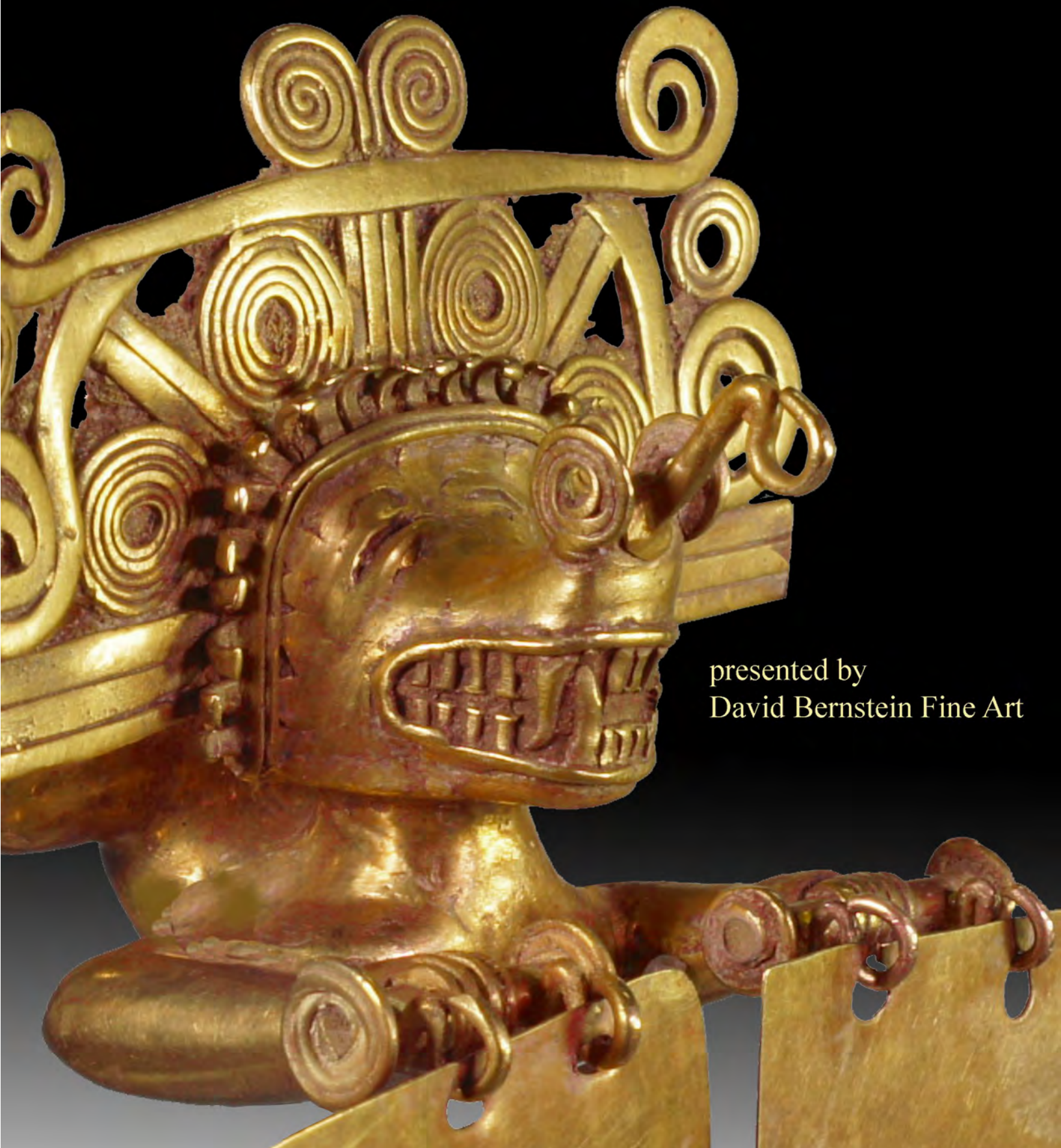


# SUBTLE GENIUS

Collecting Pre-Colombian Gold



presented by  
David Bernstein Fine Art



*Also, did I see the things, which one brought to the King from the new golden land... all sorts of wonderful things for various uses, that are much more beautiful to behold than things of which miracles are made. These things were all so precious that one estimated their worth at a hundred thousand guilders. And I have seen nothing in all my livelong days which so filled my heart with joy as these things. Then I saw there wondrous artful things and I was astounded at the **subtle genius** of the people in foreign land.*

**The artist Albrecht Dürer, 1520**

*“It is these opulent objects which attracted the early Spanish Conquistadores and led to the wholesale sacking of sacred sites and tombs proved to be the first forms of appropriation of gold by the Europeans. These magnificent objects were melted into ingots and sent to Seville. The Spanish crown was heavily in debt as a result of the 780 years of the Reconquista wars (718-1498) to rid the Moors from the Iberian Peninsula. These debts were paid in metal, not money, and therefore the accumulation of precious metal motivated the crown to develop colonies in the New World, specifically for sending gold back to the Spanish Treasury.”*

**Jose Lopez Arellano, Gold in the Americas, Quebec, 2008**

## Introduction

This exhibition represents a survey of goldworks created for the pre-Columbian elite, Kings, Rulers and Shamans from South America, including Panama and Costa Rica, dating from as early to 1500 BC to AD 1500. It is ironic that gold was perceived as magical, spiritual and transformative by the New World kings only after the gold was fashioned into cultural totems, whereas the kings of Spain and their European neighbors only valued the gold when it was melted down into simple bars for their treasuries.

In ancient times, gold was found in nature mostly in mountain streams, known as “alluvial gold. More often than not, these golden nuggets were alloyed naturally with copper, silver, and minor amounts of other minerals. The Pre-Hispanic people were not interested in gold for its economic function but rather for the belief in the power imbued in the golden images they created. Jose Arellano writes, “pre-historic gold was continually used in the production of personal ornaments and votive objects – emblems of social rank and material supports for complex religious and shamanistic iconography. These golden objects and other worldly goods accompanied their owner to the tomb. It is these uncovered objects, buried over the centuries, that are referred to as Pre-Columbian Gold. In addition to using gold to create personal objects, the ancient Pre-Columbian people decorated palaces and royal ceremonial spaces with golden plaques and assorted golden totems.”

This varied collection of golden treasures comprises over 40 examples of unique objects fashioned by the ancient metal smiths. Many of these works were owned, worn, and buried with high-status individuals such as kings, shamans, and elites, to ensure their status in the afterlife. The decoration of gold objects was used as a medium to convey messages beyond wealth and status. Complex motifs played a symbolic and sacred role in the links between the rulers and the deified forces of nature.



Many pieces in this collection have either been published, or are similar to published examples in the literature, and are comparable to objects in museum collections in the United States and Europe. This exhibition introduces collectors and enthusiasts to a sampling of the range of gold objects produced in the New World prior to the arrival of Europeans.

I have acquired the collection in the U.S. from old collections and dealers over the past 30 years in compliance with the Memorandum of Understanding between the governments of Colombia, Ecuador, and Peru with the United States. Many of the pieces come from the estate of Jan Mitchell, known for his exhibition and accompanying catalog, *The Art of Pre-Columbian Gold*, published in 1985.

This catalog is arranged into three broad areas: (1) Peru and Ecuador, (2) Columbia, and (3) Panama and Costa Rica. Within these groups, the works are arranged chronologically with the earliest works first.

## Pre-Colombian Gold Defined

Pre-Colombian gold refers to the spectacular body of objects wrought from this precious metal and produced by the indigenous cultures of the Americas prior to the arrival of Christopher Columbus in 1492.

The cultural period before the Spanish Conquest is known as the PRE-COLOMBIAN ERA. The American continent was originally populated over 17,000 years ago by people who migrated between Asia and North America across the Bering Strait land bridge. Waves of migration followed the Woolly Mammoth (*Mastodon Mammuthus*), travelling down the North American continent, through the Isthmus of Panama, all the way to the southernmost tip of South America. These early peoples established settlements in a wide range of diverse habitats, from wet tropical lowlands and arid deserts to the Andean highlands.

From these origins, the Pre-Colombian people developed organized societies built on the previous developments, covering a period of 4,000 years, beginning with the emergence of cities around 2500 BC. These developments included a highly sophisticated and extensive network of drainage and irrigation canals, built to manage the extremes of weather. In the Andean highlands, they developed earthworks, terraced farming, and raised-field agriculture. Along the coast of Peru and the Caribbean coast of Colombia, they cultivated rich alluvial soils with the use of the most ingenious hydraulic systems developed in ancient times.

The stability and prosperity afforded by mixed economy of agriculture and trade gave rise to complex society. This in turn allowed for the flourishing of Pre-Colombian art and craftsmanship, especially metallurgy, to satisfy the growing demand by the ruling class for high status totems and adornments. Pre-Colombian gold shares common themes throughout the different cultural phases of development.

Towards the end of the fifteenth century, the world was in a state of flux with multiple events contributing to the fierce competition between Spain and Portugal in the quest for new trade routes. The historical events started with the fall of Christian Constantinople to the Ottoman Empire in 1453, blocking the land routes from Europe to Asia. The Ottoman victory was due to the discovery of gunpowder in China. In 1498, the 700-year Reconquista Wars ended, which led to the expulsion of the Moors from the Iberian Peninsula, leaving Spain with overwhelming war debts. The Catholic Church was under pressure to change its views on profiteering, culminating in the Peace of Westphalia in 1648. Protestantism became a power catalyst for the rise of mercantile class and a modern economy.

In 1488, Bartolomeu Dias, representing Portugal, rounded the Cape of Good Hope in Africa, opening up trade routes to the East. Developments in navigation, including the use of a compass, the sternpost rudder, and the smaller caravel, resulted in the success of Columbus' voyages seeking new trade routes to India. Queen Isabella personally financed Columbus' voyages in hopes of besting Portugal's routes around Africa to the rich trades in Asia.

We know the story of Columbus' arrival in the New World, and his description of the inhabitants as "Indians". The amount of gold found in the New World doubled the amount of gold in the entire known world up to that time. Precious metal was the only way for a government to pay debts at that time.

The abundance of gold in *El Dorado*, the New World, excited a frenzy amongst the Spanish conquistadors. While the finely wrought objects excited admiration and awe, much of what the conquerors could plunder, seize, or trade in Peru, Columbia and elsewhere in the Americas was melted down in the 16<sup>th</sup> and 17<sup>th</sup> centuries and shipped back to Spain for the Church and Royal coffers. The indigenous peoples could not understand the reasons why the Spanish melted down and destroyed these spiritually imbued golden objects into ingots, bars and coins. The invaders were not, however, aware of the centuries-worth of gold buried in tombs and cemeteries. This hidden treasure only came to light beginning in the late 1800s, as territories expanded. The extensive plowing of fields and building of roads in the modern era led to the accidental discovery of cemeteries containing ancient gold artifacts.



Fig. 19. Aztec Metalworkers in Friar Bernardino de Sahagún and Nahuatl artists, Florentine Codex Book 9, Fol. 53v, AD 1575–77, Biblioteca Medicea Laurenziana; see also cat. 225.

## *Cosmology and Iconography*

Gold was a form of ceremonial adornment as well as an essential medium for expressing social, religious, and ritual themes. Naturally, it was also inherently emblematic of rank and prestige. Early tribes developed into formal societal and cultural groups that were hierarchical, ruled by a lord, or *cacique*, or group of such chieftains, whose authority was supported by the essential figure of the shaman-priest. Undoubtedly, competition among the many chieftains for worldly and spiritual power, as well as for riches and status, resulted in exploitation and conflict to seek out valued resources, especially gold. This in turn spurred the production and acquisition of beautifully crafted objects.

