



THE GOLD OF COCLÉ

by Roberto A. Cowes

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Two-headed figure with zoomorphic decoration. Pre-Columbian gold casting from Panama, National Museum of Panama collection

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ROBERTO A. COWES

STORIES OF TREASURE discoveries always fascinate because they evoke images of exciting adventures and whet the desire to discover the unknown. This is all the more true when the treasures are from extinct civilizations that have left us a wealth of chronicles and legends shrouded in mystery, romance, and drama.

It is said that historical events are often more interesting and stranger than fiction, and this comparison becomes more evident when we have before us—as we shall in this article—the extraordinary account of the discovery of a civilization of pre-Columbian times, famous for its riches of gold, whose relics impressed the scientific and artistic world and opened a new furrow in some unexplored territory of the history of ancient America.

The curtain on this vast drama went up nearly five centuries ago, when the Spanish conquistadors under the command of Vasco Núñez de Balboa crossed the high cordillera of Darién in 1513 to discover the Pacific Ocean. While passing through the region they encountered a great many peoples ruled by chiefs, who, as a sign of submission and friendship, gave them beautiful and valuable presents of pure gold. Balboa and his companions, still unaware of the fabulous wealth of the Inca and Aztec emperors, were awestruck as they accepted the gifts, and their surprise was truly boundless when they returned to their starting base at Santa María la Antigua del Darién, after four long and arduous months, with a fortune that Fernández de Oviedo recorded as being worth 130,000 gold ducats.

ROBERTO A. COWES is a Panamanian industrial designer and author. He wishes to express his gratitude to Alejandro Méndez, Director of the National Museum of Panama, for permitting him to study and photograph part of the Museum's gold collection in connection with the preparation of this article.

Central Panama, showing where Indian chiefs lived. Underlined names mark early or modern towns. Sitio Conte is near center of map. From Coclé, An Archaeological Study of Central Panama, by S. K. Lothrop



Panama's early population was made up of numerous Indian tribes. Many of them had come from the north, from Aztec and central American groups, and others, according to Erland Nordenskiöld, had come from South America, which resulted in a union of the two halves of the American continent. A large part of the population lived on the coasts and on the shores of the Panamanian rivers that flow into the Pacific. There they adapted and perfected techniques for fishing, hunting, farming, and the making of pottery and metal artifacts. They were good navigators and carried on a vigorous barter trade; their products are found the length of the coasts, as far as Tumbes, Peru, located within the confines of the Inca empire. They were able not only to develop agriculture to good advantage but also to create and maintain armies for subjugating and unifying the numerous tribes of the region.

The Spaniards, blinded in those days by an insatiable ambition to obtain all of the gold and to discover the place where it was hidden, attacked the Panamanian Indians incessantly and after fifteen years of long and terrible conflicts, in which both sides suffered the rigors of a war without quarter, the Indian populace was decimated and the few survivors took refuge in the high mountains of the interior.

During the wars the conquistadors founded several cities in the conquered regions. Balboa, from the city of Santa María la Antigua del Darién, where he had affirmed Spain's dominion over Castilla del Oro, or Golden Castile—so called because of its wealth—sought to make known and to glorify his feat of discovering the Pacific by sending to the King of Spain, Ferdinand, a precious cargo of jewels with pearls and bars of gold. However, the precious cargo borne by the galleons arrived too late in Spain. The King had already named another man Governor and Captain General: Pedrarias Dávila, a sinister figure at the Court, who had made a name for him-

self in the African campaigns.

