

This is an extract from:

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

*Jeffrey Quilter and John W. Hoopes, Editors*

published by

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

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

[www.doaks.org/etexts.html](http://www.doaks.org/etexts.html)

# *The Seed of Life: The Symbolic Power of Gold-Copper Alloys and Metallurgical Transformations*

Ana María Falchetti

Pre-Hispanic metallurgy of the Americas is known for its technical variety. Over a period of more than three thousand years, different techniques were adopted by various Indian communities and adapted to their own cultures and beliefs.

In the Central Andes, gold and silver were the predominant metals, while copper was used as a base material. Central Andeans developed an assortment of copper-based alloys. Smiths hammered copper into sheets that would later be used to create objects covered with thin coatings of gold and silver. In northern South America and the Central American isthmus gold-copper alloys were particularly common.<sup>1</sup> Copper metallurgy was also important in Western Mexico and farther north.

Putting various local technological preferences aside, Amerindians used copper extensively as a base material. What then were the underlying concepts that governed the symbolism of copper, its combination with other metals, and particular technologies such as casting methods in Pre-Columbian Colombia, Panama, and Costa Rica?

Studies of physical and chemical processes are essential to a scientific approach to metallurgy, but for a fuller understanding, technologies should not be divorced from cultural contexts. Establishing a line between technology and culture or between technology and symbolism would be to ignore the fundamental unity of technology and ideology for, as Heather Lechtman (1975) points out, technologies are systems of beliefs in themselves. This is why the symbolism of Amerindian metallurgy should not be isolated from the thought processes, experiences, and theories of these communities, where particular logic, codified in mythologies over millenia, acted as a framework for comprehending and controlling the universe.

In traditional societies, cosmology provides the unifying structure guiding all aspects of human life. The origins of the cosmological order are usually explained as a “gestation in the universe.” This process is recorded in local origin myths. The phenomena of life development lead to the establishment of a calendar that integrates observed cyclical processes: the seasons

<sup>1</sup> The term *tumbaga*, frequently used to refer to copper-based alloys, was “imported” by the Spaniards from southeast Asia (Blust 1992). In the Caribbean islands, these alloys were known as *guanín*.

and the development of human, plant, and animal life. The concordance of cosmological and biological models guides economic, social, and ritual activities. The properties of metals and the symbolism of their combinations and transformations can be analyzed in the context of cyclical regeneration.

Various belief systems and their social and ritual expressions are preserved in mythologies of present-day Indian societies, in ethnographic studies, and in historical sources on past Indian communities. These communities have been flexible in adjusting to different influences, especially in relation to technological and socioeconomic activities. Their symbolic systems and thought structures, however, have been more resistant to change, for they deal with the most basic concerns of humanity: life and death and the interpretation of the cyclic phenomena of the universe and nature. Thus, the essence of old mythologies and cosmologies tends to survive in spite of foreign influences over time.

Mythologies that include references to metallurgy shed light on the symbolic associations of metals in cosmological and social contexts; shared symbols are important in social communication and in the determination of cultural identity. Among the scores of local mythologies, constants and basic lines of thought are recognizable: this phenomenon relates to the very nature of mythology as a way of explaining the world in terms of multiple analogies and all-encompassing transformations. As Nicolas Saunders (1998) points out, a Pan-American reality can be found behind many local worldviews. Also of interest is Dan Sperber's (1977; 1988) biogenetic approach to "universal forms of symbolism" and basic mental structures.

Thus, we can try to establish analogies between the myths of different societies, finding central themes related to the symbolism of metals. In this paper, I analyze the mythologies of Indian communities which offer particularly rich information on the symbolic properties of gold and copper, of their combinations and transformations through smelting, alloying, and casting,<sup>2</sup> as reproducing cosmological schemes and the model of the life cycle of humans. I include the Chibcha-speaking communities who live or lived in the mountainous regions of Colombia, such as the ancient Muisca and the present-day Uwa of the eastern mountain range and the Kogi people, the contemporary inhabitants of the Sierra Nevada de Santa Marta, as well as some communities who belong to lowland environments, such as the Chocó-speaking Emberá of western Colombia, the Chibcha-speaking Kuna of Panama and North-western Colombia, the Desana of the North-west Amazon, and the ancient Malibú of the Caribbean lowlands (see Fig. 3). References to the symbolism of metals among ancient communities of the Caribbean islands, Peru and Mexico are included for comparative and complementary purposes.

<sup>2</sup> Pre-Hispanic objects made of gold-copper alloys frequently include some silver, which occurs naturally in the ores. The intentional alloy of gold, silver, and copper was developed in the Central Andes, a choice that would be in accordance with the importance of silver metallurgy in the area. The available information about the metal composition of objects from different regions of central and northern Colombia, Panama, and Costa Rica does not affirm that silver was intentionally added to the gold-copper alloy. However, having in mind that silver metallurgy was not common in the area, while gold, copper, and gold-copper alloys were the most important, this paper concentrates on the symbolism of these two metals and of their transformations through smelting and casting, the most common techniques in the area.

This framework can support many local interpretations of the symbolism of metals. A number of studies have explored the role of metal objects as communicators of cosmological energies,<sup>3</sup> especially in the case of ritual ornaments and their role in legitimizing secular power and prestige. For example, individuals who were endowed with the knowledge to mediate between society and the supernatural used, among other ornaments, metal items imbued with celestial energies.

However, various ornaments and religious offerings were also used by the common populations. Combining information provided by mythology, ethnohistory, and archeology, I explore the symbolism of these elements in the context of cosmological and biological cycles. Metal objects' association with the cyclical rhythm of life at a supernatural level conferred on them a symbolic power that Amerindians related to in order to ensure social stability and survival.<sup>4</sup>

### *The "Gestation in the Universe": Metals and Cosmology*

The belief that celestial bodies influence the development of metals is common among ancient and non-Western societies (Eliade 1974). Considering that mythologies usually explain the origins of a cosmological order as a "gestation in the universe," the multiple associations of the sun and the moon as a celestial couple prove to be of primary importance. In spite of the variety of interpretations of the cosmological role of these celestial beings, frequently imbued with ambiguous properties, some general concepts can be traced.

The primary association of gold with the male generative power of the sun and of silver with the feminine qualities of the moon is found in the cosmology of people who favored the metallurgy of these two metals. The cosmologically derived qualities are expressed in visible properties of the metals, such as their color. In spite of the variability in the complex codifications of colors established by different societies, it is common to find that yellow hues are associated with the energy of the sun, which is transmitted to gold,<sup>5</sup> while the pale color of silver is linked to the energy of the moon. These associations existed in Inka cosmology and they can probably be recognized in pre-Inka metal ornaments that juxtapose gold and silver. As Walter Alva and Christopher Donnan (1993: 223) propose, the combina-

<sup>3</sup> See for instance: Helms 1979; 1987; 1993; Reichel-Dolmatoff 1981; 1988; Lechtman 1993; Saunders 1998; Oliver 2000.

<sup>4</sup> The information in this essay is part of a long-term project dealing with the study of the symbolism of pre-Hispanic metallurgy. Its methodology combines mythological, ethnographic, historical, and archaeological information with mythology as a starting point to establish lines of interpretation based on the worldviews of various Indian communities.

<sup>5</sup> The association of gold with the yellow power of the sun is widespread among Amerindian communities. For the Inka of Peru, gold was the "sweat of the sun." The Aztecs of Mexico considered gold the "excrement of the sun." These beliefs are still alive in the mythology of present-day Indian societies. The Kogi of the Sierra Nevada de Santa Marta in northern Colombia associate gold with male fertility, received from the sun. They also believe the sun and gold exchange energy. Gerardo Reichel-Dolmatoff (1981: 26) describes how the Kogi priests expose their golden ornaments, which are in fact archaeological items, to the sun's rays to recharge their energy. The mythology of the Kuna Indians of Panama and northwestern Colombia refers con-

tion of the two metals likely represents a basic dualism that communicates balance between their complementary cosmological energies.<sup>6</sup>

As has been explored by Mircea Eliade (1981: 135, 150), one of the principal properties of the sun is immortality. Sunset is not seen as the death of the sun, but as a descent into an underworld often associated with the realm of the dead. But the sun reappears unchanged each morning and is thus not subject to the universal laws of transformation, that is, birth and death. Immortality, which is exclusive to deities, is a quality that links gold with the sun, for gold is the incorruptible metal that never dies (Fig. 1).

The characteristics of the moon contrast those of the sun. The moon grows, wanes, and for three nights every month disappears completely. Like human life, the moon's cycle ends in "death." Although the moon is "mortal," its cycle is a symbol of periodic regeneration. The death of the moon is not forever. The new moon, a symbol of the moon's rebirth, represents humans' wish for regeneration, that is, "rebirth" of the dead.

The mythology of the Desana of the northwestern Amazon as interpreted by Gerardo Reichel-Dolmatoff (1981) is useful in analyzing the symbolic associations of copper. In some contexts copper is related to female properties and to the transformations of the moon.

This must be related to copper's capacity for transformation. It tarnishes and oxydizes. It is subject to change, deterioration, and "death" (Fig. 2). These properties are associated with human life and its development and, in cosmological terms, with the cycle of the moon. Copper has characteristics of "mortality," which relate to humanness, in opposition to gold with its "immortal" qualities, usually linked to deities. The dualistic properties of the moon are apparent in the opposition between its mortal (human) qualities associated with copper, and its divine qualities, expressed in its periodical regeneration, related to silver.

The cosmologically derived qualities of gold, silver, and copper help explain the social meaning of these metals and their supernatural associations. For instance, in the mythology of certain ancient communities from the central coast of Peru, chiefs descended from a golden egg, and their wives from a silver egg, while commoners were born from a copper egg (Calancha [1638] 1982, 3: 934). This must symbolize the mortality of the common people and the immortality of divine rulers. Such associations determined the use of particular metals by different members of society, a situation also expressed in funerary contexts.

