París's death when Espinosa's troops were confronted by a "captain" dressed in a cotton shirt decorated with disks, cuffs, and other items (Jopling 1994: 51).[43] In fact, wearing gold to battle seems to have been generalized behavior on the isthmus. In 1527, chief Pocoa came at the Spaniards of Natá at the head of 500 troops "with a great paten on his chest and spears in either hand" because, Fernández de Oviedo (1853: 118) tells us, "it was the custom in those parts for the chiefs and important men to bring to battle some gold jewel on their chests or head or arms in order to be known to their own men and also by their enemies."[44] The display aspect of all this gold is frequently underlined by Fernández de Oviedo (1853: 138), who commented that the Cueva of eastern Panama accompanied the glittering finery with feathered headdresses, drums, and shell trumpets: "most of all it is in war that they try to look like gentlemen and go out dressed as best they can."[45] Gold was

[43] "Vino un capitán con ellos armado con muchas patenas y armaduras de oro y puñetes puestos sobre una aljubeta de algodón que traía vestida." (A captain came up with them covered with disks and sheets of gold and bracelets over a short-sleeved cotton jacket that he was wearing.)

[44] "Es costumbre en aquellas partes que los caçiques é hombres principales traygan en la batalla alguna joya de oro en los pechos ó en la cabeza ó en los braços, para ser señalados é conosçidos entre los suyos é aún entre sus enemigos."

[45] "E de ninguna manera como en la guerra se presçian de paresçer gentiles hombres é yr lo mas bien aderesçados quellos pueden."

sometimes used to decorate weapons: Bea, a chieftain who lived near Santa María la Antigua, owned a club embellished with gold (Oviedo 1853: 73).[46] Emmerich (1977: 95–96) proposes that gold disks were burnished to a high gloss in order to catch and reflect as much light as possible in order to identify leaders in battle (Lothrop, Foster and Mahler 1957: 267). So many gold artifacts passed through Emmerich's hands that it would be unwise to dismiss his remarks (1977: 110) that some breastplates found in Chiriquí and Veraguas had been torn by spear points and that a gold plaque from a site at La Peña (Veraguas) had been intentionally "killed."

Briggs's (1989) analysis of all the Sitio Conte interments determined that certain metal artifact categories tended to be confined to the top-ranking clusters of graves (clusters 1–3 out of a total of 10). These categories included disks, plaques, pendants, greaves, cuffs, and helmets.[47] Lothrop (1937: 6) intuitively arrived at a similar conclusion. Briggs (1989: 138) concludes therefore that the placement of mortuary arts reflected an "additive" pattern of status recognition: the more important the individual, the more objects and categories of artifacts he possessed. This was also apparent to Lothrop (1937: 61, 115), who notes that the numbers and varieties of gold artifacts were related to the size, depth, and numbers of interments in graves classified into three types: large, intermediate, and small.

Lothrop (1937: 64) considers that six or seven large graves were the resting places of the highest-ranked individuals: 1, perhaps 2, 5, 6, 24, 26, and 32B. Grave 74 (Mason's original grave 11) also fits into this category. Grave 1 is a particularly useful example of gold display, because it neither contained funeral objects looted from adjacent burials nor had been disturbed by later burials (Lothrop 1937: 210). The central figure (skeleton 1) was an old man with decayed teeth. Lothrop believes that his corpse was initially buried in a seated position. His mortuary accoutrements included 4 bead necklaces, a cuff on each arm, 10 noserings or -clips, 7 figurine pendants, and a single embossed plaque. A second adult male was buried in the same grave with fewer artifact categories, among them 10 figurine pendants, 3 gilded disks, and 3 carved manatee ribs, which must have been obtained in pristine form from the Caribbean watershed. This individual may have worn a shirt, which reached to the thighs; if so, to judge from Lothrop's (1937) figure 33, it was decorated with perforated dog canines and beads. It is likely that the tubular variety of "bone" beads are not bone at all, but the same kind of *Spondylus* found in feature 1 at Cerro Juan Díaz. Lothrop (1937: 127, 252) provides field evidence for circular plaques having been sewn onto garments or used in pairs, with one being worn on the chest and the other on the back.

The principal occupant of grave 5 (skeleton 15) was also an old man, whose body was probably laid out on a seat underneath a bark cloth canopy or some similar kind of shelter (Lothrop 1937: 230). It had been "bundled up in layers of mantles after the fashion of [cacique] Parita for the soil around him showed signs of carbonized decay." This individual

[46] "Bea con una macana guarnesçida de oro." This is the same chieftain who poured molten gold down Spanish captives' throats, shouting "Chica oro" ("Eat gold"), thus inspiring Benzoni's (1857) cartoons.

[47] *Plaques* in Briggs's (1989: figs. 10–12, 26) terminology are large embossed disks with figurative designs; *disks* are embossed with geometric designs. Lothrop usually called embossed and plain circular objects disks, but he also uses the term plaques.

wore cuffs and greaves and possessed a large embossed paten. He was the only individual found at Sitio Conte (and the only one professionally excavated anywhere in Panama) to have worn a gold helmet like the one owned by cacique París (Lothrop 1937: figs. 107–108).[48] It was embossed with scenes that depict a prominent icon in Gran Coclé: the standing anthropomorphic saurian (Cooke 1998b). Lothrop (1937:133–134) compared this helmeted individual to seventeenth-century Kuna chieftain known as "Golden-Cap" among the buccaneers and to a Kuna "emperor" who wore a "tiger"-teeth belt and a hat of pure gold, with a ring and a plate like a cockleshell hanging from his nasal septum. In 1528, a Veraguan chieftain handed over his golden crown to a Spanish official from Natá as a token of submission (Jopling 1994: 175).

The principal occupant of Sitio Conte's grave 26 was also found seated. This individual, probably an adult (Briggs 1989: 78), owned two pairs of cuffs or greaves,[49] six pairs of ear rods with gold parts, and three patens decorated with the standing anthropomorphic saurian. More than 300 gold fittings for ear rods were found in Mason's (1941; 1942) grave 74, which contained more than 7,000 mortuary objects (Briggs 1989: 110), and was the final resting place for 23 individuals (Briggs 1989: 199–203; Mason 1941: 263). Associations between artifacts and individuals are unclear. The 88 bells found in this grave remind us of the fact that cacique París was buried with a golden belt decorated with bells. (Although Lothrop [1937:46] remarked that belts were the only item of París's attire that were missing at Sitio Conte, these could have been made out of gold beads.) Briggs (1989: 111) believes that two individuals (skeletons 15 and 16) in grave 74 had alpha status; Mason's field notes (Briggs 1989: 111) indicate that 26 repoussé plaques were associated with them. The famous figurine pendant with an emerald set in its back (Hearne and Shearer 1992: 92, pl. 209) was buried, according to Mason, "on the principal figure above large gold plaques" (Briggs 1989: 111).

Figurine pendants were not mentioned by Spanish captain Espinosa in his description of París's burial. At Sitio Conte they were found, by our reckoning, in ten graves out of the 35 that contained metal artifacts.[50] A few of these, such as the fine crocodiles from graves 15 and 56, are from intermediate graves (Lothrop 1937: fig. 155b–c). Most figurine pendants, however, and arguably the most spectacular ones that stand out for their technical excellence and iconographic vibrancy, are clustered in the richest graves, such as the bat-shaped mirror frame from grave 5 (Lothrop 1937: fig. 71), the castings for gem stones from graves

[48] Skeleton 3 of grave 32 at Sitio Conte was found with a conical gold ornament on his head. Perhaps these kinds of ornaments were sewn onto conical bark cloth caps of a kind that figures prominently in the statuary of western Panama (Fig. 7a–e) and was, until recently, worn by Guaymí native peoples in Panama. Anna Roosevelt (1979: fig. 18) illustrates an embossed gold helmet that is reported to have been found at Parita. It is likely that this was excavated by Philip Dade at Finca Juan Calderón (He-4) (Biese 1967), which may well have been one of cacique Parita's principal villages (Cooke 1993). Lothrop (1937: 129, 286) proposes that small gold disks and a comma-shaped plaque found near the head of skeleton 6 in grave 32C may have been ornamentation for a headdress.

[49] Lothrop (1937: 162) found gold tubes encircling the forearms of the deceased in graves 1, 5, and 32, but did not record such artifacts on legs.

[50] These are: graves 1, 3, 5, 6, 15, 26, 32, 74, 88, and 95.