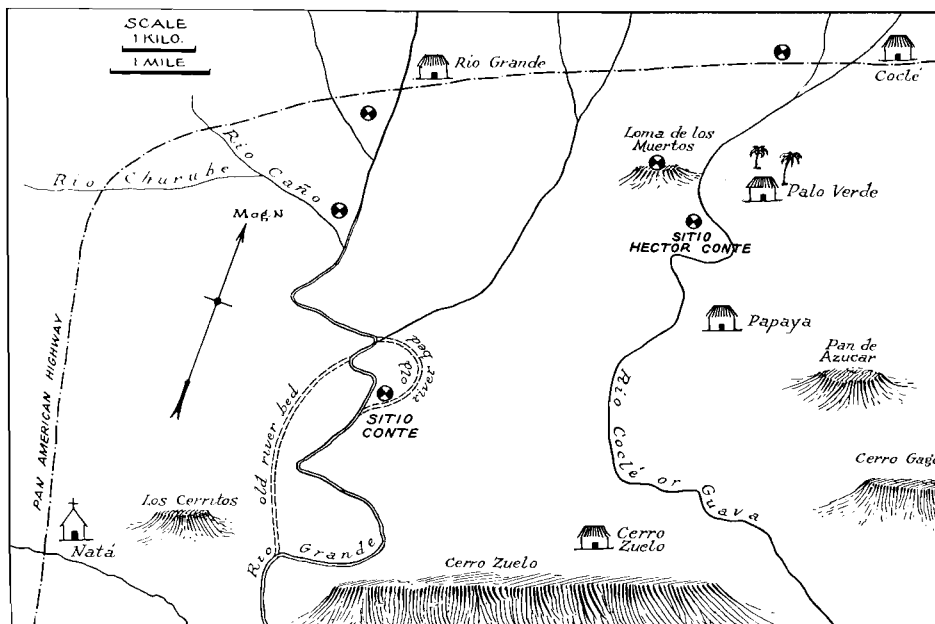
That was the beginning of the golden dance of the Americas, done to the musical background of the cries of hate and the rancor that overcame the ambitious adventurers as well as the new Governor. Pedrarias engaged in constant quarrels with Balboa, for he had an arrogant and despotic disposition; nevertheless, the Bishop of Santa María, Fray Quevedo, who wanted to see an end to the hostilities between them, suggested to Pedrarias that he marry one of his daughters to Balboa. The marriage took place by proxy, but was never consummated because Doña María de Peñalosa could not make the voyage to Castilla del Oro at that time.

Meanwhile the King of Spain, who had seen the reports of the discovery of the Southern Sea and the gifts of gold and pearls that had been sent as testimony to the wealth of those lands, had granted Balboa in 1514 the title of *Adelantado* of the Southern Sea, which was equivalent to that of Governor, with all the privileges pertaining thereto and the possession of the virgin wealth of the New World. The hostility between Balboa and Pedrarias increased to such a point that in 1517 Balboa was taken prisoner by his father-in-law and after a brief trial, at which he was accused of high treason against the crown, he was beheaded in the port of Aclá. The Panamanian poet Enrique Greenzier recalled the hero's tragedy in these verses:

*Rodó la noble testa del tronco desprendida,
y en la pupila muerta quedó desvanecida
la mar inmensa y rica que él ansiaba explorar.*

*Hasta que un día el Istmo, ya libre y soberano,
sacándola del seno del insondable arcano
la puso en su moneda para que viera el mar.*

The noble head rolled from the trunk,
and in the dead pupil the immense, rich sea
that he sought to explore disappeared forever.



Lothrop's map of Sitio Conte area shows new river course that brought gold objects to light.