---

stantly to gold. In ancestral times everything in the universe was made of gold, and Ibelele, the celestial emissary during that golden age, "navigates in the sun, his home." Jorge Morales (1997) has equated the golden age of the Kuna with a seminal power that invaded the universe. The association of gold with the fertilizing power of the sun is reflected in images of a humanized sun wearing golden ornaments, which are an expression of that power. Thus, for the Emberá people of western Colombia, the sun is a man with a large circular golden hat (Wassén 1935: 135), and for the Kogi the sun is a man with a golden mask and a large circular breastplate. The rays produced by these ornaments bring life to the universe (Reichel-Dolmatoff 1985).

<sup>6</sup> Due to the variety of local cosmologies, a different emphasis was given to particular symbolic associations. In coastal Peru, for instance, the lunar-oriented cosmologies of certain pre-Inka communities guided the importance of silver and its color, a fact that probably also influenced the status of arsenical bronzes, with their silvery colors. In contrast, the Inka favored the metallurgy of tin bronzes, whose yellowish hues correspond with their sun-centered cosmology.



Fig. 1 Gold is linked in many mythologies with the sun, the immortal celestial being. Gold pectoral, Tairona. Sierra Nevada de Santa Marta, Colombia. Museo del Oro, Bogotá, acc. no. 16146. Dia. 14 cm.



Fig. 2 Copper tarnishes and oxidizes and is subject to deterioration and “death.” These properties link this metal symbolically with the cyclical life of the moon. Copper votive offering, Muisca, eastern mountain range of Colombia. Museo del Oro, Bogotá, acc. no. 5561. H. 10.5 cm.

As Izumi Shimada (1995; 1996) found at the Sicán funerary complexes on the northern coast of Peru, and Walter Alva discovered (1994) at the Sipán tombs of Lambayeque, particular metal ornaments reflected the rank of the deceased. Only the graves of high-status individuals contained ornaments of solid gold and silver. The tombs of the so-called nobles had gilded or silvered ornaments of copper or copper-based alloys, probably meant to imitate the gold and silver restricted to the supreme leader. The graves of the commoners contained objects made only of copper.

Desana mythology employs the term *copper colored* to refer to a wide range of reddish hues that are usually associated with female properties. At a cosmological level, red is frequently associated with the birth of humanity. The Desana link reddish hues to lakes and rivers, for human life originated in primordial waters (Reichel-Dolmatoff 1978: 259; 1981: 21). The Uwa, a Chibcha-speaking community of the eastern mountain range of Colombia (Fig. 3), associate reddish hues and blood with the feminine underworld, which “contains the blood of humans” (Osborn 1995). Coppery red colors are related to blood—the feminine component of human beings—and to the mortal and corruptible parts of humans (blood and flesh), as opposed to the bones, which include male incorruptible qualities. Thus these properties of reddish colors tend to confirm the association of copper with feminine qualities, humanness, and mortality. This relation of reddish hues and “female” metals is fairly common in many ancient and non-Western societies (Eliade 1974: 36).

Odor represents another expression of metals’ energy and gender connotations. Gold is odorless, while copper has a distinctive odor prized by Indian communities. The Desana, for instance, associate the smell of copper with that of a toad, which represents female fertility, transformation, and procreation (Reichel-Dolmatoff 1981: 22).

Given these primary associations, gold and copper appear to represent opposed and complementary basic properties in terms of predominant male and female qualities.<sup>7</sup> The union of the sexes through metallurgical combinations is fundamental to achieving the correct fusion that will lead to “birth.” Iron workers of central and southern Africa, for example, still maintain the symbolism of metallurgical transformations related to the development of the human embryo (Rowlands and Warnier 1993; Collet 1993).

The qualities of metals change based on their combinations. According to Desana mythology, copper has the color of blood, a feminine element, but also the “color of transformation.” Metallurgical processes represent embryonic transformation, symbolized by the changes of the moon once it is fertilized by the sun, a cosmological scheme associated with the cycle of development of humans (Reichel-Dolmatoff 1981). The stages of transformation correspond to the monthly phases of the moon, which are associated with certain colors, odors, and textures and to different stages of human embryonic transformation and

<sup>7</sup> The relationship of the sun and the moon, in most mythological analogies, can be ambiguous and may change according to the associations established by different societies or interpretations of symbols in the community relating to context or the ideas of individuals (Sperber 1988). In Desana mythology, for instance, the male and female properties of the sun and the moon appear in the cosmological context analyzed here. In the context of other myths, however, the moon has male properties and is referred to as “the brother of the sun” (Reichel-Dolmatoff 1986: 96).



Fig. 3. Some Indian communities that associate metals and cosmological occurrences

social behavior. A closer look at the associations of each phase of the moon suggests relationships to metals, alloys, and metallurgical processes (Fig. 4).

In Desana mythology, the sun fertilizes the brilliant new moon. The Desana associate this period with the beginning of life in the universe, human conception, and the first stage of plant growth. This model guides human sexual, social, and economic activities related to life's beginning. Among the Uwa, the new moon (or "small moon") corresponds to planting and sexual activity (Márquez 1981). The Desana associate the new moon with yellowish and reddish hues, which can be interpreted as a primary combination of male and female properties.

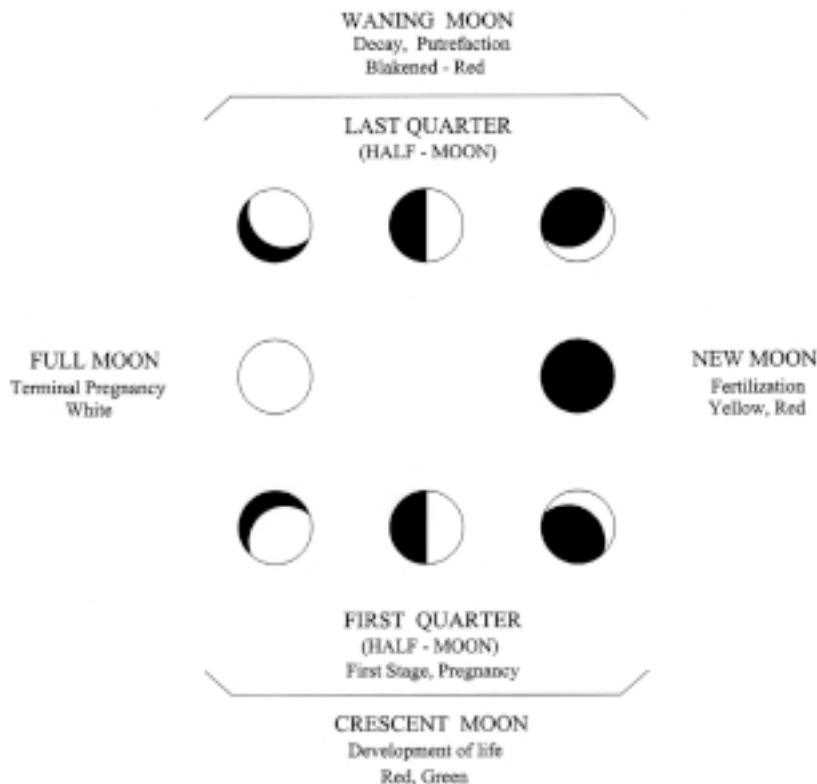


Fig. 4. Symbolic associations of the phases of the moon

By the first quarter, the moon proves to be pregnant. The crescent moon is associated with green, a reference to the growth of vegetation, and with reddish hues, pointing to development of the human embryo (Reichel-Dolmatoff 1986: 72–73; 1978: 258–259). The full moon represents the end of pregnancy and the maturity of fruit;<sup>8</sup> as the Kogi explain, during this period “everything has a seed” (Reichel-Dolmatoff 1975: 232). They associate this phase with a variety of colors, predominantly reds.

A different process begins with the waning moon. Among its associations is menstrual blood, identified as dangerous, and contaminating. A menstruating woman “dies” as a human being and is reborn a few days later. Among the Desana, the waning moon and menstrual blood are related to “blackened-red colors,” also identified as “copper colors,” and to strong and dangerous odors, both corresponding to the negative properties of the moon and to illness, decay, and putrefaction (Reichel-Dolmatoff 1986: 96–97). The combining of the red hues of female fecundity with black, the color of death, in a hue conceptualized as “copper colored,” may well be related to the changes in the color of copper through oxidation and to the inherent possibility of destruction and “death” of this metal.

<sup>8</sup>The Inka celebrated the great ritual of *Mayacati* during the full moon following the summer solstice. This ritual had symbolic associations with the harvest and with the fertility of the lands of Cuzco (Zuidema 1998: 215–216).

The waning moon represents the process leading to death; the nights during which the moon disappears are associated with death and with black colors. The Desana believe that during the dark nights the moon descends to the cemeteries to eat corpses. On the way down, the moon takes off her copper ear ornaments and the crown of white feathers, both of which are the moon's source of light (Reichel-Dolmatoff 1986). During these dark nights the moon is "dead," but it returns to the sky wearing her ornaments again, a rebirth as the new moon. The relation of the loss of brightness to darkness and death recalls the inherent properties of copper that are transmitted to gold-copper alloys; they can lose their brightness through tarnishing and corrosion—decay and death—for dullness has these negative properties. On the other hand, brightness symbolizes life-giving energies (Helms 1987; 1993; Hosler 1994; Saunders 1998).

The various "copper-colored" stages of the moon in Desana mythology start with the fertilizing influence of the sun. Transmitted to metallurgical processes, the changes in copper are produced by a transformation potential to which the fertilizing influence of gold must be added to combine the male and female properties of the two metals and to initiate the embryonic transformations that will result in a gold-copper alloy. These metallurgical combinations reproduce the cosmological pattern of the moon's transformations, which represent the full cycle of the development of life: conception, development, maturity, birth, illness, decay, death, and rebirth.

### *The "Seed of Life": The Transformation of Metals*

The association of metallurgical transformations with embryonic development proves to be important in the interpretation of the role of metalsmiths in traditional societies. Metals represent embryos, "seeds," that produce a germ of life through the process of transformation which, in turn, represents an act of "creation" similar to the cycle of human development.

This association was widespread among communities who mined, worked, or used metals in antiquity. According to Eliade (1974), who analyzed these concepts among Old World societies, metals were seen as embryos that developed in the womb of Mother Earth, where they slowly reached maturity. Through mining and metalworking, humans replace these natural processes of the Earth. Metalsmiths also reproduce the model of the "gestation in the universe." In fact, as Claude Lévi-Strauss (1988) notes, in traditional societies the artisans reproduce the primordial ordering of the universe and reaffirm the essential order of human existence.