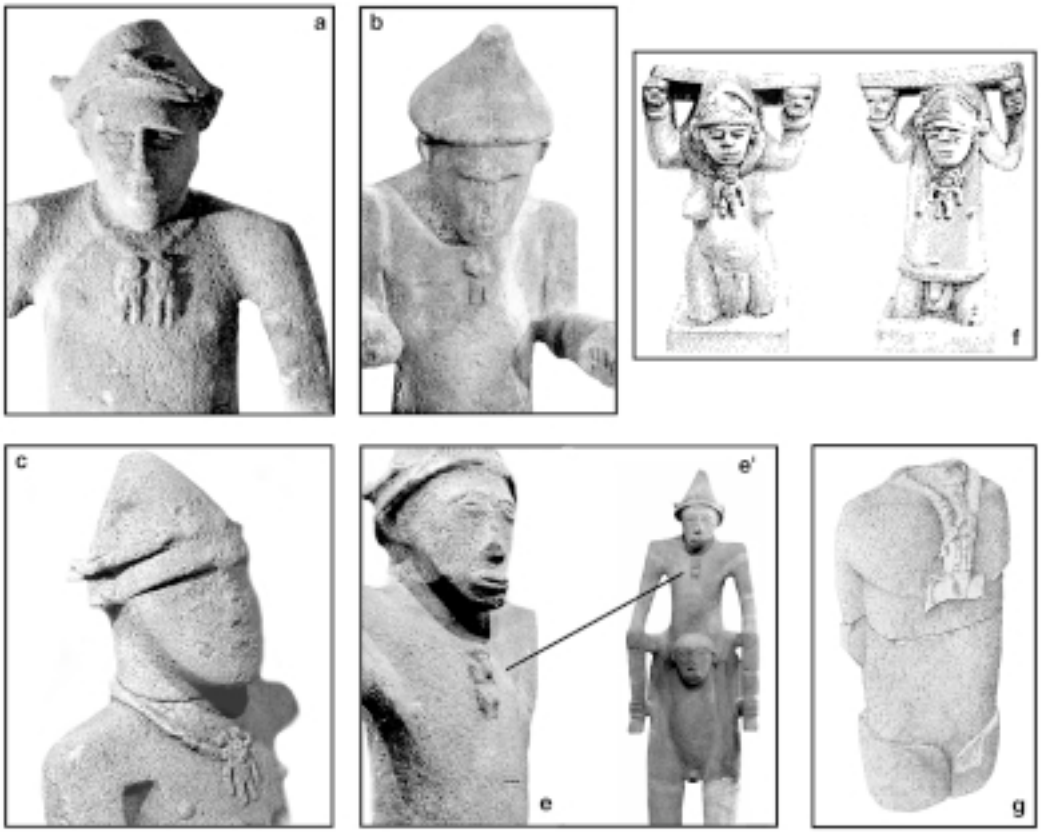


Fig. 7 Stone statues from Panama, which wear figurines suspended by a cord from the neck (these probably represent cast gold figurine pendants). (a–d): human statues from Barriles, Chiriquí, that wear conical hats (perhaps representing bark cloth) (photos by Marcos Guerra); (e) the legs of a giant metate or grinding stone from Barriles (after Linares, Sheets, and Rosenthal 1975: fig. 5c); (f) headless human torso from El Caño, Coclé (drawing by Arcadio Rodaniche).

26 and 74 (Hearne and Sharer 1992: pl. 20; Lothrop 1937: fig. 181), and overlays and settings for whale tooth ivory and resin (Lothrop 1937: figs. 160,167), of which a great many were found in grave 74 (Hearne and Sharer 1992: 22–28). It would seem, then, that Briggs's (1989) criterion of "added value" and Helms's (1993) criterion of crafting excellence applied to cast representations of human and animal forms: the largest number of figurine pendants and the most spectacular ones were buried with the wealthiest individuals.

Independent confirmation that figurines were worn by important males is provided by the statuary from the Chiriquí site of Barriles where several figures, all but one male, sport small figurines hanging by strings from their necks (Fig. 7a–e). Although one cannot be absolutely certain that the sculpted images are meant to represent metal rather than resin, wood, or stone, the figurine shown on one Barriles statue (Fig. 7d) has its arms raised to its mouth in the manner of a metal figurine pendant illustrated by Lothrop (1937: fig.

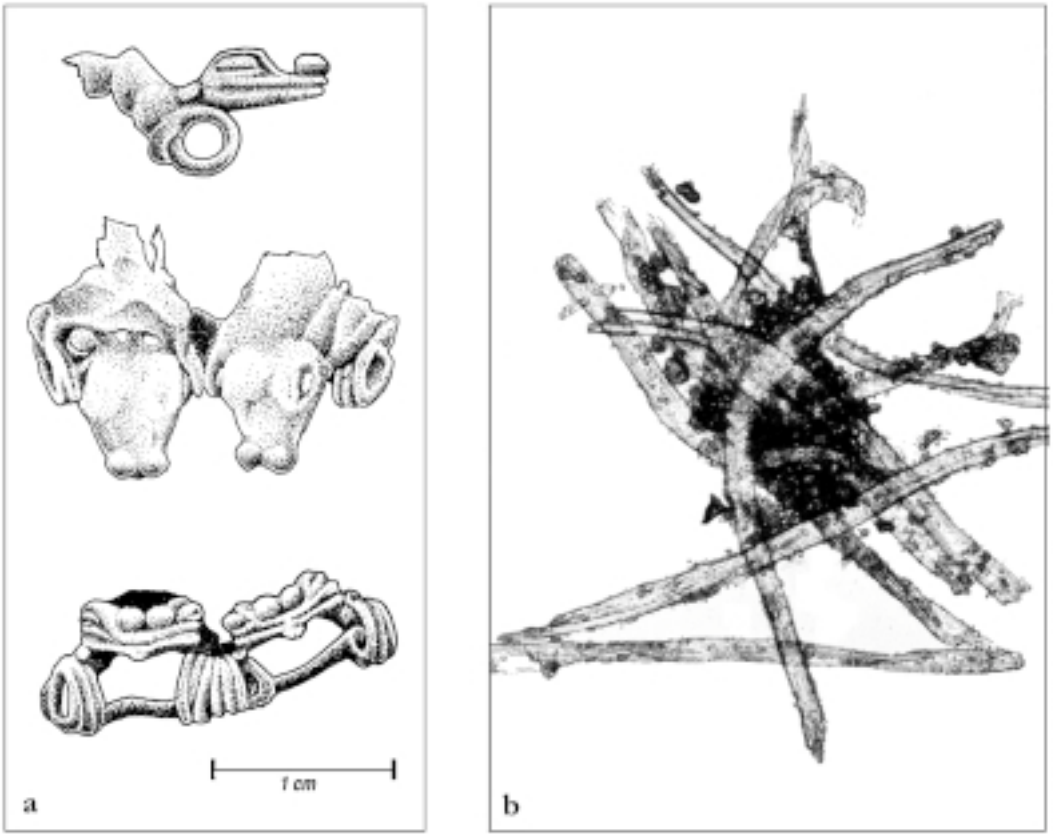


Fig. 8 Evidence of figurines being worn suspended by string: (a) broken cast effigy pendant depicting a bicephalous crocodilian, Cerro Juan Díaz, Operation 3, Feature 115 (drawing by L. A. Sánchez); (b) twisted cotton fibers attached to the suspension rings (100 x; fiber analysis and photo by Emilia Cortés, Metropolitan Museum of Art, New York).

148a) from Sitio Conte. Significantly, the seated figures on the double statues wear figurines, while those who carry them on their shoulders do not.

Another sculpture of a male figure that sports a figurine (a frog with spatulate feet) was found at the El Caño site near Sitio Conte (Fig. 7f). As with the Barriles statues, its age has not been estimated. A figurine pendant found at Cerro Juan Díaz (Cooke and Sánchez 1998) in a feature cross-referenced by fill pottery to cal A.D. 750–1050 had fragments of twisted cotton string adhering to the suspension rings, suggesting that it was worn around the neck (Fig. 8).

Sex, age, and power. Briggs (1989: 73) estimated that 94 percent of the 93 skeletons found at Sitio Conte that could be aged were adult. Of these, 77 percent were males and 23 percent females. The limited information about the age and sex of the richest people at Sitio Conte suggests that they were adult males. The only seated principal figures in the large graves whose sex and age could be ascertained in the field were an old male in grave

1 and another in grave 5. In grave 6, skeleton 2, probably the principal occupant, was a young adult male; the other two skeletons in the same grave were recorded as an "adult" and "old" male (Lothrop 1937: 62). Grave 32C was classified by Lothrop (1937: 61, 286) as small or intermediate, but it was made in the same feature as the very richly endowed 32B, and the adult male buried in it was probably a member of the same social group (1937: 287). He was the owner of some 300 beads, a bell, two cuffs, two embossed plaques, three nose ornaments, eight rings, a whistle figurine, two plain rings, and eight overlays for use on perishable materials.