Gold - mythologically associated with the sun and its golden rays - was believed to be a source of sacred and celestial power for both ruler and shaman. The greater the status of a person, the greater his wealth of gold, which ensured his status in the afterlife. Craftsmen (goldsmiths, weavers, potters) represented a specialized class that was ranked above the ordinary people. The goldsmith's status, in particular, was linked to a seemingly supernatural ability to transform metal into precious, ritually significant, objects that gave tangible form to symbolic and cosmological ideas.

The splendid, heavy assemblages of gold adornment and insignia that bedecked important Pre-Columbian personages – both living and dead, male and female – were intended to project their divine ancestry, elite status, power, and wealth, in this world and the afterlife. The glitter of gold attracted ancient Pre-Columbians, who believed that gold came from the sun. Possessing gold provided the ancients with direct access to the power of the sun. In reality, gold atoms are in fact byproducts of supernovas, so in essence, the ancient beliefs were correct.

Being richly attired in gold, a material of spiritual essence and efficacy, was, above all, a vehicle for meta-

physical transformation and shamanic metamorphosis, in combination with hallucinogenic rituals. Many of the animal figures represented in Pre-Columbian goldwork reinforced this theme. The motifs include jaguars, water birds, crocodiles, frogs, deer and other symbolic fauna that had a mythical and symbolic role in Pre-Columbian cosmology. Animals that were emblematic of water and fertility were especially prominent, reflecting the peoples' environment as well as their cosmological beliefs. There is a conspicuous lack of emphasis on battle themes, but a pronounced focus on fecundity and female symbolism on the other hand.

Modern day ethnography among the descendants of the pre-Columbian people offers some insight into earlier cultural traditions and ideas. The cosmos was

conceived as having three levels: human beings, along with certain animals like deer and felines, occupied the terrestrial plane, while the upper and lower worlds were the domains of the spirits. The underworld was envisaged as a realm of water, inhabited by mythical animals who governed its paths and caves. The most important of these water spirits was a golden crocodile – a being that is frequently represented in the ancient iconography. Indeed, in some traditions, gold is emphatically associated with the powers and spiritual forces of the lower world. In other traditions there is a propensity to represent raptors with their wings spread open. Geometric symbols are popular in all the cultures. In Pre-Columbian mythology, the only animals



who can move between worlds are the puma, and terrestrial animals that can climb trees and also swim. Other animals that undergo metamorphosis, such as frogs and butterflies, are symbolic of transformative states. Birds and raptors, creatures of the air, are often anthropomorphized with human traits, symbolizing spiritual or psychic flight.

## SELECTED ANIMAL MOTIFS



## *Adornment*

This exhibition features luxury adornment, ceremonial paraphernalia, and votive offerings fabricated for high ranking individuals. There are also several totems and other of unknown purpose or use. These varied objects also represent different goldworking techniques such as annealing, soldering, casting, granulation, fusion welding, and a variety of surface enhancements. Casting techniques developed over the centuries from simple sand cast objects to delicate lost wax casting.

### **Pre-Columbian golden adornments include:**

**Helmets and crowns.** Headgear had an early presence as far back as 6,000 BC in Chile and was one of the first symbols used to establish status. The earliest headdresses were made of textiles, but the same styles were later adopted in gold, starting with simple golden headbands. Golden headdress ornaments with simple bands and cut-out shapes resembling feathers first appeared during Chavin times. The Moche created elaborate headdresses with beautiful ornamentation. In Colombia and Panama crowns evolved into full helmets.



**Masks.** What are referred to as masks in Pre-Columbian times are actually embellishments for mummy bundles. True masks have eye openings and were used in dances to depict different characters. In Chimu times, the masks reached an apex in scale, ranging over 30" in width.



**Nose and ear ornaments and labrets.** The Spanish called the natives "Orejones" (large-eared people), because of their practice of stretching their earlobes with large earrings. Like other body ornaments, the ear ornaments represented status and wealth. Nose ornaments also portrayed a individual's personal animal totems. Labrets were more common to Ecuador and Mexico.



**Necklaces and beads.** Beads used in necklaces were among the first jewelry in cultures from around the world, and were created from all kinds of materials. Across all of the Pre-Columbian cultures, elaborate costumes included beaded necklaces varying in size. Aside from plain spherical beads, beads were also crafted to resemble a wide range of motifs, especially animals.



**Breastplates and pectorals.** Part of the costume for very high status individuals can include pectorals, primarily in round or semi-circular shapes. The Cocle culture in Panama had the most elaborate disc pectorals with deep embossed designs, while Colombian cultures employed both circular and heart shaped pectorals, some with and some without designs. Warriors would often wear highly polished pectorals intended to intimidate their adversaries.



**Pendants.** These appear in all the cultures in a large variety of motifs of figurative and animal forms. Almost all of them have suspension devices such as loops or other attachments. The larger and more elaborate pendants were for the wealthier high status individuals.



**Bracelets and finger rings.** Personal adornments such as bracelets, cuffs, and finger rings could be included as part of an elaborate costume. These objects are found in all the cultures, especially in the Sinu culture of Colombia.



**Cloak pins and dippers for lime containers.** These were personal items and ranged in simple to elaborate in style. Cloak pins were also known as *tupus*, and were used to fasten tunics. Lime dippers could be finely detailed castings of amazing quality. The dippers were usually attached to a lime container with a cord, and were used in the coca ceremony.



**Ceremonial beakers.** Beakers were crafted in metals, including gold, as well as ceramics and even carved wood. During the Chimu period and the subsequent Inca period, gold and silver vessels were produced in large quantities. The Chimu beakers tended to be made of a single hammered gold sheet over a wooden form, while the Inca would solder additional elements onto the beaker.





## Goldworking Technologies

Pre-Colombian metallurgy is particularly noted for its long tradition of evolving techniques - from hammering, annealing, granulation, filigree, soldering, and gilding, culminating in the lost wax casting tradition.

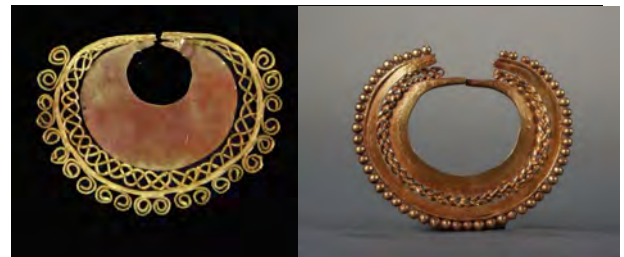
**Annealing** involves hammering ingots of metal into larger sheets with fine-grained stone hammers and polished stone anvils. With repeated hammering, the gold sheets would become hardened, springy, and eventually brittle. The annealing technique consists of alternating fire-heating with wet-drenching in order to render the metal more malleable so that it could be used to create ornaments with large, bright, reflective surfaces.



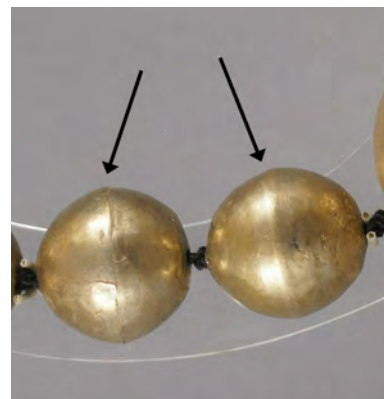
**Granulation** is the process of heating small granules of similar metals and using a copper compound with organic glue to attach the small granules to a larger piece. The granules are applied in an ordered manner to create a decorative surface. In early Ecuador, metalsmiths were even able to attach platinum-gold alloy beads to an ornament using this technique. Platinum has a very high melting point, making this a sophisticated process.



**Filigree** is a technique using thin wire to create a decorative pattern. Gold is the ideal material for filigree work because of its ductility—the ability to draw wire from heated ingots. The wire designs were soldered onto a larger piece for decorative purposes. The Pre-Colombians were able to create highly delicate spirals, chains, and twisted coils using filigree. Another technique, false filigree, involved making a casting that imitated the look of authentic filigree. The earring on right is an example of using the combination of granulation and filigree.



**Soldering** and welding was perfected in Peru by the Moche artisans. They took great care to master the technique without collapsing the hollow spheres by over-heating them. These artisans were so talented that they could solder large beads without the seam being seen by the naked eye. In order to solder two pieces together, a flux is necessary. This flux would have been created from mineral salts and naturally occurring sulfides, whereas today, zinc is used.



**Lost wax casting (*cire-perdue*)**, another quintessential Pre-Columbian technique, was primarily practiced in Colombia and the Central America, and entailed a multi-step process.

An exact model of fine charcoal and clay, the armature, was crafted into the intended form. After this, skillfully applied sheets of beeswax were used cover the armature to create a negative impression. A fine clay slurry was then applied over the wax. Once dried, another thicker, course clay casing was applied over the entire model. Wood pins, or chaplets, were pushed through the outer clay and wax, and into the armature, to maintain alignment. Then the entire casing was heated so that the wax would melt and could be poured out, leaving a negative impression of the original modeled charcoal clay armature. Molten gold mixture was then poured into the sprue (a small funnel shaped channel for pouring the gold into the mold). When the gold cooled down, the outer clay casing was broken, revealing the gold image that had replaced the wax, leaving a gold replica of the original armature. The excess gold that had filled the chaplets and sprue was then snipped off of the gold casting, leaving behind small circular holes in the final gold object. The hole left behind by the sprue and chaplets was covered with a gold patch, and polished to conceal the hole. One piece in this collection clearly illustrates the hardly visible plug used to fill in the hole left by chaplet or sprue.



Finally, the gold artifact would be embellished by polishing or other surface enhancements. Such enhancements include burnishing, carving, or even hammering the appendages - for example a frog's hind flippers or an eagle's wings. The most skillful master goldsmiths had the dexterity to cast complicated works, sometimes with multiple adjoining figures.

**Gilding** and surface enhancement involved producing a gold surface on silver or copper objects. One gilding technique was to add gold to cover the surface of a bronze, copper or silver object, and apply high heat to mechanically join the metals. A more sophisticated gilding technique, known as the *mise-en-couleur* process, was the high point of Pre-Columbian metallurgy. In order to **enrich** these surfaces, the metalsmiths first heated the alloy and used natural acids to reveal a thin layer of gold on the surface. Below is a Recuay cast bronze scepter with a rich layer of gold gilded to the bronze. See the next page for greater discussion of gilding.



## ANCIENT METTALURGY



### *Gold Alloys and Tumbaga*

Much of the early gold came from alluvial nuggets found in the vast numbers of river beds downstream from the Andes. Starting around the 7<sup>th</sup> century, mines were dug along rich veins of minerals near the surface. These deposits naturally contained a mixture of gold, silver, and copper in various proportions. Small amounts of other impurities are also present in the metal. Some Pre-Columbian ornamentation is made from *tumbaga*, a Spanish term for an alloy of gold, silver, and copper. The composition of *tumbaga* can vary widely, and in fact, many of the cast *tumbaga* ornaments in this collection that have been XRF (X-ray fluorescence) tested and reveal a high gold content (in some cases more than 90 percent, and in other cases as little as 13 percent).

Native metalsmiths deliberately manipulated the variable components of both naturally-occurring and man-made alloys to produce a range of surface color and tonal contrast, which could be further enhanced by depletion gilding, also known as *mise-en couleur*. *Mise-en-couleur* involved heating an alloy, which formed copper oxides on the surface. Those copper oxides were removed with natural acids such as oxalic and/or uric acid to reveal a microscopically thin layer of gold. Similarly, silver present in the alloy could be attacked by acid as well, allowing the metalsmith to control the tones of the finished object.

Pre-Columbian cultures ascribed symbolic and spiritual significance to subtle distinctions in the colors and textures of the metal, as well as to the different light-reflective properties of matte and shiny surfaces. Reddish tones were also admired by the ancient people.