"The Bees," an Uwa myth, provides important clues about the symbolism of the transformation of metals (Osborn 1995; n.d.) In previous works I have analysed the content of this myth in the context of Uwa mythology, ritual, and social relationships, and give here the principal ideas that prove to be useful to our understanding of the mythical approach to the transformation of metals (see Falchetti 1997; 2001; Falchetti and Nates-Parra 2002).

According to this myth, in ancestral times the world lacked the elements fundamental for germination—that is, products of stingless bees, especially honey, a principal agent of fertility. Rukwa (the sun-father) sends his creatures, the bees, to the world (Fig. 5). As "pay-



Fig. 5 In the myths of the Uwa communities of the eastern mountain range of Colombia, stingless bees are “the creatures of the sun.” Gold appears in the Uwa bee myth as a material that is transformed magically into a “seed” by the female bees (Trigonidae). Photograph by Olga Cepeda.

ment” for inhabiting this world, the bees are given yellow earth,<sup>9</sup> a material symbolizing gold, along with seeds and other elements associated with fertility (Osborn 1990: 27; 1995: 107, 196).

The *yellow earth*<sup>10</sup> is transformed by the female bees into two basic elements: the *embryonic female seed (kuna)* in the heart of the beehive (Fig. 6) and the bees’ *feminine original matter (bita)*, represented by the grubs. *Bita* is the immortal essence from which all life forms develop as an embryo; it must be preserved to ensure the continuity of life. In the context of the bee myth, *bita* is also referred to as “lode,” a vein of metal ore (Osborn n.d.: 70, 83, 210). The yellow earth becomes a seed or an embryo through a magical transformation performed by the female bees. At the same time, the male bees transform pollen (“male seed”) and wood into wax.<sup>11</sup>

Traditionally, the celebrations of the Uwa were performed, and some still are, during each of the four seasons into which they divide the year, following a ceremonial calendar

<sup>9</sup> Other Indian communities refer to metals as “colored earth.” Among the Desana, shamans use copper ear pendants (which in the past were probably also made of gold), and triangular silver pendants. The mythical being who taught people how to make these ornaments took yellow water from a well and poured it into molds made of yellow clay. There were two metals that looked like fine grains—one yellow and the other one white (Reichel-Dolmatoff 1981: 20).

<sup>10</sup> It is not known if the reference is exclusively to gold or if it extends to copper and to gold-copper alloys. The analysis of sixteenth-century documentary sources makes it clear that in the past the Uwa received metal objects by trade (Falchetti 1997).

<sup>11</sup> This transformation is linked to the external cover of the hive, which the Uwa associate with male fertility, and protection for the process of germination that takes place in the interior of the hive. The Uwa collect honey and wax from the hives of the stingless bee, a family (Meliponidae) that includes many species and

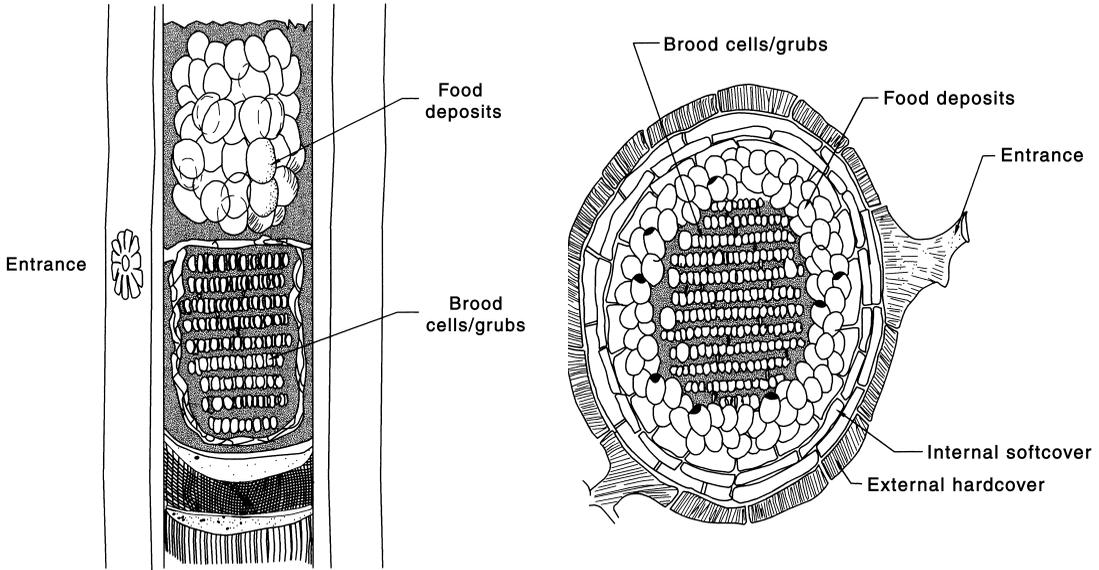


Fig. 6 In Uwa myths, hives of the stingless bees are associated with the “womb.” The “embryonic transformations” take place in the heart of the beehive, which is in fact the location of the brood cells.

established according to the movements of the sun (Osborn 1995; n.d.) (Fig. 7). The sequence of Uwa seasonal celebrations and the events described in the corresponding myths illustrate a parallel in their perceptions of the stages of life. The bee myth was chanted during the dry season (summer solstice), which is the season of the seeds and of gestation. In the past this was a time of generalized sexual relations when the men collected honey that both men and women consumed to revitalize fertility. Gold thus appears in celebrations related to the beginning of life that reproduce the cosmological context referred to in the bee myth.

The Kogi of northern Colombia view metals in a similar context. In Kogi mythology, Taikú, the Lord of Metals and Metallurgy, is a solar being associated with the origins of seeds. The sun Taikú brings the dry season, and then the rains, to allow the seed to germinate (cf. Preuss [1914] 1993, pt. 1: 71–72; pt. 2: 34–40, 81–82). In the past, a dance that honored Lord Taikú was celebrated during the dry season, the time of the summer solstice (Reichel-Dolmatoff 1975: 231), the time of the seeds.

Xipe Totec, the god of Aztec metalsmiths, symbolized fertility and regeneration and was associated with the germination of seeds. The yellow color of gold, which was shared by

---

is widespread in tropical and subtropical areas. These bees are involved in a series of transformation activities in the construction and maintenance of the hive. They produce wax that is mixed with pollen, resins, wood, clay, leaves, and other materials to create a dark material used in the construction of cells and protective internal and external covers. These activities are carried out mainly by the worker bees, but in some cases the males or drones are also involved in these processes (Nogueira Neto 1997: 43; Shôichi 1982: 389).

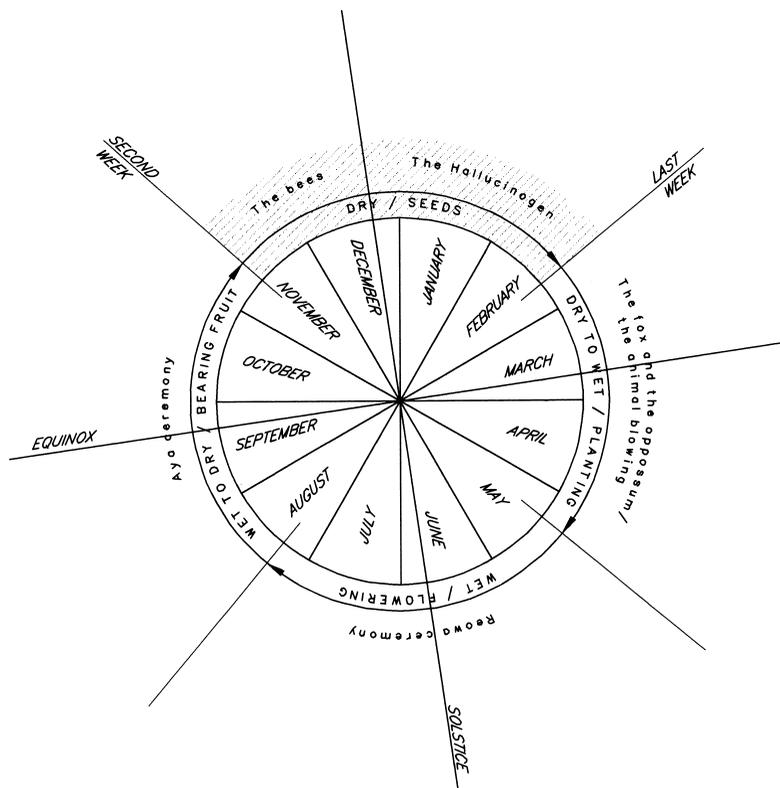


Fig. 7 The Uwa ceremonial calendar (after Osborn 1995)

other materials, such as amber, the sacred resin, was the color of “the new skin of the earth” before the rainy season. During the celebrations to honor Xipe Totec, a participant representing the god dressed in the skin of a sacrificed captive, a symbol of regeneration. Offerings consisted of seeds and the first flowers of the year (Sahagún [1582] 1956: 56–57). In the mythology of West Mexican ancient peoples, metals were the materials from which the creator fashioned the first human beings through mixture and transformation (Hosler 1994: 228, 246).

The native metal—which corresponds to the *yellow earth* of the Uwa bee myth—held special meanings, as suggested by the use of it as a religious offering. The Spanish chroniclers describe how the conquistadors found gold dust and gold ore among the offerings in the Temple of the Sun of Sogamoso, the principal ceremonial center of the Muisca, former neighbors of the Uwa (Piedrahita [1666] 1973, 1: 64).

The smelting of the metal ore is the first transformation of the basic material (Fig. 8). Following the associations established by Uwa mythology, the yellow earth is converted into female embryonic seed; the mineral must then pass through a transformation to produce a “germ of life.” The furnaces and crucibles represent the womb, where these embryonic transformations occur. The Desana refer to the development of the human embryo as a “cooking process” (Reichel-Dolmatoff 1981).