París's funeral indicates that women, as well as men, used gold ornaments. This historically documented case alludes to high-ranking ladies, but others do not. Fernández de Oviedo (1853: 126) says that it was a general custom around the shores of the Gulf of Urabá for ladies to use gold bars to support their breasts.[51] The *quintos de oro* for Santa María la Antigua and Panama record gold ornaments being in the possession of women servants or companions (Jopling 1994: 83–102).[52]

An elderly woman in grave 23 at Sitio Conte sported a bracelet of 55 beads (Lothrop 1937: 260), another old lady in grave 26 wore two ear rods with gold fittings, and an adult female in grave 94 owned a chisel. These are the only instances in which specific artifacts can be incontrovertibly associated with adult women at Sitio Conte. In the second mortuary unit at Cerro Juan Díaz, where painted pottery equates stylistically with late Sitio Conte graves 5, 6, and 26 (Cooke et al. 2000), one adult woman (in feature 51, individual 99) was buried with a gold bead, and another (feature 51, individual 55) was buried with a bracelet of 14 very small hammered beads. In a burial urn containing seven adults, of which the only sexed individuals are female, a thin overlay for a bead of another material was the only gold artifact (Díaz n.d.).

Lothrop (1937: 24) encountered only one skeleton of a baby at Sitio Conte. Some skeletons are listed as adolescents in the Harvard and Pennsylvania catalogues, but, as with the women, few can be associated with gold items. Mason's grave 86 included an individual listed as "adolescent or adult" who was accompanied by seven disks. Another identified as a female adolescent or child in grave 93 was buried with four decomposed disks and a sheet of gold.

[51] "Esta invención destas barras de oro para levantar las tetas es primor é usança del golpho de Urabá." (This invention of these bars to raise the breasts is a craft and custom of the Gulf of Urabá.)

[52] The following entries describe specific artifacts worn by women: 11 March, 1520—un moquillo y una limeta de oro labrado . . . de una india suya (a nose ornament and a bottle shaped object of worked gold . . . from an Indian woman of his); 16 March, 1520—dos chapillas y seis ramitillos de oro labrado . . . de unas indias suyas (two small plaques and six sprigs of worked gold . . . from some Indian women of his); 22 November 1520—ciertos canutillos de oro labrado de los indios … que los había hallado en poder de una india suya (a few small tubes of gold worked by the Indians…which he had found in the possession of one of his Indian women); 18 December, 1520—ciertos canutos y cuentas de oro labrado de los indios que juró los tenían unas indias (a few tubes and beads of gold worked by the Indians, which he swore that one of his Indian women had); 9 September, 1523—ciertos canutos y cuentas de oro y una patenilla . . . de dos indias suyas (a few tubes and beads of gold and a small paten . . . from two of his Indian women); 10 March, 1526—canutos y cuentas . . . haberselo dado una india suya (tubes and beads . . . which an Indian woman gave him) (Jopling 1994: 83–102).

The Sitio Conte data provide ample confirmation of the contact period documentary record that the most important people in this part of Pre-Columbian Panama were, by about cal A.D. 700, given special burial treatment (desiccated by heat, seated, and protected by a roofed structure). The currently available skeleton sample suggests that they were always adult males. They were also, it would seem, the exclusive owners of special gold artifacts for the head, chest, ears, arms, and legs. In several instances, archaeologists found these artifacts on the appropriate part of the deceased's anatomy, indicating that the cadaver had been buried wearing ornaments as the chronicles suggest.

Gold and regional power. All scholars who have commented on Sitio Conte agree that it was a special site. Lothrop (1937: 202) believes that it was "inhabited by a *queví* or supreme chief, his wives and intermediate family, his personal retainers and his slaves." This entourage would have amounted, he believes, to some 200 persons, although during ceremonies the population would have been augmented by people from neighboring communities. Briggs (1989: 64) prefers the term *necropolis*, which implies that burial was the site's primary function. It may have been, although as Lothrop thought, it is likely to be a mortuary precinct in a larger site that included neighboring Cerro Cerrezuela and El Caño. If (as most scholars believe) Panama was divided into many small territories ensconced in river valleys and intermontane valleys, each with its village or villages for the chief and his entourage (Helms 1979; Linares 1977), there should be as many Sitio Contes in the archaeological record as there are contact period chiefdoms of note. This does not appear to be the case.

Nine archaeological sites in central Panama have provided contextualized metal artifacts associated with the same kinds of polychrome pottery that were recovered by Lothrop and Mason at Sitio Conte, whose time span, as we have seen, is currently estimated to have been cal A.D. 750–950: Cerro Juan Díaz, El Caño, El Indio, Finca Juan Calderón, La Cañaza, Las Huacas, Miraflores (Cho-3), Rancho Sancho, and Playa Venado (Table 1). None of these sites (with the possible exception of Playa Venado) vies with Sitio Conte with regard to the complexity and wealth of grave features or the quantity and quality of the mortuary arts. Briggs (1989: 153) concluded that the distribution of mortuary arts at La Cañaza and in the second cemetery at El Indio (II), dated to between cal A.D. 750 and 1050, had more in common with those of the earlier cemetery at El Indio (I) (the one with the late Tonosí-style pottery) than with coeval Sitio Conte. The inhabitant of grave 10 at El Indio, described as an "adolescent," was found with a conical noseclip and a bead (Cooke et al. 2000: fig. 3m; Ichon 1975: fig. 35a; Ichon 1980: fig. 91b). Grave 32 contained an "adolescent" and a "child" accompanied by three figurine pendants.[53]

At El Caño, Lleras and Barillas (1980) reported sixteen burials of adults and adolescents, only one of which was accompanied by gold (a figurine pendant). The second mortuary horizon at Cerro Juan Díaz is also different from Sitio Conte with regard to the age

[53] A human-faced quadruped (Cooke et al. 2000: fig. 3p; Ichon 1975: fig. 35d; Ichon 1980: fig. 91c), two conjoined frogs (Cooke et al. 2000: fig. 3e; Ichon 1975: fig. 35d; Ichon 1980: fig. 91b), and a single frog pendant (Ichon 1975: 84).

and sex composition of the human remains and the nature and distribution of artifacts. Fifty-one skeletons out of a sample of 115 correspond to pre-adults and 64 to adults, of which 35 could be sexed with confidence (26 females and 9 males). Only four features contained gold objects, and these are simple and few in number: hammered beads, overlays for beads, and a simple chisel-like tool (Cooke et al. 2000: fig. 11d, g–o; Díaz n.d.). At Miraflores (Cho-3), on the lower course of the Bayano River, in a region which, by cal A.D. 700, was culturally distinct from the other sites listed in Table 1, the size of three rock-cut tombs and the great numbers of ceramic vessels contained in them suggest that important people were buried there. Only nine gold artifacts, however, were recovered: 3 hammered noserings and 6 cast open-work beads (Cooke 1976a; Cooke 1998a: fig. 10.5n; Cooke et al. 2000: fig. 2b–d).

Two interpretations spring to mind. The most obvious one is that Sitio Conte appears anomalous because regional sampling has been deficient. Professional archaeologists have not worked at similar sites or, if they have, have not found the most important burials (as in the case of Finca Juan Calderón [He-4] where looters found the richest graves). Thus they have not been able to determine whether special mortuary precincts like Sitio Conte are present in each political unit near its demographic and cultural hub (which need not have remained topographically constant through time).

The other alternative is that archaeologists are underestimating the social catchment served by sites like Sitio Conte, because they adhere too rigidly to the idea that *cacicazgos* similar in size and location to those that were described by the sixteenth-century Spanish were the primary cultural and demographic units in Pre-Columbian Panama (Cooke et al. 2000). It is feasible that the people whose remains were buried at Sitio Conte came from catchments larger than the territories described by Espinosa, Andagoya, and Fernández de Oviedo as being under the sway of individual chieftains, such as Natá, Escoria, or París. Perhaps Sitio Conte, together with the contiguous sites of Cerro Cerrezuela and El Caño, comprised a special ritual center for much of the area over which the Gran Coclé semiotic tradition prevailed to which males with appropriate credentials were taken for dry season burials.[54]

[54] When Lothrop excavated at Sitio Conte, he proposed that the site underwent a period of decline just prior to Spanish conquest and suggested that it was perhaps displaced by neighboring Natá as the territory's dominant settlement. Lothrop's opinion was based on the fact that the most recent burials he investigated were much more simple and less rich than the earlier ones. Since pottery types that were made later than cal A.D. 1050 are abundant in the Sitio Conte refuse (Ladd 1957; Cooke n.d.a.) Lothrop and Mason may not have excavated where later rich burials were made. On the other hand, there is little in the archaeological record to coroborate Natá's preeminence at contact. Some burials in mounds were reported here by McGimsey (1958; see also Cooke n.d.a.), but their mortuary arts were simple. Interments found in and underneath four burial mounds at El Caño, midway between Natá and Sitio Conte, did contain metal items including a beautiful cast effigy pendant of a double-headed saurian (Bray 1992: fig. 3.12) although, as we recently pointed out (Cooke et al. 2000) the submound burials, in which this particular artifact was found, could be coeval with the latest Sitio Conte graves. Three urn burials at the surface of one of the mounds contained three miniature cast effigy pendants, a small disk, and European glass beads (Cooke 1976b; Cooke et al. 2000). These data vouch for the use of gold artifacts at or immediately after contact, but tell us nothing about the wealth of the chief of Natá. Since Spanish documents indicate that the location of the chief's principal village changed from time to time, the town of Natá may simply have been the locale where this territory's chief happened to be living in 1516.