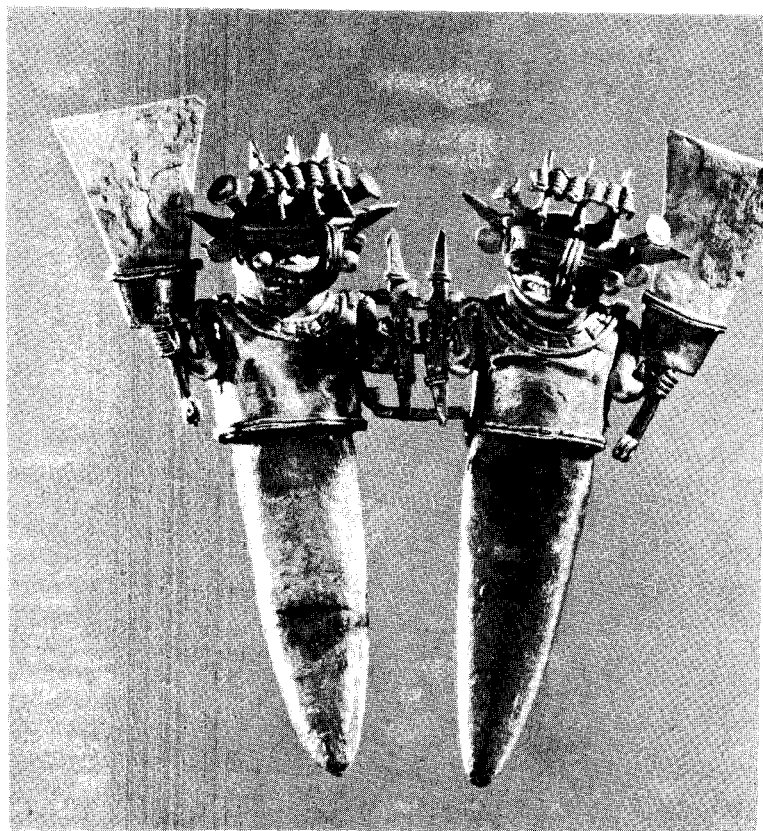
Until one day the Isthmus, free and sovereign,
drew the head from the depths of its secret retreat
and placed it on a coin so it could look at the sea.

The conquistadors, during this period, sent to Spain in their fleet of galleons a huge amount of treasure, which was then simply melted down in the Mint. Prescott, in his famous *History of the Conquest of Mexico*, tells of the case of Hernán Cortés, who sent back a shipment that contained Montezuma's treasures. The King didn't even bother to look at them, and without further ado ordered them melted down to make coins for paying the troops fighting in the Netherlands. No palace of the Old World, no castle, no museum could rescue and preserve for the future these examples of the artistic greatness of the New World artifacts.

According to Junius B. Bird, of the American Museum of Natural History in New York City, the Spaniards discovered that the Indians used the precious metal indiscriminately for all kinds of everyday objects. The objects were fashioned in a style that did not attract their attention, or else they considered it antiaesthetic. Furthermore, because of their religious beliefs, they considered themselves obliged to reject this form of art that smacked of paganism. This senseless destruction continued for several centuries, and until fairly recently it was possible to purchase pre-Columbian gold artifacts headed for the refineries in the great capitals. Recently, however, the realization that they possess artistic and cultural merits that go beyond their metallic value as gold has finally put an end to this absurd and insane destruction.

More than four hundred and twenty-five years after Columbus' arrival in the New World, excavations in Coclé Province by archaeologists from the Peabody Museum of Harvard brought to light and revealed to the scientific world the treasures that the conquistadors had not found because they had been buried deep in Indian cemeteries. One of these cemeteries was found near what was once an Indian village in Coclé Province, at a site named Sitio Conte after its owners, the Conte family, located some eighty miles southwest of Panama City. It lies on a plain traversed by the Río Grande de Coclé, an immense savanna today devoted to stock raising. The place is accessible during the summer, but during the rainy season, from March to November, the roads are difficult or impassable. The name of Coclé, used in archaeological literature for the area's culture, is from the title of an Indian warrior chief who inhabited the region during the pre-Hispanic period.

Sitio Conte was found by chance. There was no clue on the surface of the earth that indicated the existence of an Indian village several yards below. It would still be unknown if nature had not lent a hand. The site was discovered when the Río Grande changed its course during a flood, overflowing its boundaries and toppling in its banks, and carving itself a new course. The natives, passing in their canoes, noted that the new banks of the river shone like broken mirrors. They were not long in finding that the brilliant objects were gold artifacts and pieces of bright ceramics. The discovery had a great impact on the community, but the owners of the lands acted rapidly