Fig. 8 Through smelting, the ore “is transformed” into metal. Reconstruction, Museo del Oro, Bogotá.



Fig. 9 After smelting, small rounded ingots were left at the bottom of the crucible. Reconstruction, Museo del Oro, Bogotá.



Fig. 10 Ingots found in Muisca territory, eastern mountain range of Colombia. Museo del Oro, Bogotá. Dia. 1.28 cm (average).

Eliade's (1974: 66–70) analysis of the symbolic associations of smelting processes among both ancient and contemporary metalworkers of the Old World shows how the symbolic link of the furnace with the womb and of metals with embryos is directly related to particular offerings and sacrifices. One widespread custom was that of burying a human or animal fetus as a sacrifice to ensure the success of the fusion process. The life energy of the fetus would transfer to the metals and their embryonic process. Similar symbolic associations can probably be found in native American metallurgy, although this has not been explored. The metalworking sites (ca. A.D. 900) excavated by Shimada and his team on the north coast of Peru include a number of furnaces that were used for the large-scale smelting of copper. The construction of the furnaces was accompanied by rituals that included the sacrifice of fetal or neonatal camelids (Shimada and Shimada 1985: 14–15; Shimada 1995: 24).

When processing metal ore, small rounded ingots (in Colombian territory referred to as *tejuelos* in the historical sources) were left at the bottom of the crucible (Figs. 9 and 10). These ingots were used as “raw material” for manufacturing various objects, but they also had social and religious functions of their own. The Muisca, for instance, used the *tejuelos* as religious offerings (Falchetti 1997). These small ingots represented a first stage in transformation related to smelting, a process through which the ore is transformed into metal. This process is comparable to the initial stage of human development. In some sixteenth-century sources, *tejuelos* are called “half-moons,” and the Muisca called them *guayacas*, a word that Eduardo Londoño (1989: 115, 117) suggests could be related to *ubacaguaia*, a Muisca term for the moon. For the Emberá communities of western Colombia, the half-moon is the first quarter (Pardo 1987: 68), the moment of the moon's cycle associated with the first stage of pregnancy. “Half-moon,” however, also refers to the last quarter, which corresponds to the waning moon (illness and decay). These lunar phases, associated with positive and negative implications, are the contrasting parts of a single process synthesizing the rhythm of life. The *tejuelos* or half-moons might symbolize this cycle and the complementary oppositions that define it.

Small ingots may also be related to the subsequent phase—rebirth or the new moon—as suggested by their presence among Muisca funerary offerings, which is documented by sixteenth-century sources and archaeological finds (González-Pacheco and Boada 1990: 54, 58). “In an old and uninhabitable hut which nobody entered . . . which must have belonged to a great lord who died long ago and was buried there many years before, a *catauro* [basket] made in the manner of a sack was found, sewn with a gold thread, and filled with gold *tejuelos*” (Aguado 1581, in Casilimas and López 1987: 140).

The *tejuelos* were in a process of transformation, as was the “soul” of the dead, according to the identification of death with a transformation leading to a different stage of life or to a “rebirth.” This is clear in Uwa mythology, which designates the soul of the dead as an “embryonic soul,” the same expression used for the soul of the embryo during the first stage of pregnancy. These associations identify two moments of transformation: the beginning of the individual's life, leading to birth, and the transformation of the dead, leading to rebirth. This represents the entire cycle of development and regeneration. *Tejuelos* might symbolize this process. They would be in an “embryonic state,” prior to the development of the individual, represented by the objects manufactured using the *tejuelos* as raw material.

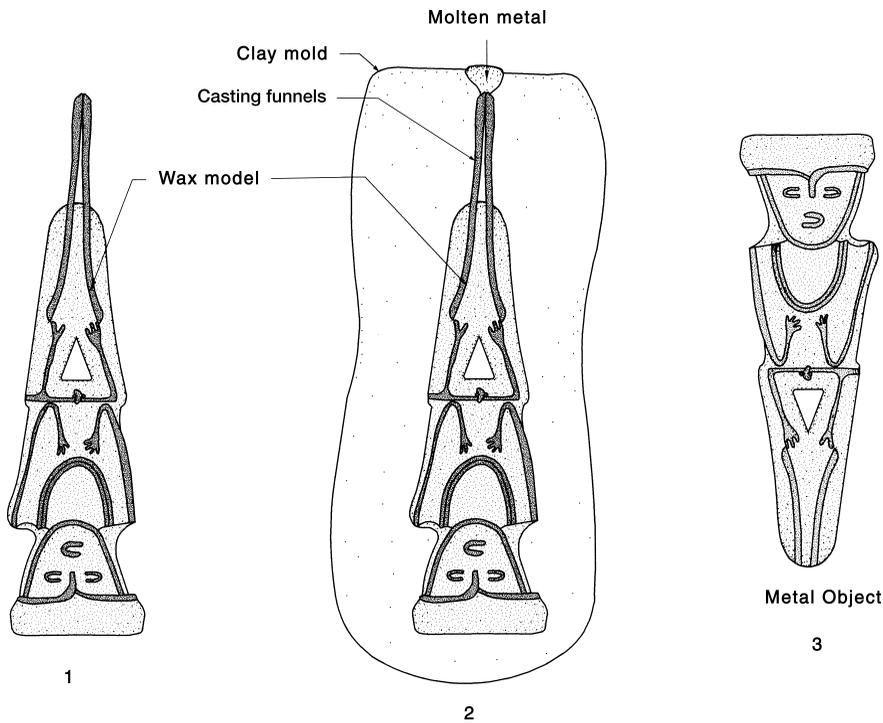


Fig. 11 Schematic representation of the lost-wax casting technique

The lost-wax casting technique was common in pre-Hispanic Colombia, Panama, and Costa Rica (Fig. 11). The initial model of metal objects was made using wax collected from the hives of stingless tropical bees. The process of modeling the figure with wax recalls the mythology of the Bribri communities of Costa Rica that compares the “soul” of the human individual before birth to a figure modeled by the creator deity: “Before birth, a small soul enters the body. This small figure is made by the maker *suLá*, as if he were making clay figurines” (Bozzoli 1986: 152).

The wax model was covered with a clay mold (Fig. 12). This was then heated so the wax would run out. Molten metal was poured into the space left by the wax—a process that could symbolize, for indigenous people, a “transformation of wax into gold.” Wax and gold are associated in the Uwa bee myth and are subjects of complementary transformations performed by male and female bees.

The molten metal poured into the mold represents the “embryonic seed,” and the extraction of the object from the mold (Fig. 13) symbolizes “birth.” According to Fray Bernardino de Sahagún ([1582] 1956: 71), referring to the work of Aztec metalsmiths, “it is born, the artifact has been cast and completed.”

The symbolic associations of metals and transformation lead to some basic observations: for Amerindian peoples, metallurgical combinations represented more than technical conveniences. To them, alloys incorporated the mixing of male and female properties of the metals involved, a balance essential for the successful embryonic development achieved through metallurgical processes. These combinations and transformations, based on cosmological and



Fig. 12. Unused mold for lost-wax casting. Museo del Oro, Bogotá. H. 6 cm.



Fig. 13 Lost-wax casting mold refilled and opened. Museo del Oro, Bogotá. H. 5.7 cm.



Fig. 14 Clay female figurine wearing a nose ornament. Zenu area, Caribbean lowlands of Colombia. Museo del Oro, Bogotá.

biological models, reflect the primary concern of Indian societies for the continuity of life and the equilibrium of the universe, which people must encourage and maintain through ritual and social activity. At the social level, the continuity of the human race was assured through the observance of permitted marriage alliances. The symbolism of metal objects used during such social occasions was transmitted to the people who used them.

### *The Continuity of the “Seed of People”: The Properties of Metals and Social Survival*

For the Uwa, their former system of matrimonial exchange sustained the right “mixture” of the characteristics of exogamic groups. This human self-perpetuation is interpreted as the preservation of the “people’s seed.” Reichel-Dolmatoff (1981) affirms that the Desana relate metallurgical processes to matrimonial exchange—to the way in which the properties of exogamic groups (which are also associated with colors, odors, and other qualities ) must be mixed to reach balance. I believe that these associations were present in the case of some metal ornaments that were formerly used during marriage ceremonies; in some areas, their use survives to this day. These objects and their properties symbolize the permitted marriage alliances.

Metal nose ornaments of various shapes have been found in northern Colombia. In sixteenth-century sources, nose pieces are reported as performing special social functions (Fig. 14). The Malibú people of the lower Magdalena River (see Fig. 3), prized these ornaments as “bride price” during marriage ceremonies. On these occasions, the bridegroom offered nose ornaments to his father-in-law:

and the bridegroom gives the father-in-law the best jewels he has, which are worn in that cartilage that divides the two nostrils. . . . They call this jewel or jewels, *mayun*. (Medina, Gómez Rondón, and Bermúdez [1579] 1983: 186–187)

The historical sources do not describe the features of these particular ornaments but nose pieces of various shapes have been found in Malibú territory. Probably objects with certain characteristics represented Malibú identity and were a symbol of a marriage alliance created to ensure the permanence of Malibú society. A similar situation is found among the Kuna Indians of Panama and northwestern Colombia. Kuna women still use metal nose ornaments. At one point men wore them as well. These ornaments reaffirm the social norms which follow the teachings of the cultural heroes of Kuna mythology (Helms 1979: 80–83; Morales 1997).

These nose ornaments produced and exchanged formerly in northern Colombia and western Venezuela and having the shape of a curved bar (of gold, copper, or gold-copper alloys) correspond in these northern regions to the ornaments described in some sixteenth-century sources as *caricuríes* (Falchetti 1995).<sup>12</sup> Although the *caricuríes* of different areas share the same basic shape, regional variations are distinguishable.<sup>13</sup> The items from the Sierra Nevada de Santa Marta, for instance, have large circular ends and are usually made of a gold-copper alloy with a characteristic reddish color (Fig. 15). The *caricuríes* from the San Jacinto mountain range, to the north of the Caribbean lowlands, have smaller ends and are made of a surface-enriched alloy with a high copper content highly susceptible to corrosion (Falchetti 1995: 291). Historical sources also mention regional differences in the morphological details of nose ornaments; they report that items from different regions could be distinguished by the size of the ends (see Martínez 1989).