That other areas of "Gran Coclé" harbored burial grounds for people as rich as those who were buried at Sitio Conte is suggested, not only by Finca Juan Calderón to the south and Playa Venado to the east, but also by unprovenienced or uncontextualized gold artifacts from Veraguas and the Azuero Peninsula that inundated museum and private collections in the U.S. and Europe since World War II. Although Lothrop's (1950: fig. 117c,d) volume on the archaeology of southern Veraguas illustrates only two embossed circular plaques with conical repoussé, Emmerich (1977: 109) commented that "circular breastplates of hammered gold" were "among the most frequently encountered forms of ornaments in Veraguas." The example he illustrates (Emmerich 1977: fig. 145) is strikingly similar to a broken disk that Cooke excavated from a recently disturbed fill at Bajo Chitra (CL-4), a community that he has equated on ethnohistorical and archaeological grounds with the principal village of the contact period chieftain Esquegua (Cooke 1993; Cooke et al. 2000: fig. 15; see also Galerie Mermoz 1986: no. 40; Lothrop, Foster and Mahler 1957: nos. 251–254; Morison and Obregón 1964: 193). Since the conical embossments of these plates were not recorded at Sitio Conte, but occurred frequently in Colombian graves, Lothrop (1950: 73) argues that they were imports thence. Their very absence at Sitio Conte, however, their frequency in private collections in Panama, and the Bajo Chitra occurrence, make it likely that they were produced on the isthmus during the last four centuries before contact when a trend towards the geometric abstraction of designs to the detriment of figurative decoration is apparent on polychrome pottery (Cooke 1998; Labbé 1995; Sánchez 2000). Probably, the 46 plates collected by Columbus on his 1502 trip down the Veragua coast were similar.

One archaeological site in Veraguas—La Peña—has produced evidence for in situ goldwork in a funerary feature whose human remains had decomposed. It is, however, second-hand information: Russel Mitchell (1962) asked a looter to tell him how gold pieces were arranged in a large chamber tomb with a stone-capped vault. Its mortuary arts suggest a late Pre-Columbian date (cal A.D. 1300–1520). On the floor of the grave were four undecorated circular gold plates about five inches in diameter and 100 grams in weight, an embossed plaque representing a stylized bird, and a fine cast figurine pendant (Fig. 9a) that depicts two animal-headed figures with human bodies that stand upright and brandish *macanas* or sword-clubs (Mitchell 1962). It is a funerary offering that pales before cluster 1 graves at Sitio Conte, but no doubt is worthy of a middle order male.

My companion the warrior. In the Sitio Conte graves, a twinned figurine conceptually similar to Mitchell's from La Peña was found, predictably associated with the aged adult male (skeleton 15) who was wrapped in textiles (like the chief París was) and had been endowed with other alpha articles: embossed plaques, whale teeth, cuffs, and greaves (Fig. 9b; Lothrop 1937: fig. 150). The twins are overtly war-like: they brandish sword-clubs and what look like bundles of spears. Human heads dangle from braided cords. Lothrop's interpretation (1937: 166) that they are "victorious warriors returning with the heads of slain enemies" might not be fashionable but is probably right: human heads figure prominently on stone statuary of western Panama and Costa Rica, including Barriles (Fig. 7b, e). Columbus's men saw "300 human skulls" near the quibian's house in Veragua, and taking

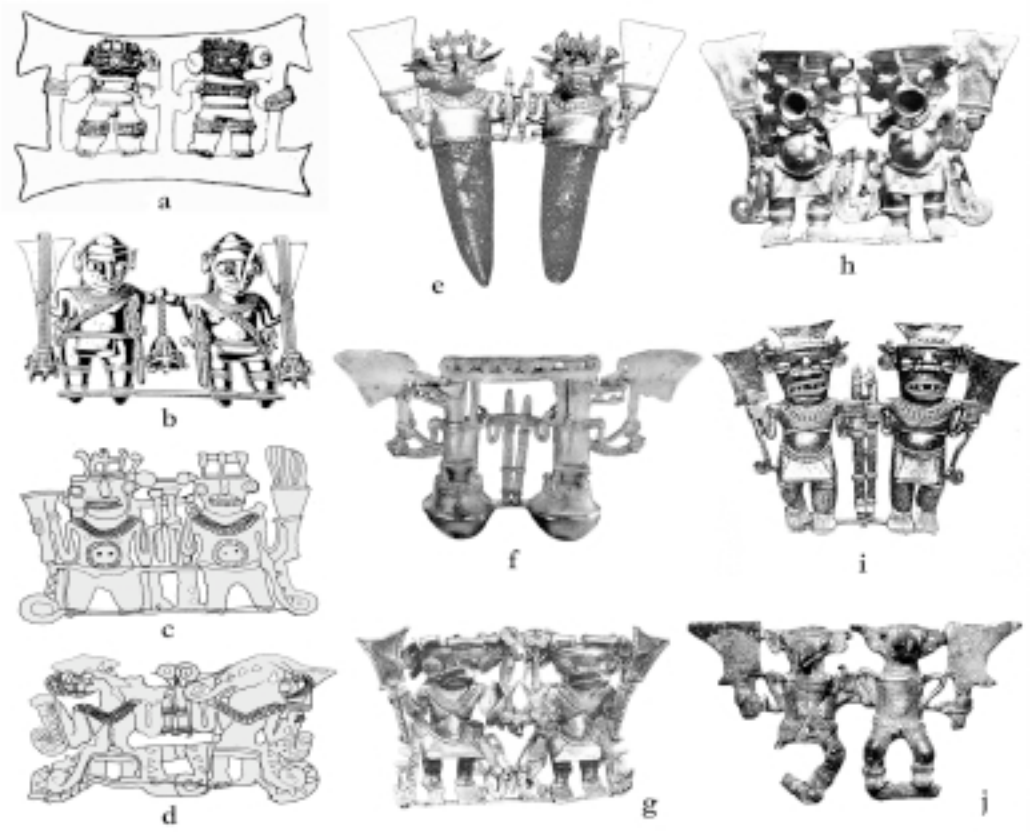


Fig. 9 Cast effigy pendants from Panama depicting human or animal-faced human figures (generally twinned) with weaponry: (a) La Peña, Veraguas (after Mitchell 1962: fig. 7); (b) Sitio Conte, Coclé (after Lothrop 1937: fig. 150); (c) Finca Juan Calderón, Herrera (after Biese 1967: 202); (d) Finca Juan Calderón, Herrera (after Biese 1967: 207); (e) Parita, Brooklyn Museum; (f) Parita (after Galerie Mermoz 1986: no. 26); (g) Parita, private collection, unprovenienced, probably Finca Juan Calderón (after Koninklijke Musea, no. 263); (h) Parita, probably from Finca Juan Calderón, Herrera (after Emmerich 1965: 22); (i) Chiriquí (after Easby and Scott 1970: no. 227); (j) unknown provenience, Museo de Antropología, *Reina Torres de Araúz*, Panama City (photo by Carl Hansen).

enemies' heads remained a common custom among non-Hispanicized men in western Panama until the end of the eighteenth century (Castillero Calvo 1995: 408).

Lothrop thought that the unique (for Sitio Conte) twin pendant was of foreign origin. Great numbers have since appeared on the international art market, many of them reported as being from "Parita." Technologically and stylistically they form a coherent group, which is why Bray (1992) included them in his Parita Assemblage. It is likely that most (if not all) of these kinds of figurines came from Finca Juan Calderón, where Philip Dade, a looter, found 30 or so gold ornaments in 1962 in a deep (20 feet?) burial under an artificial mound and continued working there until 1967 (Biese 1967; Bray, personal communication, 2000, based on Biese's notes). Whether a charcoal date of 415 ± 90 BP (cal A.D. 1395–

1660) was recovered by Dade himself in this feature remains unclear (Bray, personal communication, 2000), but the polychrome mortuary ceramics from this site belong to late Macaracas, "Parita," and "El Hatillo" styles that were made between cal A.D. 1050 and contact. (Bull 1965; Ladd 1964). These burial features are, therefore, more recent than those of Sitio Conte.

The twins depicted on Gran Coclé metal figurines are sometimes entirely human (Fig. 9b, h) and more usually have human bodies and animal heads—saurians (Fig. 9a, d, f), birds (Fig. 9g, j) and bats (Fig. 9e, i). They always wear beaded necklaces and sometimes beaded belts and leggings. Some sport loincloths. Many of them brandish broad-bladed *macanas* (or sword-clubs), which in some cases (Fig. 9c, e) are made of manatee bone inserts, and atlatls (or spear-throwers) with terminal hooks (Fig. 9 e, f, i) (Cooke and Bray 1985: fig. 7). The male sex of one figure (Fig. 9a, left) is apparent; his companion is presumably female. On one example (Fig. 9b), a parrot-like bird dangles from a cord at hip level; on another (Fig. 9g) the figures carry birds in one hand. Two twins (Fig. 9h) appear to be blowing trumpets.