While *tumbaga* objects tend to be more brittle than those worked and hammered from high-grade gold (such as plaques, discs, or bands), the properties of the gold/copper alloy allowed for lowering the melting point to cast in greater detail. This freedom stimulated the artistic imagination and creativity of the goldsmiths, who fabricated fantastical three-dimensional images of birds, amphibians, and other creatures found in the wetlands and jungles, in addition to anthropomorphic forms and intricate geometric designs.

The conditions under which an object was originally buried often influence the appearance of the gilding over time. The state of preservation and the mineral profile of the soil affect whether the golden tone of a surface remains stable or deteriorates, thus developing a green oxidized color.

A critical essay by MIT Professor Heather Lechtman, *Andean Value systems and the Development of Pre-historic Metallurgy*, stressed the importance of "essences" in Andean metallurgy. The "essence" was transformative and spiritual, and it was up to the artisan to "magically" bring the true essence to the surface from within the nature of the metalwork and woven textiles. Over the centuries these metalsmiths employed an array of metalworking techniques to achieve rich and colorful golden surfaces. Heather Lechtman writes: "revealing its [the metal's] inner structure [is] related to these fundamental Andean concepts of the divine animation of all material things".

By the 9<sup>th</sup> century, the larger Chimu Kingdom expanded and took over the Moche, who declined due to a fifty-year period of climate change. This new, larger population required more golden objects to fulfill the needs of the ruling class. Gold-rich ore became scarce due to fulfilling this demand. The Chimu metalsmiths were obligated to use a lower gold content ore, the color of which needed to be improved.

To improve the color, the Chimu took the surface gilding technique to the next level. Low gold alloys were gilded to enrich the surface, and used to create large masks (see below), crowns, and beakers. These objects appeared golden on the surface but were essentially high copper alloys.

Often, a vermillion colored natural pigment known as cinnabar (mercury sulfide) was painted on top of golden surfaces to decorate the intrinsic color tone of the alloy. The red pigment was thought to be protective, preventing the escape of the gold's metaphysical essence. This Chimu mask shows rich traces of cinnabar which would have originally been painted on the entire surface. This practice can be seen as early as with the Chavin culture (circa 800 BC).



## The Golden Route from Peru To Mexico



The Americas 1587 Map by Abraham Ortelius

It is believed that gold working started in the highlands of Peru around 1500 BC. A tomb was found at Wayaka, buried with hammered gold foil sheets. The largest sheet was found within the mouth of the interred. Goldworking spread North through Colombia onto the isthmus, and finally to Mexico. Simultaneously, it travelled South through Peru and Bolivia. At first the gold technology evolved slowly from around 200 BC, then increased more rapidly through the fourth century, when most of all the metalworking technologies were known. The last technical development arrived with the Inca in the 13<sup>th</sup> century when metal inlays were used to combine different colored metals.

The next section covers the major gold working areas associated with the collection: Andes, Colombia and the Isthmus of Panama and Costa Rica. In the Andes, the majority of pieces come from Peru with examples from Chile and Ecuador. Bolivian and Argentine works in gold are scarce. The second division is Colombia-Ecuador, with a rich variety of gold working traditions spread over many different parts of the country. The third area, Panama and Costa Rica shares

many of the same styles while still having its own styles that are unique. An interesting development known as the “International Style” combines the iconography from the route from Northern Colombia thru Panama, to Costa Rica. The people from all these areas shared the belief that there was an afterlife, and that goods buried with them would serve them and maintain their status in the next world.

### THE ANDES AND PERU

In the Andes, gold flowed down from the mountain streams. Gold is among the rarest of metals and can occur in nuggets, unattached to rock, that are easily worked. It is easily mined from mountain streams by panning, a technique using running water to separate the grains of gold from the river sand.

Metalwork and textiles were the two most important signs of status and wealth, and they helped to define relations among people. Peru was the richest of all the New World Kingdoms.

High status tombs have yielded important finds of metal objects and other luxury goods; it was the practice in every culture to bury high-status individuals with their luxury possessions, including many objects made solely to accompany the dead.

The living had to amass their own wealth, and the desire for accessories such as staffs, rattles, goblets, war clubs, knives, jewelry and headdresses seems to have been insatiable.

The ornaments themselves, created from noble metals such as gold, silver and bronze, were thought to have had magical properties, and to encase the body with such accessories suggested that the individual came from the sacred, celestial world of the sun, the moon and powerful spirits.

**Smelting (depicted at right) only became known by the late Moche Period. Prior to this time, the only way to achieve a high gold content was through repeated hammering and heating the metal into thin sheets.**

Early Chavin gold works were mainly flat, with incised or cutout designs and sometimes ornamented with dangles or inlaid with shell details. As time passed, trial and error motivated the goldsmiths, similar to Middle Ages alchemists who were searching to find ways to turn basic metals into gold. This resulted in a variety of techniques including laminating copper with thin layers of gold, but most objects acquired a golden or silver surface color through depletion gilding. During the Late Moche / Early Chimú Period, we find evidence of the use of an ingenious and simple form of kilns, also known as chimneys, to create sufficient heat for smelting metals. These chimneys had as many as four levels upon which to place the metallic ores, and a source of heat generated by charcoal and forced air. At first, these chimneys were placed on cliffs with strong updrafts, which

fueled the charcoal. Blow tubes, several feet in length, used human-generated forced air to stoke the fire as opposed to billows, which were used in Europe. These tubes were used by three or four people at a time. A scientific analysis of the charcoal left behind in these kilns reveals the use of gold, copper, and tumbaga, with concentrations of gold as much as 16 times that of other ceramics. (See ceramic model below).



Underground mining was only practiced after the 7<sup>th</sup> century in Peru and Colombia. Gold was mined by digging long, shallow trenches along veins near the surface. The Incas considered the mountains to be living spirits, and believed these mountain spirits were the source of the gold. Gold was endowed with spiritual and symbolic meaning. The kings were the owners of the gold. Only kings were entitled to gift gold objects to their subjects, who performed tasks of bravery or extreme service.

Following is a brief survey of the metalworking traditions from Peru to Costa Rica, in which each region is explored in chronological order...

## Chavin (1800 - 200 BC)

The earliest civilization of Peru, the Chavin, established itself in the deep river valleys in the Peruvian Andes circa 1800 BC. By 800 BC the Chavin culture spread to the North Coast of Peru and brought their metal working skills with them, taking advantage of the abundance of the alluvial gold on the coast. Although the Chavin excelled at stone carving and ceramics, they made elite ornaments using hammered sheets of gold or alloys of gold and copper. Since gold cracks easily with cold-hammering, artisans developed rudimentary pit furnaces that allowed for sufficient temperatures to make the metals malleable enough to make relatively large gold sheets. Thus, Chavin gold objects are single gold sheets that were cut to make ornaments such as crowns, ear and nose ornaments and pectorals decorated with incised, repousse and/or cutout designs. These artworks are testament to the skills of early metalworkers because great skill was required to prevent the thin sheets from cracking or melting while heat was applied in order to keep the metal soft and workable. In this collection we have several nose ornaments, hammered and embossed in gold with shell eyes. Although these ornaments are small, they display a command of the material to create simple but attractive compositions.



The most notable Chavin objects are a set of three hammered gold feathers that would have been worn attached to a band as a headdress ornament. The broad, highlighted surfaces were intended to reflect the golden rays of the sun and announce a person of high status.





Paracas diadem

### Paracas (400 - 200 BC)

Towards the end of the Chavin period, the Chavin feline cult spread to the South Coast and influenced the Paracas and Nazca art. The Paracas embroideries are considered the finest in all of antiquity. Their ceramics were decorated with colorful post-fired resin pigments. There were very few gold objects produced. Their gold objects took on their own local style, and were primarily limited to flat gold sheets with cut-out designs. They were mostly made into mouth masks and diadems or headdress ornaments.



Nasca mouth ornament

### Nasca (AD 0 - 700)

Under the Nasca, the consolidation of the South coast amounted to a real statehood. This large desert area is famous for the Nasca Lines drawn on the desert floor. These lines can only be seen from high above. Nasca ceramics are known for their colorful slip designs, and their weavings employed every known technique, including some which cannot be reproduced today.

These cultures produced few gold objects, and their textiles are known for their remarkable preservation due to the dry desert.

### Recuay (AD 100 – 600)

In the Central Andes of Peru, the Recuay, a short-lived culture of 500 years, heavily interacted with the Moche along the coast. The Recuay built stone homes and ceremonial centers, and primarily created ceramics known for their use of kaolin, a white clay. These ceramics are a well-known feature in many museum collections. The Recuay did not work in pure gold, because it wasn't abundant, but they did leave evidence of technically advanced metallurgy with an emphasis on bronze objects coated with thick gold foil. The majority of these objects were fashioned into elaborately constructed tupu pins. A ceremonial center where these



objects were found is one of the few Recuay sites that have been studied. The Recuay culture thrived due to its strategic location in relation to the rest of Peru, while at the same time, it was easily defensible in the mountains with its stone structures. As a result, the Recuay greatly benefited from long distance trade. In the collection is a unique and important Recuay gold foil covered scepter depicts a deer flanked by two standing pumas, all three of which are standing on flayed animal skins. There is only one object with some similarity, and not as elaborate, that is in the Volkerkunde Museum of Berlin.



## Moche (100 BC to AD 700)

The Moche lived in small chiefdoms in the fourteen river valleys on the north coast of Peru. Warfare must have been constant, as chiefs vied for power. Indeed, bellicose scenes are a significant segment of Moche pottery. The Moche did not have written language, but they did have an extremely sophisticated system of symbolic communication, primarily expressed through painted pottery. Moche Warrior Priests were outfitted with elaborate costumes and accoutrements when they went into battle, and were also buried with their worldly goods. This forced the next generations of rulers to expand their holdings so as to produce even more elaborate golden costumes and grave goods. Generations of rulers from a particular river valley were buried in pyramids stacked atop one another, resulting in tombs with untold riches.

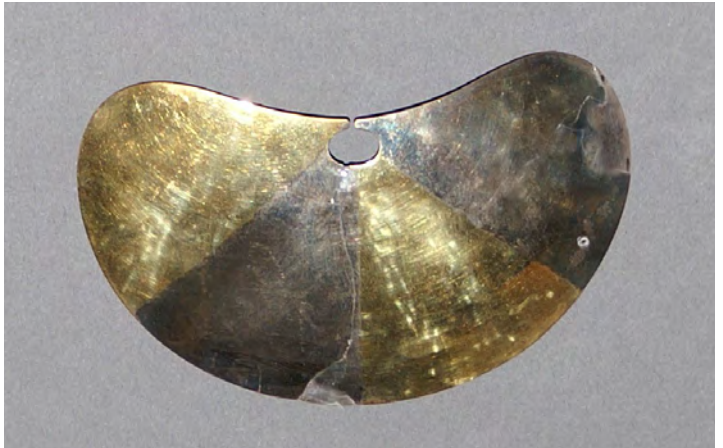
The Moche artisans were known as the "Mastercraftsmen," excelling in ceramics, weaving and metalsmithing. They advanced the known metallurgy techniques in the Andes and began to create three-dimensional objects, while the Nazca neighbors in the South coast continued to create simple shapes from hammered sheets of gold.

In order to create these three dimensional works, the Moche employed techniques such as soldering and slit-tab construction. One example is a gold hoverfly (below). The hammered upper body and lower body are tabbed together, and the separate wings were inserted with tabs into slits on the body. The Moche also were able to solder pieces together.



In order to make a large hollow bead, they would take two hemispheres and attach them along their edges with a perfectly soldered seam - often unable to be detected by the naked eye. This gave the Moche a wide variety of design ideas. Controlling the heat and using solders took great skill, as too much heat could collapse the piece being worked. The Moche understood how to use the naturally occurring alluvial gold alloys to create a variety of colors utilizing depletion gilding, slow and challenging process.