The historical sources also report differences in the metallurgical composition of objects made of gold-copper alloys by the Malibú communities and by people of neighboring regions. Although these compositions must have been influenced by Spanish demand and the pressure on Indian metalsmiths to add more copper to metal objects used in trade, the different combinations were likely of pre-Hispanic origin. Thus, the Valle de Upar, in the Cesar River valley, was traditionally known for the production of nose ornaments and bracelets of eight or nine carat gold, and the region of Tamalameque, in Malibú territory, produced “the lowest grade gold,” with only two to four carats (1555 AGI Just 587-A, in Martínez 1989: 47–49). The Pemeo Indians, located farther south, used “much copper” to make their ornaments, and the people of La Cimitarra, in the middle Magdalena River drainage, produced nose rings of gold (Martín [1534] 1959: 496; Piedrahita [1666] 1973, 1: 343) (see Fig.

<sup>12</sup> *Caricuríes* were used in many communities and probably during different periods, as were nose ornaments referred to in the historical sources as *moquillos* and *chagualas*. *Chaguala* usually refers to a circular gold breastplate, but also to certain nose ornaments. The term was probably extended to different types of body ornaments with common morphological and technological features. In a document describing the Guainía region in the lowlands of eastern Colombia, a *chaguala* is described as a “small plate” (Langebaek 1989–90: 214).

<sup>13</sup> Numerous items from different regions of northern Colombia are in the collections of the Museo del Oro, Bogotá (Falchetti 1993; 1995).

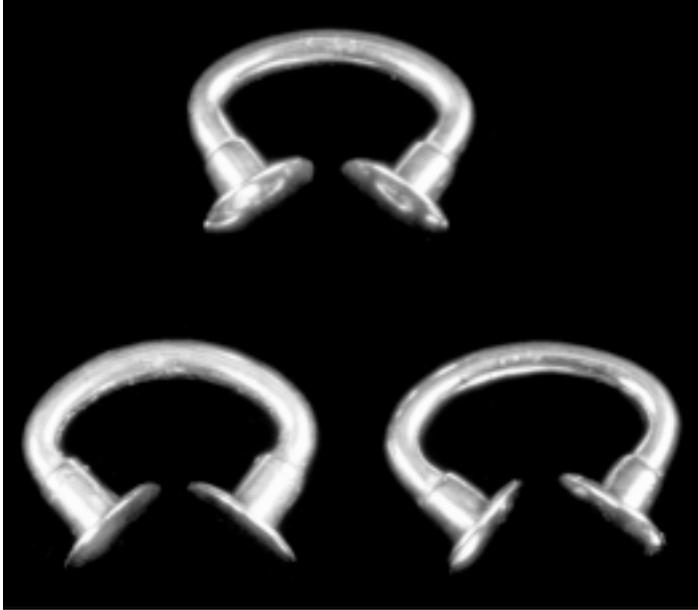


Fig. 15 Nose ornaments (*caricuríes*). Sierra Nevada de Santa Marta Museo del Oro, Bogotá, acc. nos. 13712, 14357, 1481. W. 4.5 cm.

3). Further metallurgical analysis of objects is needed to confirm some of the local differences mentioned in the historical sources.

The documentary sources report that the Indians distinguished the origin of objects by their color and their odor (see Martínez 1989: 48). This suggests that they identified the color and odor of particular metal combinations with different communities. The alloys could represent the balanced mixtures of male and female properties that identified particular ethnic groups.

The association of ornaments and alloys with the rhythm of life and with exogamic alliances can be considered in examining the use of ear ornaments made of copper-based alloys (*guanín*) among the Taíno of the Caribbean islands. As José Oliver (2000) has analysed, *guanín* represents a class of materials linked by their special smell and golden or reddish colors and brilliance such as the alloy, some plants with golden flowers or a strong odor, particular kinds of shells, and the iridescent feathers of the hummingbird. Bartolomé de las Casas's chronicles explain how the Taíno appreciated the ear ornaments made of copper-based alloys for their dark red color and their odor: "A certain kind of low grade gold that they call *guanín*, which is slightly purple in color which they know for the smell and hold in great value" (Las Casas [1561] 1965, 2: 240). "They also prized certain sheets of *guanín*, which was a certain kind of low grade gold that they smelled and had as precious jewels, to wear hanging from the ears. . . . These sheets and jewels for the ears were called in their language, *taguaguas*" (Las Casas [1559] 1967, 3: 318).

*Taguagua* recalls a word that is still used in the islands to refer to a particular plant with a strong odor (*tagua-tagua* or *Passiflora foetida*) (Figs. 16 and 17). Additionally, a plant with

strongly scented golden flowers known in Cuba as *guanina* (*Cassia occidentalis*) is referred to in Puerto Rico as *hedionda* (stinking) (Szaszdi 1982–83: 17). The association of guanín ear ornaments with strong or “bad” odors, harks back to the properties of copper that were transmitted to gold–copper alloys in the context of transformations of the moon. The “copper-colored” waning moon is associated with strong and dangerous odors and with decay and putrefaction, and is opposed to the crescent moon, the time of the development of life. Guanín ear ornaments could symbolize this cycle, a fact that explains their importance as a symbol of the correct matrimonial combinations. In fact, guanín ear ornaments once played an important role as a bride price in marriage alliances. They were considered a suitable gift for a man to give to the daughter of a cacique to obtain her as a bride:

and this guanín was so prized . . . for its smell or for some other property with which they credited it. . . . These sheets [ear ornaments] were valued . . . to give them to the daughter of one of the chiefs or lords, so that the lord would give them what they wanted [the bride]. (Las Casas [1559] 1967, 3: 318)

They also gave as price for the Maiden, certain sheets of Guanín, which was a certain kind of low grade Gold, that the Indians of that Island smelled, and had as Jewels of great estimation, and which they hanged from the ears. (Torquemada 1723, 2: 427)

Thus, the smell of guanín can be analyzed in terms of exogamic alliances that may include the concept of the “right combination of odors” of the different groups. Among the Desana, for instance, the correct marriage alliances are interpreted as a good combination of odors, while the incompatibility of partners is described as having a “contaminating odor” (Reichel-Dolmatoff 1978: 272–273).

Exogamic alliances include the negative properties of the different groups, which must be balanced, due to the uncertainty of the life cycles that man tries to control by following the rules of marriage established by the ancestors to ensure, as the Uwa would say, the “continuity of the seed of people.”

The importance of nose and ear ornaments during marriage ceremonies highlights the relationship of these objects to particular parts of the body having gender connotations. This association deserves further study in the case of metal ornaments. For the Uwa, the nose has male sexual connotations, while the ears are related to female sexuality (Osborn 1995: 190).

### *The Protection of “the Seed of People”: Metals, Trade, and Social Continuity*

Some of the basic symbolic associations of metals and objects analyzed above were shared by different Indian societies. This explains, in part, the importance of particular ornaments in trade networks that included communities that did not produce the coveted objects. These trade relationships are based on cosmological models. The strong distinction that traditional societies establish between their own territory and foreign lands has been extensively analyzed by Eliade (1959), and by Helms (1993), who explores the link between



Fig. 16 *Passiflora foetida*, a plant with a strong odor that was associated among some Amerindian communities with female properties and with gold-copper alloys. Photograph by Cristina Uribe.



Fig. 17 Pre-Hispanic metal pendant representing a passion flower, *Passiflora sp.* Malagana, Colombia. Museo del Oro, Bogotá, acc. no. 33277. H. 3.3 cm.

geographical distance (horizontal) and supernatural distance (vertical). The known and “humanized” world is ordered by the sacred precepts contained in myths. Beyond this world’s limits, a less organized territory begins, which is believed to be inhabited by beings without social norms and is identified with dangerous, supernatural realms.

At the same time, in traditional societies, identity is closely related to distance. In social terms, the danger represented by groups located outside one’s ethnic territory is associated with the location of these people beyond the matrimonial circuits of the society on which social survival is founded. This brings to mind Lévi-Strauss’s (1978: 190–192) analyses of the dynamic opposition between the “near” and the “distant,” and the way distance influences the permitted or forbidden marriage relationships that determine social order.

Trade with “supernatural” or “antisocial” lands was dangerous but at the same time symbolically protected the society against the danger represented by foreign groups (Falchetti 2001; n.d.). In this context, particular ornaments used in exchange took on symbolic meaning. The case of trade relationships between the Uwa and the Guahibo of the eastern plains—which lasted until recent times and included metal ornaments—is illustrative. The Uwa consider the Guahibo the “spirit of sickness,” a concept applied to groups with whom the Uwa did not intermarry. Illness and contamination are associated with forbidden marriage alliances.

From the Guahibo, Uwa men obtained for their wives beads made of fresh water snails. These necklaces (Fig. 18), considered *raiya* (“wealth-fertility”), were associated with the feminine and fertile underworld. The Uwa presented them upon marriage (Osborn 1988: 35; Chaves 1964: 13). Until recent times, young marriageable Uwa men and women used metal nose ornaments that were probably passed down from generation to generation (Betania 1964: 82). It is clear from the sixteenth-century sources and contemporary ethnographic studies, that the Uwa did not produce these ornaments, and that they could be obtained, in former times, from the Guahibo who acted as intermediaries between the Uwa and gold-producing communities to the east, such as the Caquetío (Federman [1532] 1958: 67; see Falchetti 2001; n.d.).

Osborn (1985: 37; 1988: 35) explains that instead of exchanging women with the Guahibo, the Uwa exchanged shell beads that symbolized female fertility. Metal nose ornaments may have had similar associations given that in Uwa mythology gold is related to the “female embryonic seed.” The receipt of metal nose ornaments from the lowlands is in accordance with Uwa cosmological concepts, in which the plains are associated with the feminine and fertile underworld. The Uwa substituted these objects for the wife to reinforce the marriage rules on which Uwa identity and survival were founded and to maintain stability in interethnic relationships.