Humanized standing figures embossed on gold plaques, cuffs, and a helmet from Sitio Conte exhibit similar sartorial and zoomorphic features. Sometimes they are presented in pairs (Hearne and Sharer 1992: pls. 8–10). Their belts often end in heads of other creatures. The Sitio Conte collection includes a figure, presented frontally or in profile (Hearne and Sharer 1992: pls. 1, 2, 9), which Helms (1979: 105) interprets as an iguanid lizard or spectacled bear (Helms 1995: 69, fig. 80) and Lothrop (1937: 125,142) and Cooke (1998b) as a crocodilian, and a bird with a long, hooked beak (Hearne and Sharer 1992: pls. 8,10). One superb example (Helms and Sharer 1992: pl.1) shows the crocodilian morph (sensu Cooke 1998b) brandishing long objects (batons? atlatls?) and sporting long ear rods, which according to Briggs (1989) are associated with the richest graves at Sitio Conte and can be interpreted as symbols of high status (see also Cooke and Bray 1985: fig. 9c, whose crocodilian teeth stand out).

It is not true, however, that these standing human-like animals are exclusively associated with the wealthiest people in mortuary contexts. In the second horizon of burials at Cerro Juan Díaz (II, Operations 3 and 4), which were not those of rich or high class personages and contained a much higher proportion of women and children than at Sitio Conte, the only figurative icons present on polychrome plates and jars among the mortuary artifacts are the same humanized saurian and hook-beaked bird that appear on the embossed gold plaques (Cooke et al. 2000: fig. 6). The fact that rich and poor are associated with these anthropomorphic images suggests that they are relaying information about cultural and social affiliation. It is clear that the "Parita Assemblage" figurines were locally made (the double crocodilian figurine, Fig. 9d, was deposited unfinished in the grave [Biese 1967]). Therefore it is logical that their textual information relates to the history and culture of the social group that made and wore them. In her most recent interpretation of Sitio Conte iconography, Helms (2000: figs. 5.9, 5.11) proposes that some frontally depicted images of the standing crocodilian figure represent "hunter-heroes." That they had this type of specific mythological significance seems likely: in other words, they are human-animal

participants in a supernatural world that replicates the earthly human world; they do the same things as humans; when they are poor, they dress poor, and when they are rich and powerful, they behave like their human counterparts: embellishing themselves for ceremony or for battle with headdresses, ear ornaments, necklaces, belts, and leggings; fighting with palm wood spears thrown by atlatls; making as much noise and display as possible in battle; helping earthly chieftains like Pocoa defeat the enemy and, if victorious, parade enemies' heads back at the village. In other words, the people who made them were thoroughly immersed in the details of local cultural traditions and the people who wore them did so because they reflected the behavior that was expected of powerful men. Who's to say that the front-line warriors, bedecked with gold, thumping drums and playing shell trumpets, didn't take the crocodile or eagle twins along with them to help them win battles? After a skirmish, gold ornaments may well have been stowed away in baskets—as the invading Spanish describe—accompanied by ceremonies witnessed by a few people and, therefore, esoteric. Their display, however, was exoteric, designed to identify the owner as a very important person and to advertise his prowess, military skill, and lineage.

Conclusions

Who crafted gold artifacts in Panama?

Ilean Isaza has added the technique of welding thin sheets of different copper-gold ratios to those already inventoried for the pre-Sitio Conte and pre-cal A.D. 750 ornaments that Bray assigned to his Initial Group. Although her discovery of a platinoid mineral, osmium, in the presumed tail of a spread-eagled bird, evokes a coastal Colombian or Ecuadorian origin, platinum is present in Panamanian ore bodies. The stylistic connections of the Initial Group in Lower Central America to the Sinú, Urabá, and Quimbaya metallurgical regions are clear (Bray 1992; Falchetti 1993; 1994; Uribe 1988), but much more chronological and geographic detail will be required, especially from Darién and San Blas (Bray 1982; 1996), before we can discard one unlikely, but still feasible path—a direct coastal route from La Tolita to the Azuero Peninsula (cf. Helms 1979; Ichon 1980)—in favor of other, ostensibly more reasonable ones (overland through the Atrato and Tuyra basins or down the island-studded eastern Caribbean). There is nothing in the current archaeological record (and probably never will be) that allows for a distinction between "Colombian" or "Ecuadorian" artificers being "contracted" to make Initial Group pieces, Panamanian artisans journeying outside the isthmus to learn the trade, or the intellectually more satisfying thesis of the first isthmian ornaments being acquired through barter, heirlooming, gifting, or other universal exchange behaviors (Graham 1993). Identifying the degree to which icons crafted in gold were already present on other media before metallurgy's introduction is a chicken-and-egg problem that is currently unsolvable. For the record, the crocodilians, birds, amphibians, and serpentiform beasts that later predominate in metal and clay in Gran Coclé and beyond are tentatively identifiable in the first Gran Coclé polychrome style, La Mula, dated to between cal B.C. 200 and A.D. 250 at the 2 Σ range (Fig. 2). So far, this

beautifully made pottery has not been found with metal ornaments, although the tomb that provided Isaza the materials for her physical analyses is C-14 dated to the end of this period. Gold ornaments from Lower Central America may be older than is thought.

Considerable detail about the distribution, abundance, and exploitation of gold, copper, and silver ores in Panama and about Spanish and Republican mining is provided here to dispel the ideas that mineral deposits were too unproductive in Panama to support substantial artifact production and that copper was absent. There are some large cupriferous deposits in Panama, some with superficial native copper. Contrary to Sauer's and, to a lesser degree, Helms's ideas, Spanish efforts to capitalize on Panama's mineral resources were often frustrated not because vein-mining or placer operations were intrinsically unproductive, but because rapid postcontact depopulation led early on to labor shortages in a labor-intensive operation; keeping large numbers of African slaves was very expensive and inimical to the demands of a transit economy; and resurgent native resistence, epitomized by Kuna, Coclé, Guaymí, and, later, Mískito attacks, made mining dangerous. This information has been overlooked in the anthropological literature.

Accepting or rejecting contact period references to crafting centers at two towns (those of Cori and Comogre), to which ores obtained in outlying areas were brought, is a subjective matter: either one believes it or one does not. The exploded mold (Fig. 5a) is proof that gold ornaments were cast in Panama. Some technological analyses allude to local variations of regional technologies (Howe 1986). How can seventeenth-century references to casting animal forms along the Caribbean watershed of Veragua reflect anything but the postcontact continuation of an autochthonous tradition? By the end of the sixteenth century two-thirds of Panama continued under or had reverted to native control (Castillero Calvo 1995). The frontier between Hispanic and non-Hispanic spheres remained solid, if geographically variable, until after Panama's independence from Spain. Historical linguistics and genetics affirm the long-term permanence of speakers of Chibchan languages in this area (summarized in Ranere and Cooke 1996). Although the history and nature of Pre-Columbian settlement in Caribbean Panama are imperfectly known, recent investigations spear-headed by Griggs have mitigated notions of late occupation and cultural simplicity. Cooke (1993) and Griggs (n.d.a.) have located several archaeological sites in the central cordillera and in the Belén, Petaquilla, and Coclé del Norte drainages that suggest the prolongation of precontact settlement and some ritual patterns into the early seventeenth century. Some of Griggs's sites were probably occupied by the Coclé people of Spanish documents (see note 27).

Bray's (1996: 308) model for the introduction and development of metallurgy—"the most uncontroversial example . . . of unidirectional diffusion in the New World"—into the Maya region probably mirrors the isthmian situation. During the Classic Period, the Maya imported most gold objects from further south, as Bray has constantly pointed out, although not necessarily as far south as Panama. Gold and copper deposits in highland Guatemala and the Maya mountains of Belize stimulated a local industry, which by the Late Post-Classic seems to have overtaken imported products. Increasing demand for metal re-

suscitated interest in the isthmus, but by then ores, rather than crafted objects, were the raison d'etre of trading journeys and settlements.

The period of manufacture of the Initial Group ornaments in Panama (cal A.D. 170–750) corresponded to the Classic Period situation further north. The few artifacts found in graves—usually small ornaments, often in animal form—are stylistically very similar to ornaments found in northern Colombia. No hammered plaques with a high gold content have been found in contexts that are demonstrably older than Sitio Conte's graves.[55] There is no proof that gold ornaments were being made in Panama at this time although it is important to keep an open mind about the relationship between the provenience or ores and manufacturing centers, as Isaza's study indicates.