Surface enrichment was another skill developed by the Moche. They were able to cause low alloy gold to appear very rich in color by bringing either the gold or the silver to the surface. Some Moche pieces have both silver and gold designs on the same surface. The collection has a group of nose ornaments that illustrate this technique, one being pure gold, another pure silver, and the third and fourth, gold and silver designs.



The collection also contains two unusual pincers, one with a decorative filigree design and the other with an embossed feline face. Gold pincers are found in the Moche through the Inca cultures and were used for depilation of male facial hair.



Another feature devised by the Moche was the use of dangles, which reflected light as they moved. As simple as this sounds, it took great care to suspend these small, flat, golden discs on thin wires, and they would move with the slightest vibration. This innovation was incorporated through the Inca Empire and influenced all the Pre-Colombian cultures. It is clear that reflective light possessed qualities of great importance, like the reflections from the sun's power.



### Moche Mirrors

An outstanding example of reflective power is the Moche Loma Negra mirror. Polished anthracite mirrors were found in Chavin underground temples, which allowed the shamans to bring outside light into the dark tunnels. The Moche chose to use polished pyrite to reflect light. The concept of controlling light with mirrors was a powerful and symbolic method to channel and express the power of the sun. There are only a handful of Moche mirrors, and most of the known ones have wooden handled frames. There are only two known metal mirror frames. One is in the Metropolitan Museum of Art in the Rockefeller Collection, and the other is in this collection.





### Wari (AD 600 - 1000)

The Wari emerged from the Peruvian highlands near Ayacucho by about the 7<sup>th</sup> century AD, and were contemporary with the Tiwanaku from lake Titicaca, Bolivia. The Wari empire spread from Northern Chile to the central coast of Peru. They were famous for their spectacular weavings of beautiful tapestried ponchos. Not much of the Wari metalwork survived. What is known is usually elaborately decorated flat surface ornaments such as the feather in this collection. This gold feather is decorated, incised, and reticulated (cut out) and is a lovely example featuring a pair of condors holding serpents in their mouths. It was meant to be inserted into a gold headband.

### Chimu (AD 900 – 1350)

With a fifty year drought in the 8th century, the Moche declined. Significant political changes occurred in the North Coast region. The local Sican culture, also called Lambayeque (AD 900 - 1100) was eventually conquered by the rising Chimu kingdom to the South. At the height of the Chimu empire, it is believed that the city of Chan Chan supported a population of close to 70,000 inhabitants. The Chimu took control and imported Sican metalsmiths to work in their capital of Chan-Chan. The Chimu period (AD 1100-1450) was characterized by the enormous amount of gold and silver ornaments for the society.

The large demand for golden costumes, masks, and beakers among the Chimu nobility necessitated the metalsmiths to find ways to satisfy the demand. One innovation, depletion gilding, was to take abundant copper-gold alloys and alter and enrich their surface appearance to make them look golden. In the 1950's, when a road was being constructed in the Chimu heartland at Hacienda Batan Grande, an extremely large amount of golden artifacts was uncovered, yielding tons of low carat gold. Among these artifacts included stacks of beakers, multiple masks of different sizes, and thousands of small textile appliques.

In the exhibition, there is a classic gold Sican mask (page 12) and a high karat gold beaker with embossed designs of masks and frogs.



## Inca (AD 1400 - 1532)

The Inca Empire at its height lasted just over 100 years, from around 1430 to 1532, when Pizarro conquered the Incas. The empire covered an area of 2,500 miles in length from Chile to Colombia. In all history, only the Roman Empire outsized the Inca Empire. The Inca won the fealty of local chieftains in exchange for gifts of gold, silver, and tapestries of outstanding quality.

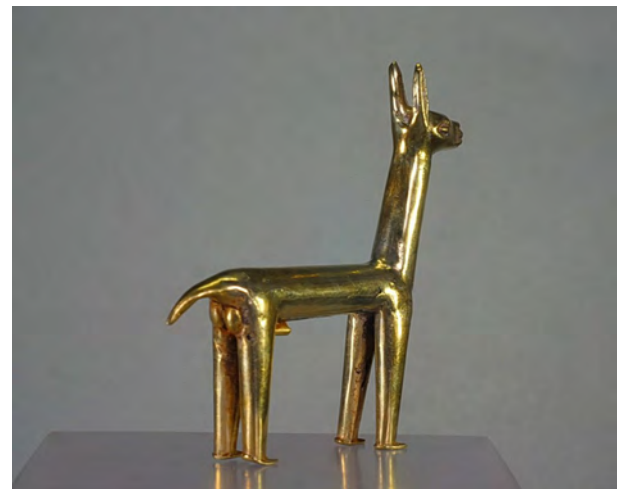
The Inca conquered the Chimu on their Northern expansion to Colombia. They admired the Chimu metalsmiths, and relocated them to work at the Inca capital, Cuzco. Inca gold art was created with the belief that the Inca were direct descendants of the sun gods.

The collection of such large amounts of gold depended upon gathering resources from across the entire empire. Everyone was required to give a portion of their labor over to the empire. This was called *mita*, which was a tax on the labor. The empire depended upon this tax to mine gold from across the region. Fabulous amounts of gold were brought to Cuzco, where the Inca covered their temples' stone walls with gold sheets, and even had gardens made of gold.

The Inca gold workers were not free artisans but rather were employees of the state, and therefore were beholden to the prevailing Inca style. There is very little known lost-wax gold casting done by the Inca. One rare example is two gold figures wearing head-dresses. This lack of known cast gold objects shows that the Inca favored fabricating sculptures from flattened gold sheets. An example of this gold sheet technique is a standing llama, nicely sculpted and assembled from several molded sheets of gold. These llamas are also associated with hollow figurines, both male and female. The Inca fashioned complete outfits of gold and silver plaques including golden sandals.

Many of the Inca gold objects were crafted into head-dresses, large ear ornaments, figurines, llamas, platters and beakers.

Pizarro and his group of around 200 soldiers kidnapped Inca King Atahualpa in exchange for the Inca gold as ransom. As a result, there is very little Inca gold art that survived, as most of it was melted down. According to Cieza de Leon, who describes the splendors of the Inca Empire in his *Chronica del Peru*, "the temple of the sun, in Cuzco had its stone walls sheathed in gold, and a garden planted with golden plants (replicas)".



## Ecuador (400 BC - AD 1300)



The early La Tolita culture of Ecuador produced lovely miniature gold ornaments with traces of platinum, which is unique to Ecuador. The platinum was worked by hammering it into very small parts and adding it to a larger molten gold mixture. This enabled the gold workers to work the platinum without the high amount of heat normally required. The later cultures in Ecuador continued in the tradition of creating personal ornaments such as nose rings, ear spoons, diadems, and necklaces. There are only a few known larger works such as masks and pectorals in museum collections. The University Museum in Philadelphia has the largest masks in the US. Upon the Inca expansion into Ecuador, the objects conformed to the rigid Inca style. The collection has a

small group of gold-platinum alloyed ornaments (bottom left). In general, Ecuadorian gold is quite rare. Many ancient Ecuadorian figurines are shown wearing ornaments, which represented real-life gold ornaments that people would have worn.

The region between the Northern border of Ecuador and the adjacent border of Colombia shares the same art style known in Ecuador as Capuli (9<sup>th</sup> to 13<sup>th</sup> century). In Columbia it is referred to as Narino. There is also an embossed gold disc with a feline mask in high relief - this type of disc is associated with both ear ornaments and pectorals.





**The Quimbaya culture (AD 400-1450)** evolved over a millennium, up until the Inca conquest, continually producing gold and ceramic art. Their early figural *poporos* are considered the finest examples of lost wax castings in South America. The Museo del Oro in Bogota houses over 55,000 gold objects from all over Colombia, testifying to the abundant varied goldworking traditions.

**Uruba (AD 400-1000).** The Uruba region, which borders Southern Panama, has a rich mix of early styles: Quimbaya, Calima, Darien, Sinu, and Tolima. Each of these cultures was within a 75 mile radius of the Gulf of Uruba. Uruba's strategic geographic location, and the narrow passage between Colombia and Panama encouraged the trade of goods and alluvial gold. This resulted in not only extraordinary amounts of trade, but also produced a mixture of artistic influences which led to the Uruba style, developed as early as AD 400. Uruba archaeology is the least studied among all the cultures of Colombia because of difficult and dangerous terrain, which is heavily forested and unsafe to travel.



An excellent example of Uruaba goldwork (above) portrays a combination of a Sinu shaman with Quimbaya features.

## Colombia - (500 BC - AD 1450)

Named Nueva Granada by the Spaniards, Colombia covers a large area of varied landscapes, ranging from Coastal plains to rugged Andean mountains. This terrain resulted in seven primary gold working cultures covering a span of over 2,000 years, to include Quimbaya, Calima, Uruba, Tolima, Muisca, Tairona, Sinu and Narino. These primary cultures had tribes that also evolved into multiple distinct artistic styles, all portraying similar categories of objects including masks, headdresses, ear ornaments, nose ornaments, labrets, pectorals, pendants, necklaces, bracelets, ligatures, finger rings, lime containers (*poporos*), lime dippers, and other assorted items like trumpets and assorted animal figurines. A consistent stylistic theme is the portrayal of shamans and rulers that transition into deities or animal totems for passage into other worlds. The earliest examples of Colombian goldwork were crafted by the Calima, c. 100 BC, into large golden sheet ornaments such as masks, and especially breast ornaments or pectorals which could cover a king or ruler's entire chest. These objects were made of a high content gold and were annealed with stone hammers and chisels and meticulously burnished surfaces. By the 4<sup>th</sup> century the Calima were using the lost wax casting technique to make smaller ornaments such as ear and nose ornaments. Early on, the Quimbaya championed lost wax casting technique, making the most sublime figural containers which unequalled anywhere in the Americas.





### Tairona (AD 600-1500)

When the Spaniards arrived in the Tairona heartland, the Sierra Nevada de Santa Marta was sparsely populated. Only in 1973 did archaeologists start to find more than 200 Tairona sites, ranging from small settlements to large towns. The Tairona had great engineering skills, constructing canals, agricultural terraces for crops, and stone stairways and roads. There was trade in small scale gold objects between the Tairona and the Sinu, but the main trading was with the Muisca, to whom the Tairona sent nose ornaments, beads, and sea shells in exchange for emeralds.

Tairona gold work combines mastery of casting and attention to detail using braided bands of cast wire, spirals, and elaborately ornamented figures and animals. Most of the Tairona gold work was made in the final centuries before the Spanish conquest, but earlier stages date back to the sixth century. *Tumbaga*, an alloy of gold and copper with minor amounts of silver, was a Tairona achievement which allowed for the creation of lost-wax castings with fine details (see below). *Tumbaga* also lowers the melting point of gold, allowing for the casting of finer details.

The Kogi Indians of the Sierra Nevada mountains are direct descendants of the Tairona and maintain many of their customs. The Kogi have been studied in order to better understand their ancient ancestors.



### Muisca (AD 800-1600)

The most notable feature of Muisca gold work is their cartoon-like imagery. The Muisca people primarily worked with low-relief molds, producing votive figurines known as *tunjos*. The figurines depict people and animals conducting a wide variety of activities. The Muisca also favored depicting everyday and ceremonial scenes. They are known as the people from El Dorado because of a ceremony celebrating their king, who would be covered in golden ornaments and floated on a golden raft across the sacred lagoon of Guatavita to offer his treasure into the lagoon.