The concepts underlying trade relationships were deeply rooted among various Indian communities, and in some cases trade continued to be practiced with inherited objects or with archaeological items. The Wayú, who still live in the Guajira peninsula in northern Colombia (see Fig. 3), for instance, appear never to have produced metal objects. Eighteenth-century sources, however, explain how the Wayú obtained metal nose ornaments used espe-



Fig. 18 Uwa woman wearing a shell necklace, a symbol of female fertility. Photograph by Ann Osborn.

cially by women from the neighboring region of the Sierra Nevada de Santa Marta:

Having always had a great desire to obtain one of those jewels that the Guajiro [Wayú] Indians hold in such esteem as they were made in the past by the ancient Auroguaco Indians of the Sierra Nevada . . . from where they are obtained: I have recently managed to obtain the item I am sending to your Excellency. . . . I should add that among them [the Wayú] it is used by the Women in the septum of the nose. (1770 AGN MisCol 120: 36; Falchetti 1993)

The sixteenth-century sources and the numerous pre-Hispanic Tairona metal nose ornaments found in the Sierra Nevada area also show that these objects were obtained by the Wayú from this area (Martín [1534] 1959: 495). It is not known if in later periods nose ornaments continued to be obtained by trade from the inhabitants of the Sierra Nevada region, such as the Kogi, who still use ancient Tairona metal objects (Reichel-Dolmatoff 1981).

The concept of nose ornaments and alloys as symbols of balanced male and female combinations, social stability, and protection was probably shared by many communities, independently of their cultural, linguistic, or ideological filiation, which explains, in part, their importance in trade over wide areas. Nose ornaments characteristic of the Sierra Nevada de Santa Marta have been occasionally found in the lower Magdalena area and in the Valle de Upar, while low-grade gold and corroded items of the San Jacinto mountain range have surfaced in the Sierra Nevada de Santa Marta (Falchetti 1995: 291).

That exchange in its broader sense relates symbolically to the exogamic marriage alliances might explain the close relationship between the exchange of metal items and ex-

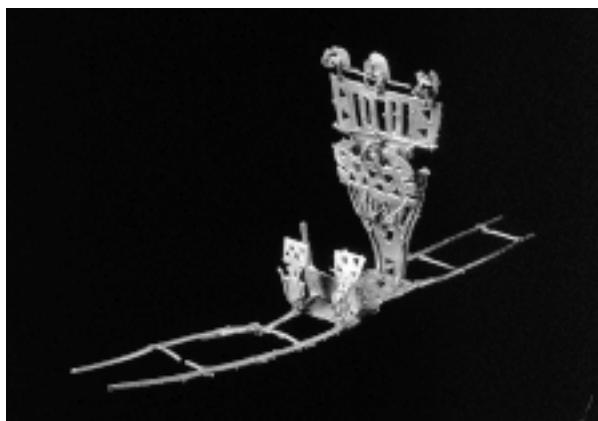


Fig. 19 Muisca votive object. Museo del Oro, Bogotá, acc. no. 11374. L. 22.6 cm.

change of women in different regions.<sup>14</sup> Nose ornaments are only one example. Similar symbolism might be shared by other objects made of metal or of other materials considered important in matrimonial exchanges and to trade. In fact, fertility is usually associated with exchange items.<sup>15</sup> Strict reciprocity is necessary in the relationships that people establish—exogamic rules, internal exchange, or trade with foreign or “nonhuman” communities—as a reaffirmation of humanness and local identity in the context of the search for balance, a constant concern for traditional societies.

### *Metals, Offerings, and Seeds*

The importance of metal combinations and transformations can also be analyzed in the context of the symbolism of votive offerings among the indigenous people of the eastern mountain range of Colombia. The symbolic associations of the offering in the context of contemporary Uwa mythology and ritual help to understand the votive practices of the past. These are known from archaeological finds and through historical sources of the early colonial period discussing formerly Uwa territory and the lands of their ancient neighbors, the Muisca, with whom the Uwa shared cultural and ideological elements.<sup>16</sup> The Muisca mass-produced objects of gold, copper, and gold-copper alloys that were used as offerings by chiefs and priests and by commoners as well (Fig. 19).<sup>17</sup> Uwa concepts that guide the symbolism of ritual offerings include the offering, representing the seed and its transformation; protection, necessary to achieve these processes; and the receptacle, in which the transformations occur (Falchetti 1997) (Table 1).

<sup>14</sup> See, for instance, Whitehead (1990) for a review of the historical sources on this type of exchange in Guyana and the Orinoco basin.

<sup>15</sup> See, for instance, Reichel-Dolmatoff (1981) for the case of the Kogi and Reichel-Dolmatoff (1978) for the case of the Desana.

<sup>16</sup> The sixteenth-century descriptions of the destruction of Indian sanctuaries by Spanish functionaries include detailed inventories of offerings (Cortés Alonso 1960; Londoño 1989; Langebaek 1988). A systematic revision of these early descriptions allows for associations of materials in particular caches and for the way they correspond to associations in Uwa ritual, through which one can explore the symbolism of the offerings and of the accompanying elements (Falchetti 1997; 2001).

<sup>17</sup> See, for instance, Plazas 1987, Falchetti 1989, Londoño 1989, and Lleras 1999. In the past, the Uwa received metal objects used as offerings from Muisca territory (Falchetti 1997; 2001).

**Table 1**

## The Offering and the Seed

Offering (Seed)	Protection	Receptacle	Site Sanctuary
Maize Beans Cotton seeds Coca Manioc Nuts Metals (Gold, Copper, Gold-copper alloys): Native Gold Ingots Figures Small shells Emeralds	Cotton fiber Small textiles Cotton bands	Ceramic vessels Bags (cotton, sisal) Baskets Seashells	Garden plots Huts Temples Lakes Caves Rocks

As noted, in the Uwa bee myth, the concept of the embryonic female seed is related to gold; this seed results from the transformation of the yellow earth (gold) through its mastication by the female bees. The concept of the transformation of the seed applies, in Uwa ritual, to various elements used as offerings, including maize, beans, manioc, some nuts, and coca leaves. These raw products produce a “germ of life” when they are transformed through chewing. Thus, maize is “transformed” into maize beer through mastication by women. According to the Uwa, a germ of life is produced through fermentation.

On the basis of descriptions in sixteenth-century sources and of archaeological finds, we know that in the past various objects of gold, copper, and gold-copper alloys were used as offerings together with seeds of maize, beans, and cotton (1595 AGN CaIn 58: 261v), with emeralds (a symbol of fertility among the Muisca),<sup>18</sup> and with small shells (which among the Uwa represent female fertility). The different types of materials and objects used as offerings are all related to embryos or seeds, to fertility and the development of life.<sup>19</sup>

<sup>18</sup> Reichel-Dolmatoff (1981: 29) drew attention to the association of emeralds with fertility and with the power of the sun in the Muisca myth of Goranchacha, which Spanish chroniclers recorded. This chief, considered by the Muisca to be the son of the sun, was born in the shape of a huge emerald. His mother was impregnated by the sun’s rays.

<sup>19</sup> Among Luisa Fernanda Herrera’s (n.d.) archaeological finds near Pasca, to the south of ancient Muisca territory, was a pottery vessel containing beads made out of seeds, several plaques made of gold-copper alloy, and a small shell. An anthropomorphic ceramic container with offerings excavated by Gustav Bolinder (1937: fig. 2) in Sopó (Muisca territory) illustrates the association of the offering with the seed that germinates. The vessel has a hole in its stomach, which contained a few emeralds and a gold figure.



Fig. 20 Uwa ritual. Photograph by Ann Osborn.

During some Uwa ceremonies (Fig. 20), a basket, associated with the womb, is used as a receptacle for the process of “germinating” the offerings (Osborn 1995: 106, 142). In the past, cotton and sisal bags, baskets, ceramic vessels, and large seashells also performed this function and meaning (Falchetti 1997; 2001) (Fig. 21).<sup>20</sup>

In Uwa ritual, cotton cloth represents protection for germination. A small textile covers the basket where the symbolic embryonic development of the offerings occurs, and represents male protection for a process of transformation that is mainly feminine (Osborn 1995: 294). Sixteenth-century sources report that small pieces of cloth covered the offerings in Muisca sanctuaries (Falchetti 1997; 2001).

Among the different types of sanctuaries and offering sites are cultivated plots, the very center of seed germination. Lakes as well as temples and huts where offerings are deposited, are associated, in Uwa mythology, with the beginnings of life in the universe. Deities built “the house of the world” as protection for the “womb-lakes,”<sup>21</sup> where they sow the “seeds” of plants, animals, and people that germinate the world.<sup>22</sup> Offerings at lakes and at houses perceived as wombs fit the concept of the offering as a seed that germinates symbolically in

<sup>20</sup> For the Uwa, the image of the ceramic vessel is feminine, because it is the place where embryonic development occurs. The seashells are related to the underworld, a place of female fertility.

<sup>21</sup> These ideas are shared by other Indian communities, such as the Ika of the Sierra Nevada de Santa Marta, who believe that the lakes are the womb of Mother Earth, and as such are places where people must deposit offerings to her (Tayler 1997: 27), and the ancient Muisca, for whom the lakes were sanctuaries of supreme importance.

<sup>22</sup> See Uwa myths in: Márquez 1981: 53, 176; Osborn 1995: 163.



Fig. 21 Muisca clay container with offerings. Museo del Oro, Bogotá. H. 7.7 cm.

those places, reproducing the actions of the deities in the myths that explain the creation of the world. Through the offering, people encourage and protect the continuity of life in the universe, nature, and society.<sup>23</sup>

In this context, the offerings of gold, copper, and gold-copper alloys made in the past, would represent “seeds” or “embryos” with special properties, that germinate symbolically. As previously mentioned, native metal was used as an offering, and according to sixteenth-century documents and some archaeological finds many sanctuaries belonging to Muisca individuals contained *tejuelos*—the small ingots formed in a process of embryonic transfor-

<sup>23</sup> The association of the offering with the seed and with the multiple elements described appears among other communities related culturally or linguistically to the Uwa, suggesting close ideological similarities (Falchetti 1997). The Ika and Kogi maintain the tradition of making offerings in special sanctuaries. These are placed in bags and wrapped in maize leaves. The offerings include small seashells, representing female fertility, and stone beads of assorted colors and shapes that have various powers (Preuss 1993; Tayler 1997; Reichel-Dolmatoff 1981; 1985). Many of them are said to protect people against illness and death; others are “seeds” that encourage the fertility of the earth, people, animals, and plants. In the Cordillera de Mérida (Venezuela), the Indian groups referred to in the Spanish chronicles as *Cuicas* had sanctuaries in small huts where they kept offerings of colored stones, cocoa seeds, cotton thread, and salt wrapped in “small cotton mantles” (Simón [1625] 1981, 2: 103). The small colored stones have maintained their significance among the peasants of Indian origin who live in the area. They believe that these stones are “seeds” and represent a vital force, which is why they are “planted” to fertilize the earth. This belief has its origins in a myth concerning cultural heroes who are “planted” in the earth (Rangel de Cáceres and Clarac de Briceño 1988: 5–6; Clarac de Briceño 1981: 87, 98).