Much greater numbers of gold objects are found in some graves dating to Sitio Conte's apogee and thereafter, than in pre-cal A.D. 750 burials. Hammered artifacts become more frequent, some of them very large and with a high gold content. Figurine pendants become larger, thematically more intricate and frequently represent human or humanized animals. It was clear to Lothrop, as it has been to some later scholars (Cooke 1993; 1998b; Cooke and Bray 1985; Cooke and Ranere 1992b; Linares 1977) that those metal artifacts that exhibit iconographic correspondences with motifs depicted on bone, resin, stone, and clay represent a discrete semiotic system with its own "texts," myths, history, and personalities, which can be expected to have been different from those of neighboring sociocultural units.

A character evaluation of the looter who reported a goldsmith's grave (Cooke and Bray 1985) suggests he was telling the truth. Since there is evidence at Sitio Conte for gold and copper ores and ingots, it is reasonable to suppose that some metal artifacts were made there. Contact period documents written by several chroniclers of different social backgrounds constantly refer to washing river gravels, finding gold nuggets in hilly areas, chiefs having people "mine" gold for them, and the exchange of gold ores and crafted artifacts in local networks for a wide range of products. These details argue for the establishment of an isthmian goldworking tradition at least by cal A.D. 750, after which an increasing demand for metal, in tandem with growing social tension and social differentiation, would have surely led to search for and exploitation of more and more ore deposits. Particularly enlightening has been the discovery of mining data for widespread gold deposits on the Azuero Peninsula, where a mine (Cerro Quema) was recently closed because of environmentalist pressure. One of the many cast figurines found in the deep grave at Finca Juan Calderón (He-4), undoubtedly of local production, was unfinished (Fig. 9d). The gold used to make it need not have come from very far away.

Who Acquired and Exchanged Gold in Panama?

Ever since Cooke reviewed Mary Helms's *Ancient Panama* (Cooke 1984), he has been

[55] Sánchez's 1998 study of Playa Venado ceramic collections revealed that the majority of vessels found in graves at this site represent the later stages of the Cubitá style and the earlier stages of the Conte style (Sánchez and Cooke 2000), that is, they should date between cal A.D. 500 and 750.

uneasy about the emphasis her writings have placed on the relationship among long distance, esoteric information, and political power. In *Ancient Panama*, she does not define clearly the relationship between distance and cultural geography. The great Colombian goldsmithing territories of Sinú, Quimbaya, and Dabaibe are a considerable distance from Sitio Conte, but they are much nearer the eastern border of Cuevan lands, where Fernández de Oviedo described most of the social relations that Helms uses as examples of "Panamanian" behavior. Modern San Blas Kuna leaders, to whom Helms constantly refers as an ethnographic parallel for the pre-contact situation, journey in order to gather intellectual knowledge from specialists who live on the other side of the cordillera—a difficult trip that might take them several days. They move, however, within their own social and ethnic environment. Does this constitute a "long-distance journey" or is it more likely a modern example of an age-old isthmian pattern of the constant exchange of goods and ideas among small-scale polities that belong to the same or similar cultural traditions and have differential access to resources (Cooke and Ranere 1992b)?

Lothrop proposes that several gold artifacts came to Sitio Conte from Veraguas, Chiriquí, or Colombia, basing his ideas on both stylistic and metallurgical considerations. In many cases, subsequent knowledge suggests he was not necessarily right. For example, Lothrop (1937: 166) states that the Figure 9b twin effigy pendant is "foreign." This artifact category, however, has since proven to be widespread at looted sites on the Azuero Peninsula, including at Finca Juan Calderón (He-4), which is a good candidate for being one of the principal settlements of the powerful contact period chieftain Parita, or Antatará (Cooke 1993). Probably, these beautifully crafted and thematically explicit figurines were just coming into vogue when the most recent large graves at Sitio Conte were deposited. That several sartorial and anatomical details are constantly repeated in this Parita Assemblage (Bray 1992) suggests that local manufacturing centers made lots of them for a demanding and discerning audience.[56]

Rather than assume a priori that long-distance connections enhanced power, and that knowledge obtained elsewhere symbolized it, a more parsimonious approach is advocated here, first, to try to establish with inter-disciplinary research the shortest routes that specific objects may have traveled, and, second, to be conscious of the fact that in an environmentally complex and narrow isthmus, trading relationships functioned in a manner akin to those of genetic and linguistic relationships: contacts were closest among nearest neighbors (Barrantes et al. 1990; Bray 1984). In the case of Sitio Conte's social catchment, is it not likely that Fernández de Oviedo's description of native people from Natá journeying to the opposite (Caribbean) side of the cordillera in order to exchange cotton mantles for gold was a postcontact continuation of an ancient pattern of reciprocity between historically and socially related populations? Finds of perforated marine gastropods and mana-

[56] It is understandable to suppose that the emerald set in the back of the famous grave 74 felid (Hearne and Sharer 1992: 92, pl. 20) came from Colombia, bearing in mind how many of these gems can be found in Bogotá shops. Lothrop (1937: 186), however, pointed out that emeralds have been reported from parts of Costa Rica that have structural-geological connections with Panama, while there are unsubstantiated reports of emeralds from the latter country (see note 7).

tee bone inserts for gold pieces at sites like Cerro Juan Díaz, Sitio Conte, and Finca Juan Calderón (He-4) demonstrate that Pacific-side communities in central Panama obtained some materials for ritual objects from the Caribbean coast. A distance of at least 100 km can be reasonably inferred for these products' transport, but estimating how far other raw materials and artifacts traveled is rarely so straightforward. Although Cooke (1998a) proposes that subtidal *Spondylus* shells for manufacturing beads and pendants were obtained outside the sociopolitical catchment of Cerro Juan Díaz, he now realizes that a subtidal rocky stack located 10 km from the site possesses a relict *Spondylus* population, which in earlier times and with a different sedimentary regime could have maintained a thriving population of these shells. Likewise, puma teeth found in Cerro Juan Díaz graves may not reflect exchange with distant peoples, but rather a local abundance of these cats in a wooded savanna inundated with deer (Cooke 1998b; Cooke and Ranere 1992a).

The central Caribbean is one of the areas of Panama that possesses unusually concentrated metal ores in placer and vein deposits. It is here where Columbus and his men acquired great numbers of high-status embossed disks. Some sites with such above-ground features as stone walls and terraces were important and extensive because they were located close to important point resources such as gold ores and basalt. Tumbaga cast figurine pendants—after beads the most evenly distributed metal ornaments in Panama—cannot be made without plentiful supplies of copper. Native copper from the Petaquilla area in addition to raw gold from *aluvión de cerro* and fluvial deposits must have been primary exchange commodities.

Documentary references do not confirm how the chieftains who "owned" the mines along the auriferous and argentiferous Belén, Concepción, Coclé del Norte, Santiago, and Veraguas Rivers interacted with contemporaries on the other side of the cordillera, including Urracá and Esquegua, whose power and military acumen are well documented. One of the primary goals of warfare seems to have been the taking of prisoners for acquiring trophies and for providing labor. There are several references to "human beings" as one of the commodities, which was exchanged for raw and crafted gold. Since extracting gold and copper with preindustrial techniques is a labor-intensive and time-consuming operation, using war captives for mining, sluicing, and collection of metal ores would have been an additional benefit of barter.

With regard to the social and geographic relationship between the producers of metal ores and the crafters and users of the finished artifacts, a particularly intriguing comment, even if it is secondhand, is Peter Martyr's observation that gold ores were sought at certain times of the year, without women being present, under some kind of dietary controls, and accompanied by ceremonies involving deities. Was one of the reasons why crafting is so little mentioned by contact period observers the fact that this process was, like extraction, secretive and esoteric, undertaken by a few, special people at recondite places which would be hard to locate archaeologically? If so, did both behaviors derive from a close relationship between gold and shamanic activities, which is implied by grave associations at sites such as Cerro Juan Díaz and Playa Venado?

Who used gold ornaments in Panama and how were they worn?

Briggs (1989) analyses the distribution of mortuary arts at Sitio Conte and sites that are coeval and older, proposing that in the early cemeteries at El Cafetal and El Indio, age and perhaps occupation were the primary determinants of ownership. From cal A.D. 400–750, few people seem to have owned gold and those who did possessed little of it although the workmanship displays great technical skill. It is possible that some pre-adults owned gold, but the significance of this association is unclear. A few finds of gold and copper ornaments with special apparel—such as incense burners and felid tooth necklaces and associations of fabric and gold—suggest that gold was worn for ritual activities such as shamanistic and curing ceremonies. An association between Initial Group goldwork and agriculture and fertility is supported by finds of ornaments on top of metates.

At Sitio Conte, on the other hand, both Lothrop's intuitive and Briggs's mathematical analyses indicate that a particular suite of ornaments—helmets and other head ornaments, cuffs and greaves, and circular plates with carefully embossed designs—was used only by the richest people. Especially splendid examples of other artifact categories, such as bead strings with thousands of elements, and very elaborate figurine pendants, often with encrusted gemstones and incorporating whale ivory and manatee bone, also adorned the rich. In the few cases in which human remains could be aged and sexed, these alpha individuals were always adult (though not necessarily old) and always male. They generally received special mortuary treatment, being buried seated (probably previously mummified by heat on a large stone slab) and protected by a shelter.