### Sinu (AD 1000 - 1500)

When the Sinu first greeted Columbus in their canoes, they were wearing large, golden, circular pectorals. At that point Columbus had a Eureka moment and knew that there was much gold to be had in the New World. The Sinu thrived because they lived near large floodplains and created a canal system that produced abundant agriculture and alluvial gold. They also created a large range of gold objects that employed the false filigree technique, specializing in earrings. The Sinu amassed more gold for the afterlife than any other peoples. The only Sinu item in this collection is a cast gold whistle (below).

[To view 100 other Sinu objects, click on the graphic of the catalog to open a link to the PDF catalog.](#)



## THE ISTHMUS: PANAMA & COSTA RICA

The biological and geographical diversity of the isthmus between Uruba in Northwest Colombia through Panama, to the gulf of Nicoya in Costa Rica, is divided into three primary archeological zones: the Coclé zone, on the isthmus in Panama, the Atlantic Watershed, along the Caribbean Coast, the Guanacaste-Nicoya/Diquis region west of Costa Rica along the Pacific Coast.

The people of Panama and Costa Rica who looked for gold believed that collecting gold was a sacred activity and that ritual fasting would ensure success. The streams were so rich in gold nuggets that some nuggets were reported to be the size of an egg. The primary type of gold objects from this area are usually of a high gold content and they are either hammered into large flat pectorals or solid lost wax cast pendants. The majority of these pendants are either figurative, anthropomorphized deities, powerful birds, or amphibians, mostly in the form of frogs. One example of a large cast gold frog from the Veraguas culture in this collection displays saurian (small crocodile) heads emanating from its mouth. These saurian forms are a typical embellishment found on casting in the isthmus. Another characteristic Veraguas feature was to embellish, by hammering, details such as wings and/or flippers after an object has been cast.



**Panama (Coclé Zone) AD 750-1000.** In the 1930's, Harvard University and University of Pennsylvania excavated the newly found cemetery of Sitio Conte and found the richest treasure in Panama to date. The universities made a deal to share the treasure with the Conte family. The universities paid only for the gold content of their portion, which was \$35 per ounce. Today this arrangement be considered controversial, as excavated property belongs to its host country. On the other hand, the University of Pennsylvania has diligently published and exhibited the Conte treasure for the benefit of the public and has brought global attention to Panama's rich pre-history.

The phenomenal treasure uncovered in this cemetery provided the first descriptions of how these chiefdoms were organized, revealing insights to Coclé society. Coclé chiefs were chosen by hereditary lines, giving them power, wealth and military rule. Unique to Panama are its elite burial rites, in which the departed are confined to clustered burials arranged according to status, with only a small stone marker to indicate the presence of the group. In addition, chiefs were given certain privileges - the most important being that chiefs were the only class entitled to own and wear gold in both this life and the life hereafter.

On Columbus' fourth voyage, near Panama, he and his men traded with the Indians coming out in canoes to meet him. These Indians wore "mirrors" round their necks. The "mirrors" were actually concave gold disks with suspension holes (right). Many Coclé objects were meant as ornaments for the body, and include pendants, collars, gold beaded necklaces, and hammered disks of all sizes. Coclé ornaments were decorated with richly embossed iconography of deities and intricate lost wax casting.





Because of the rarity of Coclé gold objects, we only have one example in the collection, a set of twin shamans. These shamans are perhaps deities in transformation, depicted as anthropomorphized animal hybrids with human torsos and appendages. \*Many of these themes are found in other parts of the isthmus, and it is hard to distinguish the origins of each object, as well as to determine which geographic group influenced the others.



### The Atlantic Watershed (AD 800 - 1519)

On Columbus' fourth voyage, he dropped anchor at Amirante Bay, just inside the Panamanian Coast, where more than 80 canoes came to exchange gold for Spanish copper bells and trinkets. Columbus saw Indians extracting large grains of gold from the rivers, and manufacturing hammered breastplates of high quality gold for trade along the coastal chiefdoms of Talamancas. The greatest concentration of gold finds on the Atlantic slope comes from the Linea Vieja area. It appears that this was a great trading center, as imported golden artifacts were found here from all over Costa Rica, Panama, and Northern Colombia, buried in tombs.

In Costa Rica in 1871, Minor C. Keith, founder of United Fruit Company, built a railroad from San Jose to the Atlantic coast, primarily to transport bananas and coffee for export. The railroad, now known as Linea Vieja (meaning "old railroad") passed through Las Mercedes, a large Late Period archeological site rich with artifacts – as many as 16,000 objects of gold, jade, stone, and ceramic. During the construction of his banana plantations at La Mercedes, Minor Keith's workers first came across golden artifacts, which inspired Keith to amass a collection of over 16,000 objects over a 20 year period.

5,000 of these objects were later donated to the Brooklyn Museum of Art, while others were donated to the American Museum of Natural History, and the Smithsonian Museum of the American Indian.

### Guanacaste-Nicoya/Diquis Region (AD 1000 -1500)

By comparison to the Atlantic Watershed and Diquis areas, the Guanacaste-Nicoya archeological area to the west of Costa Rica produced less goldwork. What has been found is entirely eclectic, with apparently no definitive local style. For example: small gold frog pendants, eagles, crocodiles, and human figures.

The Diquis zone of the Pacific Coast has provided more golden objects, apparently due to the availability of gold from mountain streams. Most of these items were found in tombs with hardly any wear, apparently intended for the afterlife.

The most distinctive of these items include pendants shaped like humans or humans with animal qualities, and seem to be crafted using strictly controlled themes. Many of these themes are taken from the animals in the area such as frogs, alligators, jaguars, peccaries, turtles, armadillos, scorpions, spiders, and birds - including eagles and other raptors. Many of these creatures have a composite form, for example human arms and legs incorporated with animal faces and features.

It becomes clear that the Diquis pendants are not simply representations of nature, but the outward signs of a complex world of symbolism, with its own system of beliefs and mythology. Most of the subjects depicted in gold are fierce, noxious, or dangerous – they nip, sting, bite or are poisonous. Predatory habits are emphasized – such as a raptor holding a fish in its mouth. The Diquis' preoccupation with supernatural forms suggest that their pendants may have served as indicators of rank and family status, and should not be considered merely as ornamental jewelry. (Bray, *Between Continents /Between Seas: Pre-Columbian Art of Costa Rica*).



## Guatemala & Mexico (AD 900-1600)



From the *Codex Mendoza*, c. 1541

**(Maya, AD 900-1200) (Mixtec, c.1500 AD) (Aztec, AD 1300-1500)**

The story of gold in the Pre-Columbian Americas ends in Mexico. During the Early Classic period (5th century) the Maya were importing gold from the isthmus, through trade with the Diquis people. Since gold had to be imported from distant regions, it always remained scarce among the Mayans. What remains of the the Mayan gold work are sheets with beautifully incised designs, based on mythical images described in the *Popol Vuh* (the Mayan Book of Dead). There were cenotes that became pilgrimage centers, and gold offerings were thrown into these great natural wells, mostly located in the Yucatan peninsula. A famous cenote of sacrifice in Chichen Itza, used over a 500 year period, produced 16 pounds of gold objects. These objects were brought to the cenote from as far away as northwest Colombia. By the 17<sup>th</sup> century we find the Mixtec continuing the gold working tradition, and by the 10<sup>th</sup> century the Mixtec were making exquisite quality cast gold objects. Mixtec gold objects are extremely rare and in few private collections. Before the arrival of Cortes, the Aztec Empire controlled most of Mexico as we know it today, from its center Tenochtitlan in the Valley of Mexico. The Aztecs demanded gold as a tribute from their subjects, especially those from the Pacific and Gulf coasts. Montezuma was the last Aztec lord who presided over the Aztec Empire at the time of the Spanish conquest.

Cortes demanded gold from Montezuma, who pretended to have very little gold. By luck Cortes discovered Montezuma's treasury, melted down the gold objects into bars, and sent it back to Spain to finance European armies. The intact objects were sent to Spain as part of the royal fifth, subsequently to be destroyed due to pressures from the church because the objects were considered sacrilegious. Hardly any of the gold and feather objects survive from Mexico. Most of these objects are in museum collections in Vienna and Madrid. Smallpox and the use of gunpowder allowed Cortes to finally defeat the Aztec Empire in 1521 with the fall of Tenochtitlan.

This concludes our brief history of Pre-Columbian gold traditions, which brings us to our next section: Connoisseurship and Authentication of Pre-Columbian gold artifacts.

## CONNOISSUERSHIP & COLLECTING



Connoisseurship, the understanding of technique, details, and subtlety of an art form, becomes paramount when collecting rarified ancient objects. One should think about how an object fits into the range of artistic output from a particular area or culture. The most useful tool for collecting is a broad image base. It is important to see as much work as possible: in museums and galleries in person, in books, and online. Understanding the techniques used to accomplish a particular style is also critical in making judgments about the quality of a piece. Art specialists also provide insights that are helpful to understanding a piece's character. Ultimately it is the individual collector's heartfelt response to an object that should determine whether a piece should be included in a collection. There are several types of collections. An "encyclopedic" collection is a collection containing one example of each culture, type, or technique. A collection specializing in a specific style, time frame, or media is another type. Finally, the last type of collection is a collection based on someone's personal taste without any limitations. It can be hard for a collector to go against popular trends and choose what he or she personally values. These types of collections are the most difficult to achieve, but the result can be the most gratifying.

The collector should distinguish between whether one's goal is to create a personal collection, or to make a good financial investment. Sometimes these two goals coincide, but most often, this is not the case. It is very difficult to know whether you are overpaying for a masterpiece. An experienced collector knows that sometimes paying a high price for a masterpiece can be a bargain in the long run. Collectors often say that their biggest mistake was passing up a special piece that was thought to be expensive at the time. On the other hand, a collection need not be full of expensive masterpieces in order to have significance. In fact, the creative impetus behind the collection often leads to its distinctive character, as you'll see in the next two examples.

One collector was attracted to Pre-Colombian miniature gold animal pendants, and over time, she amassed a menagerie of animals. The criteria were that they were small, under two and a half inches in size, and they had suspension loops. At first she only intended to collect a dozen or so animals—birds, amphibians, reptiles and mammals. However over the years, the collection grew to over 300 unique animal pendants, as she discovered far more unique animal species than originally imagined. Everyone who came to visit the menagerie marveled at the variety of creatures and the imagination of the Pre-Colombian goldsmiths.



Another collector was fascinated with zoomorphic transformation figures. These images would display either animals with human attributes, or humans with animal attributes, such as a bat with crocodile tail and human hands and feet, as seen to the left, or a shaman with wings. These pendants illustrate the transformation themes that were so important to the Pre-Colombian belief system, such as spiritual flight, or descent into the animal underworld.



### Pitfalls in Collecting

Making mistakes is a part of collecting, and unintentionally purchasing forgeries comes with the territory. Understanding why a work is fake can allow a collector to learn an immense amount about a specific culture and style. Usually these type of mistakes occur when a person is trying to acquire a bargain, or to buy a “masterpiece” that is more elaborate or larger than other pieces from that time period. It’s also possible, but less likely, that this “masterpiece” is real. In general, forgers will make the effort and take the time to create a forgery that is enticing to a collector for both its size and rarity. When tempted by such a piece, a collector should use skepticism and research to determine if in fact it is actually a rare and important piece, or the product of a forgers’ imagination. As authentic masterpieces are published for the first time, forgers will almost always follow suit and attempt to recreate these masterpieces. In addition, obscure masterpieces published decades ago also become targeted pieces for fakers. A logical first step is to look through the literature and study museum collections on the culture from which piece in question is purported to originate. Also, forgers take advantage of novice collectors attracted to secondary auctions by falsely claiming authenticity. Distinguishing between a fake “masterpiece” and a genuine one that is widely published requires scientific testing, expert analysis, and connoisseurship. Although it is possible for an artifact to be authentic, it is rare. An understanding of the ancient styles, techniques, tools, and materials available are essential to discerning fakes from genuine pieces. This requires time and costly scientific tests. There is no shortcut, and beware of expertise that is provided quickly and at modest expense.