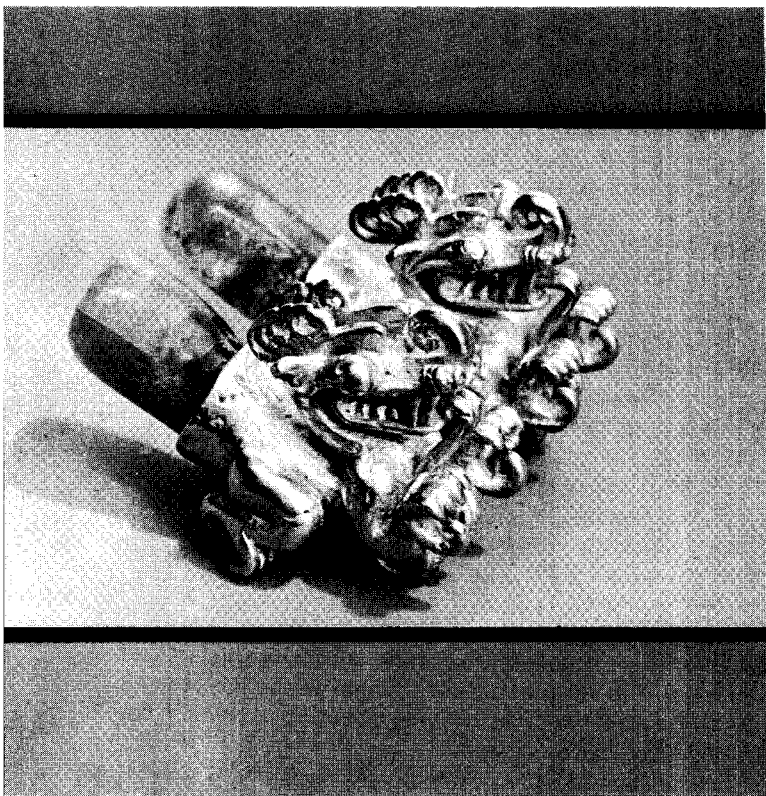
Coclé gold pendant, tenth to sixteenth centuries, collection of The Brooklyn Museum

to protect the fabulous find from curiosity-seekers and scavengers. A few months later, thanks to the initiative of the Government of Panama, the scientific mission from Harvard University arrived.

The archaeologists came to Coclé in 1930. The excavations took place over a four-year period, and in 1937 and 1942, after a meticulous analysis had been made of the finds, the results were published in a monumental work written by Samuel K. Lothrop, two volumes in the *Memoirs of the Peabody Museum*. The golden dream of an archaeologist, according to Lothrop, is to discover a civilization. There is no doubt that for him the dream became a reality. Although the people of Coclé did not leave a literature recorded in glyphs or a monumental architecture, like those of the Mayas or the Aztecs, but the remains of small cities, and objects of stone, ceramics, and gold, Lothrop was able to show many aspects that revealed the existence of a great civilization in the heart of the tropics.

In his work Lothrop demonstrates that Coclé is a brilliant example in which history and archaeology collaborate to explain gaps left by earlier scholars for lack of positive proof, points that remained thus in the realm

of legend. The royal historian Gonzalo Fernández de Oviedo describes in his famous chronicles the fabulous apparel, the exquisite jewels and numerous royal insignia that adorned the mummified body of the chief Parita, as it lay ready to be buried by his people in a solemn ceremony to the rhythm of epic songs and dances honoring the feats of the valiant and indomitable warrior in the long and violent struggles against the Spanish legions. Parita's body was viewed by Gaspar de Espinosa, another historian of the period, who recorded that it was enveloped "in several very good and very painted mantles . . . tied with cotton cords . . . and within, the fire-dried body of the deceased . . . was all covered with



Double jaguar pendant, Coclé style, A.D. 1000 to 1530, gold and quartz, 1½" high, collection of The Museum of Primitive Art, New York City

gold, and on the head a great basin of gold like a casque, around the neck four or five necklaces of gold . . . on the arms and legs golden armor. . . . At the head was one dead woman and at the feet another, both of whom had . . . many gold articles." This description that Espinosa left us, which seems fantastic, was popularly regarded as a work of exaggerated historical lyricism. However, when the archaeologists reviewed the record of their findings, according to Lothrop, the Coclé treasure turned out to be the same general kind of treasure that Oviedo and Espinosa included in their chronicles four hundred and fifty years ago, thus confirming in all phases the life and death of Parita.