Lothrop and Briggs also detected at Sitio Conte a gradient of material possessions, suggestive of the ranking of material goods that was evident at the 1519 burial rites of Chief París. Since colonial documents constantly talk about male rankings, such as *quibián* or *queví* at the top, *cabra* in the middle, and *saco* at the bottom, it is perfectly reasonable to assume that these kinds of archaeological data substantiate the documentary record.

There is no indication from Sitio Conte or the other sites with contextualized goldwork that women, adolescents, or children were as rich as adult males. Some women and young people, including children, have been found with gold artifacts, but these are few in number and usually include such simple objects as beads and ear and nose ornaments.[57] Perhaps wealth was not hereditary, but acquired by individual effort, a matter that has been amply debated by other scholars (Briggs 1989; 1993; Helms 1976; 1979; 1982; Linares 1977; Roosevelt 1979). The Sitio Conte data accord more satisfactorily with the hypothesis of contingent political systems lacking permanent centers of power, a social situation carefully synthesized by Linares (1979: 76), than with the other extreme proposed by Roosevelt (1979), who argues that precontact Panamanian polities were incipient states in which power was in the hands of hereditary elites. The only other archaeological site in Gran Coclé that has provided gold ornaments of the same high quality and in similar proportions

[57] The fact that a female figure on a Barriles metate leg sports what may be a representation of a gold figurine could be read as a contradiction to this point. The meaning of this particular artifact, however, may have nothing to do with social rank.

and patterns to Sitio Conte is Finca Juan Calderón. The described burial contexts are later than most of Sitio Conte's and the gold found in them is stylistically different precisely because it is more recent. This situation underlines the possibility that these are not the burial grounds for important people of a small chiefdom, like Natá or París, but for a much wider social catchment dominated politically by personalities akin to the *bretwaldas* of early mediaeval Britain, *primi inter pares,* whose seats of power were in different places and whose position was not necessarily passed on to their next-of-kin, but was assumed (often aggressively) by the next most powerful warlord.

The ethnohistoric record describes the display of gold in military encounters, but war was surely not the only social situation in which wealth was advertised. Also, one cannot be sure that people were as warlike between cal A.D. 750 and 950 (the dates of the Sitio Conte burials) as they were in 1500. Nevertheless, stone sculpture in Gran Chiriquí is replete with overt symbols of bellicosity, including severed human heads and the aggressive brandishing of weaponry. Some of the seated figures on the twin statues from Barriles, which appear to be ridiculing the persons who hold them up, wear what are likely to be gold figurines, brandish double axes, and clasp human heads in their hands. Modern bioanthropological studies are needed to confirm Lothrop's (1954) suggestion of intentional violence at Playa Venado. Claudia Díaz (n.d.) found no evidence for violent trauma in the second mortuary horizon at Cerro Juan Díaz, but the social condition and activities of the people buried there, among them many women and pre-adults, would have been very different from those of Sitio Conte's mortuary population.

Linares's (1976; 1977) studies of animal imagery in Sitio Conte pottery present a strong case for certain vertebrate and invertebrate taxa's symbolizing human behavior suitable for raids, skirmishes, and pillage. Spanish documents indicate quite clearly that chief París's prowess rested on his fame as a successful warrior who Andagoya says (Jopling 1994: 35) destroyed a band of migrant Nicaraguans (see note 35). Fighting with sword-clubs and spears thrown by atlatls is well documented for this region of Panama. Details visible on figurines and embossed plaques that depict twins and their animal avatars (Fig. 9) appear to mirror this aspect of human behavior: the saurian, the hook-beaked bird, and the bat in human guise sport the same symbols of power that are evident in mortuary features—ear rods and large bead necklaces and belts—and brandish the same kinds of weapons.

This kind of display in situations that brought together lots of people is overt and not esoteric behavior. Chiefs made no secret the fact that one of the reasons they went to war was to steal and show off rivals' gold and to obtain captives to work for them. Icons, rather than representing deities or other beings with a primarily religious connotation, are more likely to be personalities that relate specifically to social groups, such as origin heroes or mythical warriors that founded moieties and clans and chased off enemies. If there was anything esoteric about gold in ancient Panama, it was probably the acquiring and the making of it, rather than the wearing of it.

In conclusion, it is now apparent that technologically sophisticated goldwork with technical and iconographic antecedents in northern Colombia and coastal Ecuador was being worn by a few individuals in the Gran Coclé culture area at the beginning of the

Christian era. The La Mula painting style, which was in vogue at this time, depicted certain animal and geometric forms (anurans, snake-like beings, birds, crocodilians, and spirals), that are also found on Initial Group metal pieces. It unclear, however, whether these motifs represent a widely distributed and primeval ("pan-Chibchan") belief system (cf. Cooke 1986; Snarskis 1985; 1986) that anteceded metallurgy or if they were introduced into the isthmus along with goldwork. Funerary associations of ornaments, human remains, and other artifact categories suggest that, prior to cal A.D. 750, goldwork (not necessarily locally made) was related to such ceremonial activities as shamanism and agricultural rituals.

The case has been put forward for the *production* of hammered and cast gold items on the isthmus after cal A.D. 750. Although the archaeological, technological, and ethnohistoric data for this activity are sparse, they are supportive and are worthy of serious consideration. As the Spanish chroniclers often remarked, gold is plentiful in Panama in placer and vein deposits. Copper is less widespread, but was surely available in workable form in certain regions. Professional archaeologists have not yet found evidence of the places where gold ornaments might have been made, nor of the people who participated in this activity. The fact that a well-traveled and energetic amateur, however, purports to have discovered a goldworker's grave, alludes, on the one hand, to the inadequate spatial coverage of excavations and, on the other, to crafting being in the hands of a few specialists whose work areas may well be discovered one day in localized or out-of-the-way zones of some high order Pre-Columbian community like Comogre's village.

Ethnographers have described complex rituals and symbolism involved with the acquisition of the materials required for making gold ornaments—gold, copper, beeswax, clay, carbon, and fuel—and with their transformations into finished objects of different shapes, colors, brilliance, and taste (Falchetti 1997; Reichel-Dolmatoff 1990). Therefore, one would expect collecting ores and making gold objects to have been accompanied by esoteric activities of some nature as Peter Martyr's informants suggested. After cal A.D. 750, when a few adult males were able to accumulate large numbers of finely wrought ornaments, Gran Coclé goldwork shares a descriptive iconography with other widely used media. It is likely that repetitive textual details refer to characters, myths, beliefs, and details of social organization that would have been understood by the regional population at large. So would the exoteric political message of the glittering array of helmets, plaques, bracelets, belts, and anklets worn to battle and to the funeral bier by chieftains and warriors.

Table 1 Metal Artifacts at Pre-Columbian Burial Grounds in Panama

Site	Estimated Age	Graves	Interments	Individuals	Metal Items (beads in parens)
El Cafetal	A.D. 400–500?	33	?	approx. 37	7 (br. or neck.) [b]
La India-1	A.D. 400–500?	?	?	?	13
Las Huacas-I[c]	A.D. 400–500?	?	?	?	8
Cerro Juan Díaz-I	A.D. 150–700	4	5	approx. 46	11
Playa Venado	A.D. 500–800?	?	?	?	at least 13 (29 + neck.)
Las Huacas-II	A.D. 700–750	?	?	?	5
Rancho Sancho	A.D. 700–750	1	?	?	3
Sitio Conte-I[d]	A.D. 700–750	2	4	8	141 (>7116)
El Caño-I	A.D. 750–850	1	1	1	2
Sitio Conte-II[e]	A.D. 750–850	14	at least 10	at least 10	104 (>509 + 2 neck.)
Sitio Conte-III[f]	A.D. 850–1000	15	at least 18	at least 61	168 (>292 + neck.)
Sitio Conte-IV[g]	A.D. 750–1000	41	?	at least 78	583 (>3728)
Sitio Conte-V[h]	Post-A.D. 1000	8	8	at least 9	1 (60)
Cerro Juan Díaz-II (Operation 3)	A.D. 750–1000	15	at least 16	at least 22	3
Cerro Juan Díaz-II (Operation 4)	A.D. 750–1000	50	?	140	3 (22)
El Indio-II	A.D. 750–1000	42	42	at least 49	7 (1)
La Cañaza	A.D. 750–1000	27	27	at least 35	2
Miraflores	A.D. 750–1000	3	?	?	3(6)
El Caño-II	Post-A.D. 750	17	?	?	4 (1)
Finca Juan Calderón (He-4)[i]	Post-A.D. 1000	?	?	?	2
La Peña	Post-A.D. 1000	?	?	?	7
El Candil	A.D. 1300–1520	1	1	1?	1
Toro Bravo	uncertain	1	1	1?	1
El Caño-III	A.D. 1502–1516	4 (urns)	2	at least 3	4
Espavé, Guararé	uncertain	?	?	?	7 (>206)

[a] Twenty-five categories of artifacts are identified: bar, bead, bell, casting or setting, chisel, cuff, clip (nose), disk (embossed), disk (plain), ear plug or spool, ear rod (or fitting for), figurine pendant, greave, headband, helmet, mirror frame, overlay (decorated), overlay (undecorated), pin, plaque with divergent spirals, ring (nose or ear), strip or sheet, tooth (counterfeit), triangle, unknown form, whistle figurine.