Another pitfall is when a seller warns the buyer not to show the piece to certain experts. The seller will claim that these experts say that objects are fake if don’t originate from dealers within their own circle. Expertise is subject to specific fields, and when experts go beyond their field, their statements are subject to question. Therefore, selecting one or more experts to examine a piece is essential. It is not always easy to determine who those experts should be. For example, an expert in Andean Pre-Colombian art should not be asked to assess at a piece that is Mesoamerican. In addition, expertise can be found for different media (e.g. metallurgy, gold vs. bronze, ceramics, stone, or wood). Reviewing an expert’s cv will show where his or her strengths lie, based on his/her published articles.



## **Authentication of Pre-Columbian Gold**

I have selected these works with over 35 years of experience buying, selling, and collecting Pre-Columbian gold. I have often consulted with other Pre-Columbian experts and scientists over the years to discuss a variety of issues. Many of the works in this collection have also been scanned by XRF (X-Ray Fluorescence) for elemental analysis, which measures the percentage of each element present in the gold alloy.

Collecting Pre-Columbian gold can be satisfying and informative, and at the same time challenging. Growing interest in archeological gold has contributed to an increasing amount of forgeries. However, it can be assuring to know that the issue of forgeries can be solved through science and connoisseurship.

At first glance, a collector with a reasonable amount of experience can tell, even from a photograph, if a piece has merit and often, it is genuine. If it is believed that the piece is genuine, then the collector has to study the piece for both style and technical analysis.

Experts rely on two complementary approaches—Scientific and Stylistic—to determine whether a work might be a modern forgery. In authentication of Pre-Columbian gold, technical proof begins with looking for evidence of age. It also includes observations such as spotting the wrong alloy or compound that was not used in production in the ancient world, such as zinc. It is crucial for both stylistic and scientific approaches to be used together, as one is not sufficient without the other. In fact, if a purely scientific result concludes that an object is genuine, the result may be misleading and not sufficient as a guarantee of authenticity. It's entirely possible for a forger to find a discarded piece of ancient metalwork and repurpose it into a fake. An example of this would be a flat sheet of ancient gold that a forger embossed with a Pre-Columbian motif. The material is ancient, but the art is modern.

### **Scientific Analysis**

As summarized by Andre Emmerich, the venerable Pre-Columbian art dealer and author of the seminal catalogue *Sweat of the Sun and Tears of the Moon* (1965), common technical proofs for detecting works of forgery include 1) the use of alloys that were unknown in Pre-Hispanic times 2) the use of modern goldsmithing techniques and modern tools (which leave microscopic traces), or conversely, the evident lack of pre-Columbian techniques of manufacture, and 3) the application of acids or other methods (such as burying the object) to produce an artificial patina, aging, corrosion, weathering and wear marks etc.

In the past scientists only had access to binocular microscopes and could only detect obvious modern tool marks and surface enhancements. This surface examination can be conducted with as little as 20x - 40x magnification. Today, metallurgical analysts have at their disposal multiple sophisticated scientific tools in addition to visual examination to authenticate archaeological gold. The past fifty years have seen a dramatic increase in Pre-Columbian archaeology and the scientific investigation of these cultures and traditions.

Heather Lechtman of the Massachusetts Institute of Technology (MIT) and a MacArthur fellow, has done pioneering work on Pre-Columbian gold, analyzing the inventive methods of fabrication devised by pre-Hispanic artisans and metalsmiths. The variety of complex techniques employed to fashion such magnificent pieces are represented in this collection. Warwick Bray examined the gold traditions of Columbia and the Panama isthmus. David Scott did pioneering work on the gold and platinum technology of early Ecuador. Scientists are using the latest equipment to be able to date when the golden objects were made, and locate the geographic source of the gold.

Thermoluminescence testing (TL) is a well-known technique, which can measure the age of carbon core samples taken from cast lost-wax gold objects. However, it can only be used for those cast metal objects that still retain uncontaminated traces of the original clay core model. It is not impossible for a forger to place an old discarded core into a modern forgery. An experienced examiner usually can tell how legitimate the core sample is.

Another methodology employed to examine a selection of objects from this collection, uses energy dispersive X-ray fluorescence (ED-XRF). ED-XRF analyzes elemental composition. XRF can detect a higher than normal presence of certain modern elements not used in Pre-Columbian times, such as zinc and aluminum, which would indicate modern fabrication. However, since forgers have learned how to manipulate and re-work shards of ancient gold, the results are not infallible, and must be supported by other evidence.

Helium is also trapped in the process of heating gold. Over long periods of time, the helium atoms decay. The amount of helium lost over time can be measured. Once the helium loss is measured, it is then possible to determine time period when the gold was last heated. A twofold process developed by Olivier Bobon and Hervé Guegan at the CIRAM and ARCANÉ laboratories in France takes advantage of this atomic decay by combining scanning electron microscopy (SEM-EDX) with external particle-induced X-Ray emission (PIXE). This combination is used to study the object's surface microstructure and determine the process by which the gold was fashioned (e.g. ancient depletion gilding as opposed to modern electroplating). Unfortunately, this is an expensive test and therefore should be used only for expensive items.

This information is integrated with a PIXE analysis to define the “trace element” composition of the alloy and determine whether it is consistent with the geographic area that the goldwork is purported to be from. Trace elements refers to minute amounts of less than 1/100<sup>th</sup> of a percent of all elements found in an alloy, such as Ruthenium (44), Palladium (46), and Indium (49). It is impossible to replicate a given matrix of trace elements.

## **Stylistic Assessment**

Stylistic proof is found in the artist's approach to the overall design of the piece. Often, an expert will notice a stylistic error which in turn would need to be confirmed with technical testing. Stylistic analysis is best realized by professionals with long-term, hands-on experience with artifacts from a given culture. Also important is one's visual memory of museum pieces and published objects, which serves as a frame of reference for observing questionable objects. After seeing thousands of objects, a professional can understand many stylistic nuances attributed to a particular culture. This knowledge includes understanding the art form, its iconography, its historical evolution, and its cultural chronology. Many mistakes and irregularities of style and iconography can be unmasked and used to conclusively establish an object's fraudulence

It is insightful to place a questionable object next to a known ancient object with similar motifs for reference. Upon close examination, an expert could be able to spot subtle differences in design, which could reveal a forgery, using stylistic criteria alone. For example, some forgers craft an object with either too few or too many compositional elements, relative to the authentic object.

A professional can also distinguish between an authentic rendering and a caricature. For example, if a certain culture always depicts its figures frontally, and an object is found purported to be from that culture with a figure depicted in profile, then it is likely that this could be the work of a forger.

In many cases a scientific analysis could support a stylistic conclusion. An expert in ancient ceramics may not have the same knowledge as an expert in ancient metal work. Therefore, it is important to get the help of the appropriate expert.

## Spotting Fakes

Below is an example of a piece that was crafted from ancient gold but is not authentic. The piece on the right is an authentic artifact from the Gold Museum in Bogota, and the piece on the left is a forged imitation. The iconography is misunderstood by the forger and the scale is incorrect; the forged piece is one third the size. By comparing the forgery to the authentic piece, one can see several iconographic discrepancies. The first and most obvious difference is the way the face is drawn on the fake, lacking details in the nose and mouth. Additionally, the fake animal's torso and tail are not skillfully drawn the original's. The original has one set of suspension holes, while the fake has two sets, without any reason for the second set.



A fake, purportedly from Peru  
2x magnification



• Museo del Oro, Bogota Colombia, 2008, p.77.

Another example of a forgery is this side-by-side comparison of a fake Chimu gold tumi (below, right) with a standing figure in a posture with hands facing outward. When placed next to the original (below, left), one notices that they are both very similar - in fact, they are too similar.

In the forged piece, the artist had trouble making the toes. The punctuated design is crisp on the genuine piece and sloppy on the fake. Finally, the fake is pushed in in several areas, including the crucial nose. The “pushed-in” technique is a way to disguise an artist's lack of ability to replicate an intricate part of the original. It's possible that the metal used to create the fake could very well be ancient, as there were many discarded gold fragments from the Batan Grande cemeteries, so stylistic assessment is of paramount importance.



Continuing with side-by-side comparison, another type of fake is a **pastiche**. Pastiche involves combining parts from different objects to create a forgery. Sometimes the parts are from the same culture, or more often, from the same tomb. Forgers may even combine two pieces from entirely different cultures into a “new and never seen before masterpiece”. Another type of pastiche involves combining ancient and modern parts to form one object.

In this example below, a forger took an ancient pair of earspools that lost their inlays, and crafted in a new set of figures inspired by a well-known authentic pair of earspools from the Larco Museum in Lima.



**Well executed fake**



**Genuine - Larco Museum**



**Poorly executed fake**

The forger (left) tries to embellish the iconography by adding a trophy head, which is uncharacteristic of Moche iconography. In addition, the scattered placement of the blue shells in the background is also inconsistent with Moche craftsmanship. This forgery would fool most people without a knowledge of Moche iconography.

The pastiche on the right is an example of placing a Moche subject inside a Chimu earspool. When you compare the Moche earspool decoration to the Chimu decoration, the Moche border has solid gold balls surrounding a circular rim, whereas the Chimu border has gold balls surrounding a ring of spirals. To make it more confusing, the profile of the figure is holding both a trophy head and a weapon in his right hand. The Moche profile has a cumbersome headdress. These discrepancies reveal a lack of understanding of Moche iconography on the part of the forger. It is entirely possible that some of the carved shell inlays may be genuine and mixed with modern inlays—another attempt to deceive the collector. This is a good example of taking a popular object and using a combination of both modern and ancient materials to create a tempting forgery.

Once any art form becomes popular and valuable, there is a natural tendency toward creating forgeries. In authenticating art, ancient art has an advantage over modern art because it can be tested for evidence of its age. In addition, each professional has his or her own secrets for detecting forgers, and these secrets cannot be revealed lest forgers learn how to overcome their errors.

As forensic science advances, our ability to detect forgeries will continue to improve. The academic research on Pre-Columbian art and in particular gold is also increasingly evolving. Ancient gold lends itself well to scientific testing because of its unique elemental properties. There are no absolutes concerning authenticity, but we can come to highly educated conclusions utilizing the best talent and tools available.

Ancient art is an appealing field for those who love antiquity and are curious about science. In fact, scientific analysis allows one to conclusively authenticate whether an object is ancient. This is in contrast to 20th century art, in which the subjective opinions of experts dominate the field.