The extensive excavations carried out by the archaeologists in Coclé were accomplished in a scientific and meticulous manner. For purposes of comparison, the Sitio Conte burials were classified in three groups: large graves, which contained from three to twenty-two skeletons, some two hundred pottery vessels and a profusion of jewelry; intermediate graves, containing one or two skeletons, some forty jars and few jewels; and small graves, which contained a single skeleton with about six jars and few or no jewels. A great quantity of objects of everyday use were also discovered. Among the finds were weapons, spear points of all types, remains of whistling darts [which carried near the extremity a hollow ball pierced with holes], stone arrow points and sting ray spines used as points, and ground celts; toilet articles, such as pyrite mirrors, a bone comb, and paints made from vegetable dyes; musical instruments, including whistles, gold cascabels and bells, maracas, and miniature drums. Hardened imprints in the earth revealed the existence of textile production, indicating both cotton and bark cloth. Due to the destructive action of the tropical humidity and heat, the textiles had been lost. The archaeologists found imprints of objects made from bird feathers, and baskets and net bags. Large three-legged grinding stones, called *metates*, were used to prepare corn. There were many pottery artifacts in the form of carafes, trays, flaring bowls, jars, tripod jars, figurines, and effigy jars, often noteworthy for their brilliant polychrome decoration and for the use of applied figures of animals. And, finally, the fabulous gold artifacts, represented by hundreds of objects that are spread

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today among the world's major museums of art and archaeology.

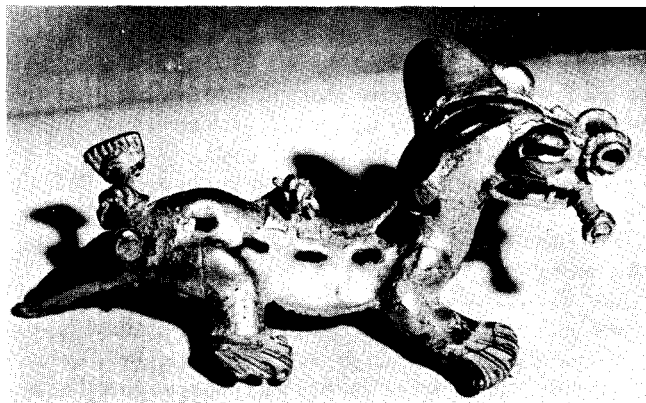
A basic element for the appreciation of the Coclé gold work is an understanding of the technique or method, a question that was investigated by several scholars. All agree that the goldsmiths were experts in their craft despite their rudimentary equipment. Dudley T. Easby, Jr., of the Metropolitan Museum of Art of New York, points out that gold figures were first produced by pre-Columbian goldsmiths many centuries before the birth of Cellini in 1500, and that the only difference between the creations of the Indians and those of the great Florentine is a matter of taste, because artistically both are outstanding.

The photographs of the gold objects from Coclé used to illustrate this article come from the famous gold collection of the National Museum of Panama, the Museum of Primitive Art of New York, and the recently opened American Hall of the Brooklyn Museum. As we view them, it is natural that we inquire about how the pieces were executed.

There are three methods for determining the techniques used by the people of Coclé: (1) historical descriptions left to us by the chroniclers of the period; (2) techniques employed by modern Indians in the country, which have been preserved through tradition; (3) tests and experiments carried out in metallurgical laboratories. The *Coclesanos* used a variety of methods whose presence has been verified by metallurgists, among them casting, including the use of the lost wax process; gilding, of which there are several types; hammering, which is the simplest and most ancient method of gold working, and is present in almost all the great cultures of antiquity; embossing, with its variations of high relief and low relief; false-soldering, to unite the parts of large and complicated pieces; polishing, which gives life to the final ensemble; and, finally, the delicate technique of setting and inlaying precious stones.