[b] Br. = bracelet, neck. = necklace

[c] Gladys Casimir de Brizuela excavated a total of about 46 "tombs" at Las Huacas

[d] Graves 31 and 32, which contain Cubitá-style vessels

[e] Lothrop's early graves

[f] Lothrop's late graves

[g] Mason's graves, for which pottery has not been published in full and therefore cannot be dated by reference to ceramic typology.

[h] Lothrop's period of decline graves

[i] This site was excavated at different times by two professional archaeologists—Matthew Stirling and Gordon Willey—who did not find gold (Ladd 1964), and by several amateurs, of whom only Thelma Bull recorded finds of gold artifacts. As noted on page 39, large numbers of fine gold artifacts were found by at least one amateur (Biese 1967).

Categories of metal items[a]	Graves with metal	Interments with metal	Individuals with metal	Sources
5	4	?	5	Briggs 1989; González 1971
5	?	?	?	Ichon 1980; Mitchell and Heidenreich 1965
3	3	?	?	Casimir de Brizuela n.d.; Cooke et al. 2000
6	4	3 or 4	3 or 4	Cooke and Sánchez 1998; Cooke et al. 2000
5	?	?	?	Bull 1958; 1961; Lothrop 1956; Lothrop, Foster, and Mahler 1957; Sander, Mitchell, and Turner 1958a; 1958b
1	1	?	?	Cooke et al. 2000; Casimir de Brizuela n.d.
1	1	?	?	Dade 1960
18	2	4	6	Lothrop 1937
2	1	1	1	Doyle 1960
16	9	at least 5	at least 9	Lothrop 1937
23	15	11	at least 19	Lothrop 1937
22	?	at least 9	at least 6	Briggs 1989; Mason 1940; 1941; 1942
2	2	2	2	Lothrop 1937
2	2	2	2	Cooke and Sánchez 1998
3	4	2	at least 3	
4	4	4	at least 4	Briggs 1989; Ichon 1975; 1980
2	2	2	?	Briggs 1989; Ichon 1975; 1980
2	1	?	?	Cooke n.d.; 1976a; 1998a
4	3	?	?	Cooke et al. 2000
2	?	?	?	Bull 1965
3	?	?	?	Mitchell 1962
1	1	1	1	Doyle 1960
1	1	1	1	Doyle 1960
2	2	2	at least 3	Cooke 1976b; Cooke et al. 2000
2	at least 6	at least 6	?	Bull n.d. a; n.d. b

Note: No metal artifacts were found at Cerro Mangote (5000–3000 B.C.), where ninety individuals were buried (McGimsey 1956; McGimsey et al. 1986–87; Norr 1990). At Sitio Sierra (200 B.C.–A.D. 200), 24 interments were found, along with 24 individuals, but no metal artifacts (Isaza 1993). El Indio I (A.D. 200–500) contained 37 graves, 37 interments, and 43 individuals, but no metals (Briggs 1989; Ichon 1980).

Table 2 Panamanian Gold Vein Deposits in Colonial and Republican Times

Site	Watershed	Location	Dates of Operation
Cana (Espíritu Santo)	Pacific	Headwaters of the Tuyra River, Darién	Apogee ca. 1680–1724 Re-opened late 19th and early 20th century by Darién Gold Mining company
Capira	Pacific	On hills just south of the modern settlement	19th century Reassayed, but not reworked in the 1990s
Cerro Quema	Pacific	At a prominent hill of this name	Surveyed in the 1990s by a Canadian company
Chepo de las Minas (El Gallo)	Pacific	West-central Azuero Peninsula	Small gold-mining operation in the 20th century
El Llano	Pacific	Bayano River	Small gold-mining operation in the 20th century
Fort Bowen (probably the same location as present-day Fomón and colonial Trinidad)	Atlantic	Belén river (Trinidad reported as six leagues upstream)	1850s
Parita Bay	Pacific	Unknown; Chitré used as operations base	1885
Remance	Pacific	Pacific Veraguas, southwest of San Francisco (another gold mine, Mineral de San Francisco, was located at Aguacatal, near Calobre, but it is not known whether it was a vein or *hucica* deposit)	Colonial Late 19th century (by two Frenchmen, Schuber and Farrand) Interwar years (Veraguas Mine Co. and Panama Corporation Ltd) Re-opened 1989 by Transworld Co. and Minera Remance Closed 1998
Río Pito	Atlantic	Far eastern corner of Comarca de San Blas	Surveyed 1990s, but not exploited
San Antonio and Santa Lucía	Atlantic	At the confluence of the Coclé del Norte and San Juan Rivers	Stirling visited colonial Spanish tunnels in the 1950s, when gold was still being panned Revisited by Griggs (2001)
Santa Rosa	Pacific	South of Cañazas, Veraguas	1990s
Turlurí or Turlurú (now known as Escobal)	Atlantic	On the Santiago River, 3 to 4 leagues from the treasury at the mouth of the Concepción River	1559–1589 Lay abandoned when visited by Juan Franco in 1790s Exploited by the Veraguas Mining Co. between wars Reprospected in the 1990s by Panama Gold S.A.

History	Sources
Kuna uprising led by Louis Tibon and Luís García destroyed the mine in 1724 Spanish governor Ariza described veins as *siete varas de ancho* (Carles 1962) Between 1899 and 1907 produced gold worth £520,160 with gold averaging 2.1 oz/ton	Carles 1962 Castillero Calvo 1995: 228–229 Cooke, Norr, and Piperno 1996 Joyce 1967
	UN 1971
Environmentalist protests prevented production	
	UN 1971
	UN 1971
Gold in quartz lodes down to about 40 feet below the surface Yield estimated in 1856 as 1 oz/ton Some silver present	Star and Herald newspaper, 29 March 1856
California companies extracted gold from quartz veins Unclear whether this is the same mine as the one described as "les mines de Chitré dans le lit d'anciene riviere on ete explotees par M. Facio"	Bulletin 1882
Canadian geologists find stone ore crushers Veraguas Mine Co. employs 50,000 men and produces 8 to 10 tons gold/year In 1989, planned annual output estimated at 260,000 troy ounces Mine employees told Cooke that work conditions were "atrocious"	Bulletin du Canal Interocéanique, 1882 Castillero Calvo 1995: 382 Oller 1935 USDI 1989: 991–992
Gold present in large copper deposit Residents of Puerto Obaldía still pan gold in alluvial gravels that descend from the major ore body near the cordillera	UN 1971
Mískito attack in 1765 left 25 dead Griggs saw plastered walls, ditches, mine shafts and stone ore grinders and bases	Castillero Calvo 1995: 377 Stirling n.d.
Closed due to workers' protests	
Colonial documents say gold was of good quality (>22 k) Vein bodies esconced in andesite Operations stopped because of catastrophic flooding	Castillero Calvo 1967: 58–61, 136–37 Franco 1978: 28 Jopling 1994: 10–15, 340 Roberts and Irving 1957

Table 3 Panamanian Ore Deposits in Panama that Include Silver

Site	Watershed	Location	Contents	Source
Alto de las Minas	Pacific	North of Cañazas, Pacific Veraguas	100,000 tons of ore: estimated 12 g/ton gold and 70 g/ton silver	Esquivel 1978
Cerro Colorado	Pacific	Eastern Chiriquí cordillera	In a copper deposit (5 g/ton)	Gjording 1983 USDI 1980: 1258
Cerro Campana	Pacific	Central cordillera, Panama province		Esquivel 1978
Molejón	Atlantic	Coclé del Norte River, north of Petaquilla copper mine	Silver to gold ratio of 2:1	Peter Folk, personal communication, 2000
Río Pito	Atlantic	Far-eastern San Blas	Gold and silver	Esquivel 1978
River Belén ("Bowen," "Fomón," Trinidad)	Atlantic	Caribbean slopes of Coclé and Colón provinces	Gold ores with high silver content	Castillero Calvo 1995: 79
San Bartolomé de Tabarabá*	Pacific	between Las Palmas and Santiago, Pacific Veraguas		Castillero Calvo 1995: 155 Téllez 1974: 348

* The precise location is unclear. The contact period chieftain known as Trota, whose territory was centered on the River Caté (Castillero Calvo 1995: 142), east of Tabarabá, is reported to have controlled a port and mines with gold-copper alloy and pure gold (Jopling 1994: 10). The mine was known in colonial times and was worked by black slaves.

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