Fig. 22 Muisca votive figure. Museo del Oro, Bogotá, acc. no. No. 4678. H. 8.4 cm.

mation—and various finished objects of gold, copper, or gold-copper alloys (Fig. 22). Metal offerings included elements in different stages of embryonic transformation.

On a general level, some associations of metal offerings can be analyzed based on ethnohistorical and ethnographic information. A 1595 document describes many Muisca sanctuaries. Two of them, belonging to a woman, contained caches with offerings of emeralds and figures made of gold-copper alloys (Fig. 22) placed in a ceramic vessel and “protected” by small textiles. These were buried in a garden plot:

we came to a cultivated plot where the said Indian woman brought us . . . and underneath some stones . . . there was a small vessel and inside two *santillos* [figures] of very low grade gold<sup>24</sup> with some cotton and a small piece of a red mantle . . . and then under some other stones we found a small piece of white mantle the width of a palm and some cotton and with it a low grade gold *santillo* and six very small stones like emeralds. (AGN CaIn 58: 19v–20r in Langebaek 1988: 220; see Falchetti 1997)

Spanish chroniclers mention how, among the Muisca, pregnant women offered figures made of gold-copper alloys and emeralds to Cuchaviva, the rainbow deity, to ensure a good delivery (Simón [1625] 1981: 3, 377, 399). The rainbow was associated with the protection of fertility, a symbolism that survives among the Uwa, but this deity is also related to illness (Osborn 1995: 200). In fact, many South American Indian communities associate the rain-

<sup>24</sup> When referring to gold-copper alloys, which in the Muisca area frequently include a high proportion of copper, the chronicles and documents usually speak of low-grade gold.

bow with sickness and with antisocial activities. Lévi-Strauss (1969:280) analyzed how these negative properties relate to the “short-intervalled” organization of the rainbow’s colors. Their continuum, without a defined structure or clear boundaries, involves association with confusion.

Muisca women gave offerings to the rainbow to enhance fertility and birth and to ensure protection against threats to them. Such offerings might also serve to maintain the “right and ordered” components of the human fetus—a constant concern of Indian societies—in spite of the “confusing” influence of the rainbow. This was probably the purpose of the figures made of gold-copper alloys offered by pregnant women. The alloy, representing the balance of the feminine and masculine properties of metals, would help bring the “right and ordered components” to the human life being formed. This explains, in part, the importance of gold-copper alloys and casting techniques for the Muisca, who mass-produced the offerings used to encourage and protect the continuity of the seed of life.

### *Conclusion*

In studying Amerindian societies, the properties of metals should be seen in the context of life continuity, transformation, and regeneration in accordance with their mythic cosmological schemes explaining the primordial organization of the world as a “gestation in the Universe.” The symbolic qualities of metals, their combinations, and their transformations reproduce cosmological schemes linked to the model of the human life cycle. The male and female properties symbolized by metals are mixed and balanced in alloys. Metals are associated with seeds or embryos that undergo a process of transformation through metallurgical processes.

These qualities, mixtures, and transformations, which represent the continuity of life, are manipulated by human beings through metallurgical processes that are seen as supernatural, for they reproduce cosmological and biological cycles and the ordering of the world performed by the deities, as referred to in the myths of origin. Through such actions, humans encourage and maintain the continuity of life in the universe, nature, and society, actions perceived as a responsibility of humanity. This power to control the universe and ensure its equilibrium, is interpreted as a “magical power,” to borrow James Frazer’s (1978) definition of magic as the belief that man can intervene in natural processes to complete or modify their courses.

These concepts are expressed in the functions of metal objects associated with their magical powers, which are transmitted to humans during ritual and social occasions. This is the case of the religious offerings that represent seeds that germinate symbolically, and through which people encourage the continuity of life, and of some ornaments used during marriage ceremonies and in trade as symbols of “correct” marriage alliances upon which social survival and identity are based.

*Acknowledgments* I would like to express my gratitude to Heather Lechtman, Marianne Cardale, and Jeffrey Quilter for their help and stimulating comments and to the Museo del Oro and the Ann Osborn Foundation of Bogotá, Olga Cepeda, and Cristina Uribe for providing me with photographs.

### *Bibliography*

- AGI ARCHIVO GENERAL DE INDIAS, SEVILLA  
Just: Justicia
- AGN ARCHIVO GENERAL DE LA NACIÓN (SALA DE LA COLONIA), BOGOTÁ  
CaIn: Caciques e Indios  
MisCol: Miscelánea Colonia
- AGUADO, FRAY PEDRO DE  
[1581]  
1956 *Recopilación historial*. Biblioteca de la Presidencia de Colombia, Bogotá.
- ALVA, WALTER  
1994 *Sipán: Colección cultura y artes del Perú*. Cervecerías Backus y Johnston. S. A. Lavalle Editores, Lima.
- ALVA, WALTER, and CHRISTOPHER DONNAN  
1993 *Royal Tombs of Sipán*. Fowler Museum of Cultural History, Los Angeles.
- BETANIA, MARÍA DE  
1964 *Mitos, leyendas y costumbres de las tribus suramericanas*. Cocolsa, Madrid.
- BLUST, ROBERT  
1992 Tumbaga in Southeast Asia and South America. *Anthropos* 87: 443–457.
- BOLINDER, GUSTAV  
1937 Archeological Research on the Table Land about Bogotá. *Etnos* 2: 130. Stockholm.
- BOZZOLI, MARÍA EUGENIA  
1986 *El nacimiento y la muerte entre los Bribris*. Editorial Universidad de Costa Rica, San José.
- CALANCHA, ANTONIO DE LA  
[1584–1654] *Crónica moralizada del Orden de San Agustín en el Perú*. Universidad Mayor de San  
1974–82 Marcos, Lima.
- CASILIMAS, CLARA INÉS, and MARÍA IMELDA LÓPEZ  
1987 El Templo Muisca. *Maguaré*, no. 5: 127–150. Departamento de Antropología,  
Universidad Nacional de Colombia, Bogotá.
- CHAVES M., ALVARO  
1964 *Reseña etnográfica de los Cobarías*. Pub. no. 3 Casa Colonial, Pamplona, Colombia.

COLLET, D. P.

- 1993 Metaphors and Representations Associated with Precolonial Iron-Smelting in Eastern and Southern Africa. In *The Archaeology of Africa: Food, Metals and Towns* (T. Shaw et al., eds.): 499–511. One World Archaeology 20. Routledge, London and New York.

CORTÉS ALONSO, VICENTA

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

CLARAC DE BRICEÑO, JACQUELINE

- 1981 Dioses en el exilio: Representaciones prácticas en la cordillera de Mérida. Fundarte, Caracas.

ELIADE, MIRCEA

- 1959 *Cosmos and History: The Myth of the Eternal Return*. Harper and Brothers, New York.  
1974 *Herreros y alquimistas*. Alianza Editorial, Madrid.  
1981 *Tratado de historia de las Religiones*. Biblioteca Era, México, D.F.

FALCHETTI, ANA MARÍA

- 1989 Metalurgia pre-hispánica en el altiplano central colombiano. *Boletín del Museo del Oro* 25: 3–41.  
1993 La tierra del oro y el cobre: Parentesco e intercambio entre comunidades del norte de Colombia y áreas relacionadas. *Boletín del Museo del Oro* 34–35: 3–75.  
1995 El oro del Gran Zenú: Metalurgia prehispánica en las llanuras del Caribe colombiano. Banco de la República, Bogotá.  
1997 La ofrenda y la semilla: Notas sobre el simbolismo del oro entre los Uwa. *Boletín del Museo del Oro* 43: 3–37.  
2000 The Gold of Greater Zenú: Prehispanic Metallurgy in the Caribbean Lowlands of Colombia. In *Precolumbian Gold: Technology, Style and Iconography* (Colin McEwan, ed.). British Museum Press, London.  
2001 The Transformation of the Seed: Ritual Offerings and Trade among the Uwa of Colombia. *Journal of Latin American Lore* 21 (1): 109–142.  
n.d. El sentido social y ritual del Intercambio: Una interpretación desde la mitología de los Uwa de la Sierra Nevada del Cocuy, Colombia. Paper presented at the First Archeology Meeting of Nicaragua, University of Mobile, Latin American Branch Campus of Nicaragua, 1998. In press.

FALCHETTI, ANA MARÍA, and GUIOMAR NATES-PARRA

- 2002 Las Hijas del Sol: Las abejas sin aguijón en el mundo uwa, Sierra Nevada del Cocuy, Colombia. In *Rostros culturales de la fauna. Las relaciones entre los humanos y los animales en el contexto colombiano* (A. Ulloa, ed.). Instituto Colombiano de Antropología e Historia. Fundación Natura, Bogotá.

FEDERMAN, NICOLÁS DE

- [1532] *Historia Indiana*. Academia Colombiana de Historia, Bogotá, and Aro Artes Gráficas, Madrid.  
1958

FRAZER, SIR JAMES

- 1978 *The Illustrated Golden Bough* (Mary Douglas, ed.). Doubleday, Garden City, N.Y.

GONZÁLEZ-PACHECO, LAURA, AND ANA MARÍA BOADA

- 1990 Tunjos y accesorios: Elementos de dos contextos diferentes. *Boletín del Museo del Oro* 27: 55–59.