\* \* \*



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# Catalog

## Subtle Genius: Collecting Pre-Columbian Gold

An On-Line exhibition at [www.Precolumbianart4sale.com](http://www.Precolumbianart4sale.com)  
David Bernstein Fine Art, New York

### Items 1-45

### Prices On Request

1



#### Three Chavin Gold Plumes for Headdress

Height: 9", 11", 12"- Weight for the three 90 grams  
XRF: Au.81, Ag. 9.5%, Cu. 10.1%, average for the 3  
Peru, Chavin, Tembladera, Late Phase, North Coast, c. 900 - 200 BC  
These were used as headdress or turban ornaments with solid, tapering shafts and were each fabricated by repeatedly hammering and annealing. They are illustrated in [TRUJILLO Precolumbino](#), Odebrecht-Lavalle, Editores 1990, pg. 293. Other similar examples are illustrated in Parodi, pl. 51. \* These plumes are considered very large for early Peruvian goldwork. intact with a small tear to the largest one, original surface

94192

2



#### Salinar-Early Moche Gold Nose Ornament With Dangles in the Form of Bird Feathers

Width 4" x Height 1 3/4"  
Peru, Viru, North Coast, c. 200 BC - AD 200  
Unusual and rare nose ornament from the Salinar culture with stylized bird heads at each end and six dangles imitating feathers. A similar example is illustrated in Lavalle, pl. 94.\*

96164

3



#### Recuay Gilt Copper Pin Decorated with the Moon Animal

Length: 3 1/2" x Width at top: 5/8"  
Xrf: Ag. 0.89, As. 3.92, Cd. 0.05, Cu. 83.08, Fe. 0.01, Ni. 0.02, PbL. 3.72, Sb. 0.08, Se.0.04, Sn. 0.61, Zn. 0.73  
Peru, Recuay, North Highlands, c. 300 BC - AD 700  
This is a short tupú with a filigree design of the Moon creature, a North Coast deity conceived by the Recuay and adopted by later societies. The Recuay and Moche associated the Moon Animal with the crescent moon, stars and human sacrifice. There is a turquoise bead in the eye; other recessed areas of the casting also had inlays, which have been lost. A similar pin was found at a Recuay site and is on display at the AMNH.

M2029A

4



#### A Rare Recuay Gilt Scepter with Accompanying Pair of Gilt Tupus

Scepter Length: 9" x Width: # 3"  
Longer tupu: Length: 8 1/2 x diameter: 1 1/2"  
Shorter tupu: Length: 7 1/2" x diameter: 1"  
Peru, Recuay, North Highlands, c. 300 BC - AD 700  
This scepter is very rare with an unusual motif of three animals standing on three flayed feline skins. The central animal is a deer flanked by a feline four-legged animal. Each channel has a suspension hole towards the top. This scepter must have belonged to a high status individual as its manufacture is very elaborate and technically sophisticated. Only one other known similar Recuay scepter is illustrated in [Kultur Von Peru](#) by Max Schmidt, pg. 392. The accompanying two tupus with decorated tops (longer and shorter) each have a different motif. Four tupus excavated at Pashash, the earliest known Recuay site, are illustrated in Grieder, figs. 114-117, and fig. 7. \* These tupus were originally sold by Alan Lapiner in the early 1970s along with a classic Recuay vessel of a lord flanked by felines.

M3023

5



**Vicus Gold Necklace of Soldered Discs and Rolled Oblong Beads**

Length: 23 inches without clasp. Height: 2 inches at center. Weight: 88 grams

Peru, Vicus, Ayabeca, North Coast, c. 100 BC - AD 300

The necklace has been restrung, similar to other ancient necklaces. The different beads were strung so that the necklace hangs flat. The roundels each have 2 sets of holes on each edge. The oblong beads are made from hemispheres and rolled, creating the elongated oblong shape. A necklace with similar shaped beads was found at the early Vicuse site of Ayabaca in the far north of Peru and illustrated in Paroti, pg. 91. \*

88121

6



**Vicús Gilt Copper Mace Head with four Levels of Six Pointed Stars**

Diameter: 3" x length 3 5/8"

Peru, Vicus, Far North Coast, c. 300 BC - AD 300

The mace has a richly gilded surface with traces of malachite corrosion inside and out. A similar mace with only three layers of stars and less intact gilt is illustrated in Mufareche (1999: #132). Mace heads were attached to wooden shafts and used as weapons. This is a particularly fine example from the early Vicús culture.

M3053

7



**Moche Gold Nose Ornament with Hummingbird in a Tree**

Width: 1 1/2"

XRF: Au. 78.7%, Ag. 14.6%, Cu. 6.5% & Ga. Gallium .05%, Pt. .06%

Peru, Moche, North Coast, c. AD 100 - 300

Delicately crafted hummingbird figure with inlaid turquoise eyes and dangles. This is an example of Moche soldering and filigree workmanship.

90166

8



**Moche Gold Pincer With Embossed Large Eared Bat Face**

Length: 2 3/8" x Width: 1 1/2" Weight: 16.6 grams

XRF: Au62.5%, Ag. 34.7%, Cu. 2.5%

Peru, Moche, North Coast, c. AD 200 - 700

Pincers have been found from as early as the Vicus period (pre-Moche), circa 300 BC and were thought to be used to pluck facial hair. Few are known from the Moche period and most of the pincers that have been found were from the Chimu and Inca periods. This particular pincer has an embossed face of a bat with fanged teeth. This pincer was made from one hammered sheet of high carat gold and embossed twice on a carved wood form of a bat face and bent in the middle. There is also a suspension hole in the middle. The blades of the pincer flare out in the form of a Moche back flap.

n7012

9



### Early Moche Gold Owl Ornament or Necklace Element

Height: 1 1/4" X 1 1/4"/ Weight: 10 grams

Peru, Late Chavin/Early Moche, Transitional Phase, North Coast, c. 200 BC - AD 200

This ornament portrays a stylized horned owl. The owl was revered by the ancient people for its special characteristics, such as silent flight, strong talons, and its ability to rotate its head 180 degrees. This gold owl has two suspension holes to the lower rear, which would have allowed it to hang looking downward. The eyes are made from Spondylus beads.

M7015

10



### Three Moche Bi -Metallic Nose Ornaments

Width 4 3/4" Weight 24 grams

Width 3 5/8" Weight 13.8 grams

Width 3 7/16" Weight 14.8 grams

Peru, Moche, North Coast, c. AD 100 - 600

These ornaments are excellent examples of the Moche's ability to use depletion gilding and vary the surface area with both gold and silver decoration. The Moche believed that metal was magical, and that bringing out the silver and gold colors to the surface proved this. A similar nose ornament is illustrated in Lavelle, pg. 15.

M5027

L

11



### Loma Negra Gilt Copper Pair of Hoverflies

Length: 4 1/2" Width with wings: 4" Height :1 1/2"

Peru, Moche, Loma Negra, North Coast, c. AD 100 - 400

Hoverflies are among the largest flies and have colorful bodies and are harmless. They often imitate bees or wasps as a survival technique to appear dangerous to their predators. The Peruvian favored animals that metamorphose, (eggs, large, maggots to flies) as proof that humans can transcend into spirits. The flies are examples of a highly skilled gilding technique over copper. The construction is of tab and hammered and shaped parts to create a three-dimensional body. This was preferred in Peru over lost wax casting. A similar construction is illustrated in Lapiner, fig. 376. \* There is a Loma Negra fly in the Met Museum ref 1981.459.28 in poor condition. Since hoverflies have colorful yellow and black bodies they connect with gold of the sun. These flies are considered large for Loma Negra creatures and have no apparent function aside from being a totem or grave furnishings. The shell eyes have been faithfully restored from ancient shells. Three of the wings have been made from the one original that survived.

M9067

12



### Moche Cast Copper Gilt Handled Mirror Surrounded by Ten Pumas

Height: 9 1/4" (23.5cm) Width: 5" (12.6cm)

Peru, Loma Negra, North Coast, c. AD 100 - P300

Hand-held mirrors are rare from any Peruvian cultures, and those few that are known are carved from wood, except one other gilt copper one that is in the Metropolitan Museum of Art. Both were made by the same workshop. Mirrors were important objects for high status individuals and symbolized the power of the sun. Both mirrors were found at the Loma Negra site of far North Peru. The mirrors have different themes: the Met's with birds, and this one with felines. Each mirror was constructed in the same manner - cast frames are mechanically attached to the handle with a separate sheet of copper backing to hold pyrite mirror sections in place. The Met's mirror has lost most of its original gilding. This mirror has more of the original gilt surface intact and has a reconstructed mirror of ancient pyrite, whereas the Met's mirror was restored with wax and coated with silver foil. Only the Met's mirror has been cited by both Dr. Christopher Donnan (image 33)\* and Alan Lapiner (plate 370)\* both experts on Moche art. The felines surrounding the frame were individually modeled and cast as one with the frame, an extremely difficult technical accomplishment. Each puma has carved turquoise eyes. There are no other known mirrors with metal frames according to Dr. Christopher Donnan. The mirror has been reconstructed using ancient pyrite.

n7005

13



### Early Moche/Vicus Head of a Toucan with Dangles

Length: 3 3/4" Weight: 32.8 grams

Peru, Vicus, Far North Coast, c. 300 BC - AD 300

This object is quite rare and is from Northern Peru, by the Marañon river valley where other Vicus style objects have come from. It is fashioned from a heavy sheet, bent, soldered, and has dangles. It would have fit front and center onto a headdress, attached using the tabs at the back. A similar object is illustrated in Parodi.\*

91055

14



### Early Nasca Gold Pair of Earrings with Filigree Decoration

Width: 1 3/8" Weight: 3.8 grams for the pair

Peru, Nasca, South Coast, c. AD 400 - 800

A matched set of Nasca gold earrings with true filigree work and original archaeological patina. The wire is skillfully soldered to the central disc. With the original patina.

87044

15



### Late Nasca Gold Cuff with Embossed Faces

Height: 2 1/4" Weight: 40 grams

Peru, Nasca, South Coast, c. AD 400 - 800

A hammered and repoussé gold cuff decorated with two rows of faces, probably masks. I have not seen many cuffs embossed as most are simple wrought gold or occasionally with a geometric pattern. These embossed masks are quite rare. There are two tie holes on each edge. Similar Nasca gold cuffs are illustrated in the [THE GOLD OF PERU, MUJICA GAILLO COLLECTION](#).

M5078

16



### Wari Double-headed Gold Plume with Embossed and Cutout Decoration

Height: 10 1/2" Weight: 27.1grams

XRF Au 80.2%, Ag 18.8, Cu.9

Peru, Wari, Central Coast, c. AD 650 - 1100

The feather plume is worked with embossed designs of two cutout birds standing on Puma heads and holding serpents in their beaks. The Puma Head can also be seen as a Condor head facing in the downward direction and seen in the classic Wari Tunics. The surfaces are beautifully burnished. A similar plume in the Berlin Museum measures 8 3/4" and is illustrated in Bergh, fig. 216.\* This plume is unusual in that it has two "branches" and is worked with both cutout and embossed designs while the others only have embossed work.

M7122

17



### Sican Gold Mask of the Third Type

Height: 7.75" x Width: 10 1/8"

Peru, Sican, c. AD 800 - 1100

A classic type of mask from the 3rd Phase, constructed in 3 parts and held together by ancient gold staples. The eyes have turquoise bead pupils with gold hemispheres. Traces of the original cinnabar remain. Sicán masks are discussed in Jones, p.66. \* in the the Jan Mitchell collection. The Sicán culture was wealthy and built the largest city in the Americas, Chan- Chan. The Sicán were excellent gold workers, and when the Incas conquered them, they brought the metalsmiths to the Inca capital of Cuzco. Similar masks are illustrated in Mujica.\* Ancient turquoise eyes have been restored.

n4001

18



### Sican Gold Beaker with Mask and Frog Motif

Height: 5. 1/8" Diameter at top: 4 3/8" Weight: 184 grams

Peru, Sican, Batan Grande, North Coast, c. AD 850 - 1150

The Sican cache of gold came from the largest burial in the Americas at hacienda Batan Grande near the Chimú City of Chan Chan. These beakers were used to drink the ceremonial Chicha (Corn Beer). The buried masks and flared beakers were the most notable objects from this burial. The beakers came in various designs from frogs to Warriors. This beaker is unusual in that it has both masks and frog motifs. Illustrated in Jones, pg.227. \* Exhibited in 1964, Met Museum # 202. Ex-Jan Mitchell collection, prior to 1980.