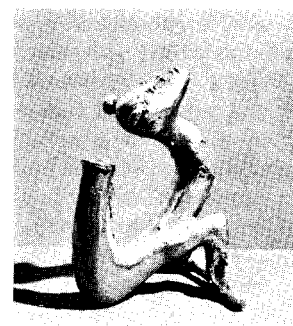
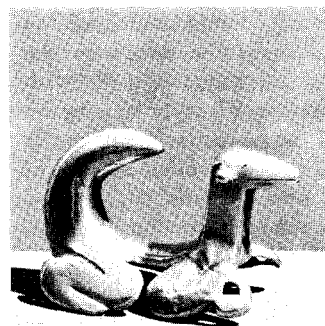
All these procedures are of great interest, but the experts are particularly interested in the *cire perdue*, or lost wax, technique, not only because of its obvious difficulty of execution but because it produces veritable works of art. Without this technique the full development of pre-Columbian goldwork would have been impossible. According to Pál Keleman, a noted writer on pre-Columbian art, casting reached its greatest perfection on the Isthmus. The procedure, according to the historical description of Father Bernardino de Sahagún, is done with beeswax and white copal. After the wax is clarified and rehardened, a thin layer is used to coat the model of the desired object, which has been carved in a compound of clay and ground charcoal. The wax-covered model is then coated with ground charcoal, and then covered with a clay and ground charcoal mixture, which is allowed to dry. When the molten gold is poured in, the wax melts and flows out through spouts added for the purpose. The clay covers are then broken, exposing the gold artifact ready to be polished.

Pedro Aldrete, a Panamanian jeweler of recognized technical skill, one of a family that, for three generations,



Pre-Columbian casting of feline with human bone in its mouth. Tumbaga (gold and copper alloy), from National Museum of Panama

has practiced the techniques learned by their ancestors from the Indians, considers that the *cire perdue* process has never been surpassed. The method was introduced by the Chibchas from the Colombian highlands and later perfected by the Panamanian Indians, who passed it on to groups of Mayas that arrived from the north. In 1555 Father Sahagún wrote a book in Nahuatl, the Aztec tongue, in which he described the lost wax process, which is still in use in Yucatán. The basic principle of the process used in Yucatán is the same as that of the Coclé Indians, according to Aldrete, with the sole difference that the wax model is placed in the center of a cylinder, and instead of covering it with clay and ground charcoal, the Panamanians cover it with a viscous mixture of clay, ground charcoal, and cane syrup or molasses. The mixture has the property of hardening quickly. The great advantage of the lost wax technique lies in the fact that it is possible to obtain a precise reproduction of the wax model, so that little work is required to polish it. The



Monkey-like figures, probably from Coclé Province, Panama. Gold, 2 3/8" each. From The Museum of Primitive Art

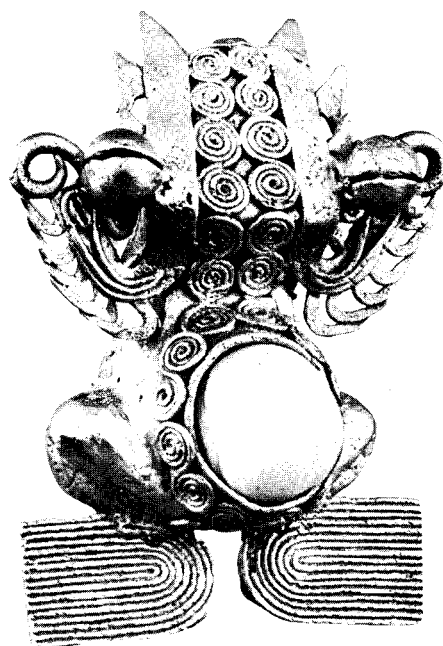
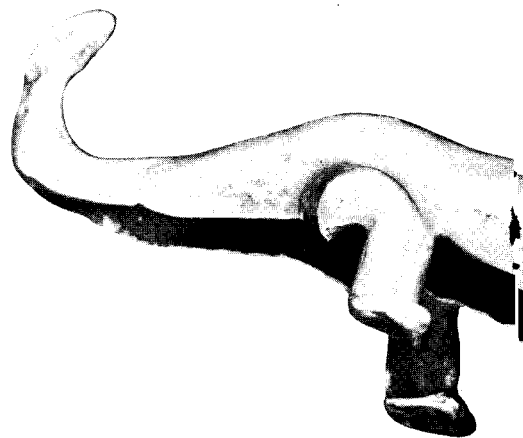
reproduction was so faithful, according to Easby, that some pieces found in Colombia and Panama still bear the fingerprints of a worker, left inadvertently as he pressed the wax too firmly. This led the conquistadors to believe that the Indians had some secret procedure for softening gold so that they could work it like clay. The shamans of the present-day Choco Indians in Darién claim to know a plant called *kikamaka*, which can be used to soften gold, but so far no sample of it has been found and it is very possible that it doesn't exist.