HELMS, MARY

- 1979 *Ancient Panama: Chiefs in Search of Power*. University of Texas Press, Austin.
- 1987 Art Styles and Interaction Spheres in Central America and the Caribbean: Polished Black Wood in the Greater Antilles. In *Chiefdoms in the Americas* (R. Drennan and C. Uribe, eds.): 67–83. University Press of America, Lanham, Md.
- 1993 *Craft and the Kingly Ideal: Art, Trade and Power*. University of Texas Press, Austin.

HERRERA, LUISA FERNANDA

- n.d. Excavación arqueológica en Pasca: Una zona limítrofe y de posibles contactos muiscapanche. B.A. thesis, Universidad de los Andes, Bogotá, 1972.

HOSLER, DOROTHY

- 1994 *The Sounds and Colors of Power: The Sacred Metallurgical Technology of Ancient West Mexico*. MIT Press, Cambridge, Mass.

LANGENBAEK, CARL H.

- 1988 Santuarios indígenas en el repartimiento de Iguaque, Boyacá: Un documento de 1595 del Archivo Nacional de Colombia. *Revista de Antropología*. 4 (2): 215–250.
- 1989–90 Aguilas y Caricuríes: Venezuela y su coparticipación en el área orfebre de Colombia. *Revista Colombiana de Antropología*. 27: 199–235.

LAS CASAS, BARTOLOMÉ DE

- [1561] 1965 *Historia de las Indias*. Fondo de Cultura Económica, México, D.F.
- [1559] 1967 *Apologética historia sumaria*. Universidad Autónoma de México, Instituto de Investigaciones Históricas, México, D.F.

LECHTMAN, HEATHER

- 1975 Style in Technology: Some Early Thoughts. In *Material Culture Styles, Organization and Dynamics of Technology* (H. Lechtman and R. S. Merril, eds.): 3–20. West Publishing, Cambridge, Mass.
- 1993 Technologies of Power: The Andean Case. In *Configurations of Power* (J. Henderson and P. Netherly, eds.). Cornell University Press, Ithaca.

LÉVI-STRAUSS, CLAUDE

- 1969 *The Raw and the Cooked*. Harper and Row, New York.
- 1978 *The Origin of Table Manners*. Harper and Row, New York.
- 1988 *The Jealous Potter*. University of Chicago Press.

LLERAS, ROBERTO

- 1999 *Prehispanic Metallurgy and Votive Offerings in the Eastern Cordillera, Colombia*. BAR International Series 778, Oxford.

LONDOÑO, EDUARDO

- 1989 Santuarios, santillos y tunjos: Objetos votivos de los Muiscas en el siglo xvi. *Boletín del Museo del Oro* 25: 93–118.

MÁRQUEZ, MARÍA ELENA

- 1981 *Los indios Tunebo y su cosmogonía*. Universidad Católica Andrés Bello, Instituto de Investigaciones Históricas, Centro de Lenguas Indígenas, Caracas.

MARTÍN, ESTEBAN

- [1534] Declaración de una lengua. In *Nectario María: Los Orígenes de Maracaibo*. Universidad del  
1959 Zulia. Maracaibo, Venezuela.

MARTÍNEZ, ARMANDO

- 1989 Un caso de alteración aurífera colonial en el bajo Magdalena. *Boletín del Museo del Oro*.  
23: 47–59.

MEDINA, ANTONIO DE, FRANCISCO GÓMEZ RONDÓN, and ALONSO BERMÚDEZ

- [1579] Relación de San Miguel de Las Palmas de Tamalameque. *Cespedesia* 45–46, supp. 4:  
1983 177–191.

MORALES, JORGE

- 1997 Oro, cultura y control del incesto entre los Cuna. *Boletín del Museo del Oro* 43: 39–47.

NOGUEIRA-NETO, PAULO

- 1997 *Vida e criação de abelhas indígenas sem ferrão*. Edição Nogueirapis, São Paulo.

OLIVER, JOSÉ

- 2000 Gold Symbolism among Caribbean Chiefdoms: Of Feathers, *Çibas* and *Guanín* Power among Taíno Elites. In *Pre-Columbian Gold: Technology, Style and Iconography* (Colin McEwan, ed.): 196–219. British Museum Press, London.

OSBORN, ANN

- 1979 *La cerámica de los Tunebos: Un estudio etnográfico*. Fundación de Investigaciones Arqueológicas Nacionales, Banco de la República, Bogotá.
- 1985 *El vuelo de las tijeretas*. Fundación de Investigaciones Arqueológicas Nacionales, Banco de la República, Bogotá.
- 1988 El multiculturalismo en los Andes Orientales. *Revista de Antropología* 4 (2): 25–42.
- 1990 Comer y ser comido: Los animales en la tradición oral de los U'wa (Tunebo). *Boletín del Museo del Oro* 26: 13–41.
- 1995 *Las cuatro estaciones. Mitología y estructura social entre los U'wa*. Banco de la República, Bogotá.

- n.d. Mythology and Social Structure among the U'wa of Colombia. Ph.D. diss., Oxford University, 1982.

PARDO, MAURICIO

- 1987 Términos y conceptos cosmológicos de los indígenas Emberá. In *Etnoastronomías americanas* (J. Arias de Greiff and E. Reichel-Dolmatoff, eds.): 69–90. Universidad Nacional de Colombia, Bogotá.

PIEDRAHITA, LUCAS FERNÁNDEZ DE

- [1666] *Noticia historial de las conquistas del Nuevo Reino de Granada*. Ediciones de la  
1973 Revista Ximenex de Quesada. Editorial Kelly, Bogotá.

PLAZAS, CLEMENCIA

- 1987 Función rogativa del oro muisca. *Maguaré* 5: 151–166.

PREUSS, KONRAD THEODOR

- 1993 *Visita a los indígenas kagaba de la Sierra Nevada de Santa Marta*, pts. 1–2. Instituto Colombiano de Antropología, Bogotá.

RANGEL DE CÁCERES, FRANCISCA, and JACQUELINE CLARAC DE BRICEÑO

- 1988 El culto a las piedras en la cordillera de Mérida. *Boletín Antropológico* 15: 5–17.

REICHEL-DOLMATOFF, GERARDO

- 1975 Templos Kogi: Introducción al simbolismo y a la astronomía del espacio sagrado. *Revista Colombiana de Antropología* 19: 199–245.
- 1978 Desana Animal Categories, Food Restrictions, and the Concept of Color Energies. *Journal of Latin American Lore* 4 (2): 243–291.
- 1981 Things of Beauty Replete with Meaning: Metals and Crystals in Colombian Indian Cosmology. In *Sweat of the Sun, Tears of the Moon: Gold and Emerald Treasures of Colombia* 17–33. Natural History Museum Alliance of Los Angeles County, Los Angeles.
- 1985 *Los Kogi: Una tribu de la Sierra Nevada de Santa Marta, Colombia*. Procultura, Bogotá.
- 1986 *Desana: Simbolismo de los indios Tukano del Vaupés*. Procultura, Presidencia de la República, Bogotá.
- 1988 *Orfebrería y chamanismo*. Banco de la República. Ed. Colina, Medellín.

ROWLANDS, MICHAEL, and JEAN-PIERRE WARNIER

- 1993 The Magical Production of Iron in the Cameroon Grassfields. In *The Archaeology of Africa: Food, Metals and Towns* (T. Shaw et al., eds.): 512–547. *One World Archaeology* 20. Routledge, London and New York.

SAHAGÚN, FRAY BERNARDINO DE

- [1582] *Historia general de las cosas de la Nueva España*. Biblioteca Porrúa, México, D.F.  
1956

SAUNDERS, NICHOLAS

- 1988 *Stealers of Light, Traders in Brilliance: Amerindian Metaphysics in the Mirror of Conquest*. RES 33: 225–253.

SHIMADA, MELODY, and IZUMI SHIMADA

- 1985 Prehistoric Llama Breeding and Herding on the North Coast of Peru. *American Antiquity* 50 (1): 3–26.

SHIMADA, IZUMI

- 1995 *Cultura sicán: Dios, riqueza y poder en la costa norte del Perú*. Fundación del Banco Continental para el Fomento de la Educación y la Cultura, Lima.
- 1996 Sicán Metallurgy and Its Cross-Craft Relationships. *Boletín del Museo del Oro* 41: 27–61.

SHŌICHI, SAKAGAMI

- 1982 Stingless Bees. In *Social Insects*, vol. 3 (Henry Hermann, ed.). Academic Press, New York.

SIMÓN, FRAY PEDRO

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

SPERBER, DAN

- 1977 *Rethinking Symbolism*. Cambridge Studies in Social Anthropology. Cambridge University Press, Cambridge.
- 1988 *El Simbolismo en general*. Anthropos, Barcelona.

SZASZDI NAGY, ADAM

- 1982–83 Las rutas del comercio prehispánico de metales. *Cuadernos Prehispánicos* 10: 5–132.

TAYLER, DONALD

- 1997 *The Coming of the Sun: A Prologue to Ika Sacred Narrative*. Pitt Rivers Museum, Oxford University, Oxford.

TORQUEMADA, JUAN DE

- 1723 *Veinte i un libros rituales i monarchia indiana, con el origen y guerras, de los Indios Occidentales, de sus poblaçones, descubrimiento, conquista, conversion, y otras cosas maravillosas de la mesma tierra*. Madrid.

WASSÉN, HENRY

- 1935 Notes on Southern Groups of Chocó Indians in Colombia. *Etnologiska Studier* 1: 35–182.

WHITEHEAD, NEIL L.

- 1990 The Mazaruni Pectoral: A Golden Artefact Discovered in Guyana and the Historical Sources concerning Native Metallurgy in the Caribbean, Orinoco and Northern Amazonia. *Journal of Archaeology and Anthropology* 7: 19–37.

ZUIDEMA, TOM

- 1998 Relaciones rituales y de intercambio entre el Cuzco y el bajo río Urubamba. In *Intercambio y comercio entre costa, Andes y selva: Arqueología y Ethnohistoria de Suramérica* (F. Cárdenas and T. L. Bray, eds.): 213–222. Departamento de Antropología, Universidad de los Andes, Bogotá.