Once the gold casting has been made, the process doesn't end there. The excess metal left in the spouts has to be eliminated and the surface has to be cleaned and polished. If other metals are alloyed intentionally or accidentally with the gold, it is necessary to clarify and purify the surface with chemicals. Objects with hollow interiors must be filled to make them strong. All these steps were performed by the pre-Columbian goldsmiths. Today, with the aid of modern machinery and tools and improved chemicals, these steps would present no problem. But the pre-Columbian artist, who lacked these refinements, succeeded in simplifying a good part of his work by careful planning in the early stages of the process, which often influenced the shape and design of the artifact.

Another interesting procedure that was used and was the subject of study on the part of the historians of the colonial period, and which still today is the subject of research by metallurgists and goldsmiths, is gilding. When the archaeologist brought his finds to the laboratory, it was found that many of the articles of gold and copper alloys were covered with a fine coating of gold, gleaming and unharmed by time. The question was, how was the gold surface applied in those days? Fernández de Oviedo, López de Gomara, and Fernández de Enciso have given us the details of a process of using an alloy of copper and gold, which is then rubbed with crushed plants whose acid juices eliminate the surface copper from the alloy.

Aldrete, however, has described two traditional processes, which his ancestors learned from the Indians of the region. One method is known as the salts bath and the other as the gold *bain-marie* (*baño dorado de María*). The salts bath is easy to accomplish with ingredients that are available in a natural state and easily accessible. In an earthenware pot two parts of saltpeter are mixed with one part of alum and one part of common salt. All the ingredients are pulverized and carefully mixed in the pot. Then they are covered with salt water or water with sea salt added until they dissolve. The artifact to be plated, which is generally of a copper-gold alloy, is placed in the pot and boiled. In a short time the object is covered with a brilliant and durable gold coating.

The gold *bain-marie* is also simple. But the chemical composition of the ingredients was jealously guarded by the natives because it included poisonous vegetable extracts and minerals difficult for the novice to identify. Through modern chemistry it has been possible to identify these substances as crystallized carbonate, yellow cyanide, and gold chloride. This operation is performed with two earthenware pots. One pot, containing salt water, is put on



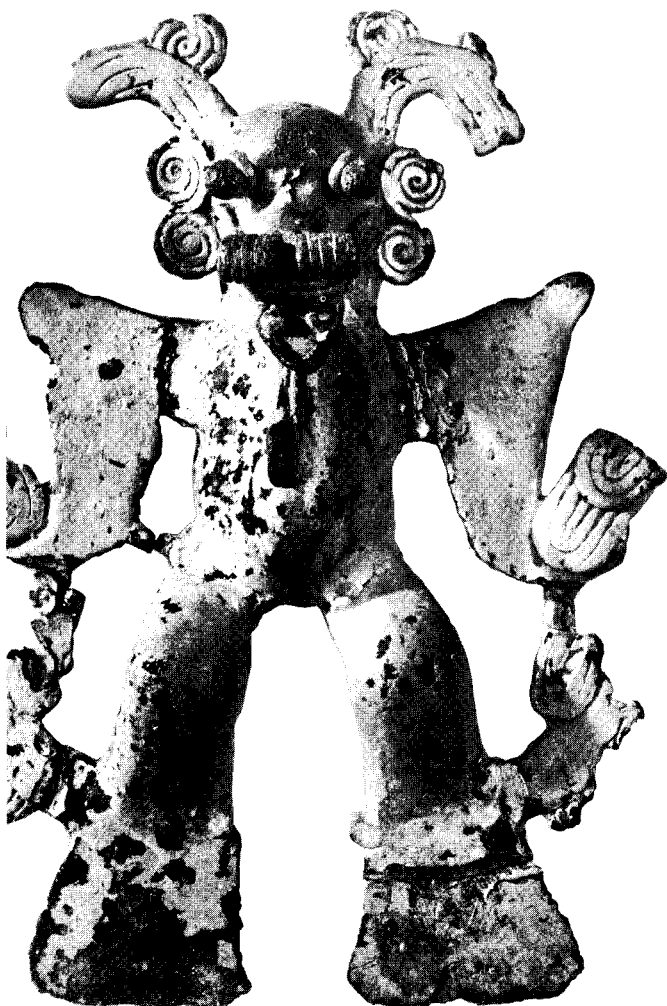
Coclé pendant, gold and ivory frog, 1 1/8", Museum of Primitive Art.



*Coclé ear ornament.
The Brooklyn Museum*



*Gold feline with bone in its mouth.
Below: Anthropomorphic figure,
cast in tumbaga. Both from collec-
tion of the National Museum of Pa-
nama*



the fire to boil. A piece of zinc is suspended in the pot from a copper wire that runs to the other vessel; there it is used to suspend the article to be plated in a solution of the three chemicals, and the action of the heat activates the process of plating.

The latter method is basically the physicochemical phenomenon of electrolysis that Faraday described in 1839, the decomposition of chemical materials by means of an electric current, produced in this case by a crude battery. Fernández de Oviedo tells in his chronicles of a series of procedures similar to the ones described, but could not give a detailed account because the Indians would not or could not explain them. It is very possible that the primitive goldsmiths, ignorant of the laws and uses of electricity in the decomposition of chemical substances, succeeded in using unknowingly the same principles applied today in galvanoplastics, although in a primitive and rudimentary manner.

Another process that has recently received the attention of the specialists in the field is soldering. It was always thought that the large artifacts consisted of combinations of several small pieces, made by the lost wax method, that were joined by soldering. But in the first place, according to Aldrete, the pre-Columbian jewelers were ignorant of the principle of soldering as we know it, since they lacked the indispensable materials for the process, such as borax and mercury, nor did they have the knowledge of how to use them; and in the second place, what would have been an insoluble problem for us was for them the height of simplicity. In the gold objects one can note at the unions certain protuberances that have been attributed to the solder used to join them, but actually were caused by the space occupied by the melted wax that was used to join one part to another. No matter how complex the artifact, its various components were copied in wax separately and then joined with hot wax into a single object and the entire object was cast in a single operation. The product of this pseudo-soldering is unbreakable and immune to blows and acids. When tested with nitric acid or a red-hot fire, the genuine article remains intact, but an imitation or copy falls apart at the soldered joints.

For the final polishing of the jewels it is thought that the goldsmiths used the abrasive leaves of the *chumico* or chaparro tree and bamboo chips, which contain silica. The methods used to make the tiny channels through the precious stones such as emeralds and agates for mounting them with fine wires on the surface of a gold object are still under study and no definite conclusions have been reached.

With the help of new finds from future excavations that may be carried on by scientific institutions working in the rich and vast field of Central American archaeology, of the experiments being undertaken in modern metallurgical laboratories, of a more intensive and painstaking search of the historical descriptions, and of the analysis and compilation of the traditions still preserved by the Indians of all our countries, we will soon come to understand more fully the amazing techniques of the great masters of Coclé gold work. □

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