The embossed relief is well defined.

n7054

19



### Chimu Gold Cuff with 3 bands of 4 Repousse Stars Each

Height: 4 1/2" Weight: 65.5 grams

Peru, Chimú, Early Phase, North Coast, c. AD 900 - 1100

The cuff has two tie holes. A cuff with a similar star design is illustrated in the Gold Museum of Peru page 127. Ex- collection, Camilla Dietz Bergeron, N.Y.

N2064

20



### Chimú Gold 29" Necklace of Large Hollow Beads

Necklace Length: 29"; largest bead 2 1/4" diameter - smallest 1 1/2"

Peru, Chimu, North Coast, c. AD 900 - 1350

The Chimú inherited a taste for hollow gold bead necklaces from their Moche predecessors. In both cultures, each bead was cast and hammered in two halves that were then together. In the Chimú technique, the edges of the two halves were nested together. These beads are extremely light with a greater percentage of silver than gold. They used depletion gilding to bring the gold to the surface by using of heats and mineral salts. This allowed the Chimu to make the gold available for a large and growing ruling class.

M7991

21



### Inca Hollow Gold Standing Llama

Height: 2.5" Weight: grams 9.6

XRF: Au. 66.4%, Ag. 24.6%, Cu8.8%

Peru, Inca, Early Phase, South Highlands, c. AD 650 - 1250

Llamas, along with other miniatures in gold, silver and spondylus were found at high altitude sacrificial burials sites, used in a ceremony known as the Capac Hucha ceremony to praise the Inca. A similar llama is illustrated in [ANCIENT AMERICANS, Art From Sacred Landscapes](#), p. 362.\* This hollow llama was assembled from hammered gold sheets which were soldered together. Ex-Jan Mitchell collection, prior to 1980.

n7053

22



### Inca Gold Pin Topped with Bird Perched on Corn Cob

Bone, Length: 5" Weight: 4.7 grams

Peru, Chimu, North Coast, c. AD 900 - 1350

Gold from the Inca period is rare as most has been melted down by the Conquistadores. These pins are mostly found made of silver and were used to pin a garment closed. What appears to be a simple pin is complicated in its manufacture. The bird was then fitted over the top to appear as one piece. A similar piece appears in Schmidt, p.396.\*

MM625

23



### Two Inca Miniature Cast Gold Standing Figures

Height: 1.5" and 1.75"

Weight: 24 grams for pair

Peru, Inca, c. AD 1400 - 1532

These two solid cast gold figures are highly unusual subjects. Each figure has exaggerated hands and elongated legs. Both figures have cast suspension holes above the ankles. The top of each figure has a hollow shape that could have been used to insert feathers. The only other example illustrated is in Lavalle, [Oro del Antiguo Peru](#), lam. 210\*. Ex-Jan Mitchell collection, prior to 1980.

The castings have a very high gold content.

n7028



24



### Diaguita Style Gold Mask with Repoussé Eyes, Mouth and Border

Width 6" x Height 5 1/4" Weight: 4.6 grams

XRF Au.69%, Ag.26% Cu. 4%

Chile, Diaguita Culture, Northern region, c. AD 1200 - 1470

The eyes and mouth have pierced holes to attach turquoise eyes and a shell mouth. The six holes on the side of the mask were for tying the mask to the mummy. bundle. There are very few gold masks found in Chile because partly because that there was little gold available from rivers. The little-known gold that has been found in Chile was probably traded with Bolivia or even Peru. This mask is one of three that were supposedly found in Northern Chile near Arica. The tradition of these simple masks goes back to the Chinchorro culture (circa 7,000 BC) of Northern Chile. I have found one gold diadem now in the American Museum of Natural History in New York which has a similar nose design. It is safe to say that this mask most closely resembles the same facial designs on the Diaguita ceramics from La Serenna - the round eyes, straight vertical nose and the horizontal mouth. With this mask came a gold headband or turban, measuring 36" x 3/8" in width. Original patina.

M7166

25



### Six La Tolita Gold with Platinum Miniature Ear Ornaments with Turquoise

Approx. 1"each

Ecuador, La Tolita, c. 1500 BC

Each ornament has an inlaid turquoise and a suspension ring. These are excellent examples of early granulation and sintering technique. Similar examples are illustrated in Bray, p. 811\*, and Klien, p.27.\* Sintering is the process of melting gold foil over platinum beads which can then be reheated and annealed to fashion small objects.

94203

26



### Tolita Gold Ornaments

Diameters are 7/8 to 2 3/8 inches.

Ecuador, Jama Coaque, Northern Manabi Region, 500 BC - AD 500  
4 gold ornaments, three nose ornaments with granulation and one lip ornament with filigree that contains a rattle. A similar piece is illustrated in Klien, pp. 53 and 55.\*

As found.

99128

27



### Narino Gold Embossed Ornament Decorated with a Feline Head

Diameter: 3.9" Weight: 26.7grams

Gold alloy: Gold 73.4%, Silver 17.9%, Copper 8.3% and Sn. Tin .01%

Ecuador, Narino, Capuli, Southwest, c. AD 700 - 1500

These ornaments have a suspension on the rim and were either ear ornaments or pendants. The designs vary, from concentric circles to heads in high relief, ranging from human to animal faces. The feline face is the largest of the head types. Similar examples are illustrated in El Dorado by Warwick Bray, p.213. Ex-Jan Mitchell collection, prior to 1980.

N7060

28



**Quimbaya Style Gold Pendant of a Tumbling Shaman with Two Rectangular Dangles**

Width: 6.67 cm (2 5/8") x Height: 5.2cm x Depth: 3.68cm. Weight: 63 grams

Xre: Au. 58.45%, Ag. 9.76%, Cu. 31.6%, Pt. 1.94%

Colombia, Gulf of Uruba, c. AD 500 - 1000

Cast figural pendant of a feline-headed Shaman tumbling in a trance.

The shaman holds bars with large dangles in each hand. This pendant is extremely well sculpted with curved limbs arching upward at the back, legs bent, and toes curled, with suspension loops on each sole.

This subject has been more recently referred to as Tierradentro, c. 600-900 A.D. This example was purported to be found in the Uruba region of North West Colombia. The subject is a very rare for Colombian gold work.

99120

29



**Quimbaya cast gold pendant of a Lord in a Trance**

Height: 6 3/8" (16.3cm) Weight 91.4 grams

XRF Au. 62% Ag. 22%, Cu16%

Colombia, Gulf of Uruba, c. AD 500 - 1000

The personage is wearing a crown, elaborate nose ornament, and necklace. The Uruba region is located on the Colombian/Panamanian border and had received early influences from the Quimbaya people and later influences from the Sinu. A similar pendant is illustrated in the article THE DARIEN GOLD PENDANTS OF ANCIENT COLOMBIA AND THE ISTHMUS, figure 35, and in the catalog of the Banco de Oro de Colombia # 414, Lam 46.

Ancient "cast on" repair to the lower left knee.

n4033

30



**Uruba Style Bird Pendant with Square Plaque Dangles**

Height: 3 1/2" x Width: 4 1/2" Weight 33.6 grams

XRF: Au 63%, Ag 26%, Cu 9.4%

Colombia, Gulf of Uruba, c. AD 500 - 1000

The bird has its wings arched to its sides, a flared tail, and four dangles suspended on two bars. The small suspension holes are inside the back of the neck. The bird has is a generalized composite of various birds.

This piece is well cast, with evidence of the carbon core intact. There is a similar bird on display at The Gold Museum of Colombia in Bogota.

MMo68

31



**Quimbaya Cast Gold Pendant in the form of Deity Head with Fancy Spiral Headdress**

Height 3 1/2" x Width 5" Weight: 81.4 grams

Colombia, Quimbaya, Cauca River Valley, c. AD 400 - 800

This deity is in a trance with tears coming down from his eyes. It was created using the lost wax cast technique without any flaws. It is

illustrated in Johnson, pg. 112-B.\* This unique pendant was found in the Uruba region of Northwestern Columbia. This region is known to have gold styles with influences from Quimbaya, Sinu and Darian and must have been an active center of trade. Acquired from a New York collector in 1998.

M7990

32



**Calima Gold Tupú or Lime Dipper of a Deity Seated on a Serpent**

Length: 5 1/4" Weight: 34 grams

Colombia, Calima, Yotoco Phase, Cauca River Valley, c. AD 100 - 1000  
Lime dippers were used to administer lime for the coca ceremony. The deity has an elaborate face mask and he is holding the tail of the serpent. This is a known motif but rarely seen with a human, as most are found with a cayman/feline. According to the research, only limited types of images were used for lime dippers, usually shamans or warriors. See Cardale-Schrimppff, p. 116, plate 111.37.\* As found.

M8031

33



**Calima Cast Gold Lime Dipper of a Warrior with Animal Perched on Back**

Length: 21/8cm (8 1/4") Weight: 15.9 grams

Colombia, International style, AD 700 - 1000

Finely executed lost wax casting with tapering shaft terminating at the base of the figure. Elaborate helmeted warrior wearing a mask and holding a staff with both hands, curving headdress and miniature animal perched on back. See Cardale-Schrimppff, p. 115, plate 111.34.\*

MM618

34



**Early Calima Gold Lime Dipper**

Length: 21cm (8 1/2") Weight: 25grams

Colombia, Calima, Yotoco Phase, Cauca River Valley, c. AD 100 - 1000

A fine lost wax cast lime dipper with a mythological monkey deity on the top. The monkey is wearing a helmet, ear spools, and an elaborate headdress which falls down the back of his body. When viewed horizontally, the figure morphs into a quadruped. A similar but not exact motif is illustrated in ORFEBRERIA PREHISPANICA DE COLOMBIA Vol. Estilo Calima - Laminas page 84. Num. 5232.

97146

35



**Calima Gold Kidney Shaped Mouth Ornament with Satin Finish**

Height: 6 1/2" x Width: 7 7/8" Weight: 53 grams

Colombia, early Calima. AD 600 - 800

This early example of Calima gold working displays a high degree skill of annealing to create an even thickness. The Kidney shape is continued during the entire Calima presence and becomes more elaborate with time.

97228

36



**Tairona Pair of gold lost wax cast ear ornaments decorated with braidwork**

Width: 2 3/4" x Height: 2" Weight: 48.4 & 49.6 grams

XRF: Au. 49.1%, Ag. 7.6%, Cu. 42%

Colombia, Tairona, c. AD 1000 - 1500

This is a particularly strong and heavy pair of matched ear ornaments from the Tairona people who were known for their fine casting work. A very similar pair is illustrated in Bray, pg. 164. \*

n8012

37



### **Sinu Lost Wax Cast Gold Whistle with a Condor Standing On Top of a Shaman**

Height: 4 1/2" Weight: 91.5 grams

XRF: Au.58%, Cu.0%, Ag, 10%

Colombia, Sinu, Santa Marta, c. AD 700 - 1500

This large gold Sinu whistle has a Condor standing on top of a Shaman who is in transition from a personage into an animal with large feet and hands. There are two suspension loops cast on the back which show signs of wear. There are loops on both the noses, which once had gold discs dangling which were lost. There are only a few known gold whistles in the literature but none with this totem like subject.

N6005

38



### **3 Muisca Cast Gold Snakes**

Lengths: 1 7/8, 2 3/16 & 2 9/16 inches

Total Weight: 5.2 grams

Colombia, Muisca, c. AD 700 - 1500

The Musica people of Eastern Columbia were known for the famous ritual of the Lord on a golden raft, known as El Dorado, because he was covered in gold dust. The serpents come from the Muisca creation myth of snakes emerging from the Iguaque lagoon as women and child. Transmutation was an important theme to the Musica people. These three snakes are all cast from a stone carved matrix, using different gold/silver alloys which creates the three different tones of gold.

Similar examples are illustrated in Bray, fig. 342-343.

n8006

39



### **Large Diquis Gold Frog With Wide Hind Flippers and Bulbous Eyes**

Length: 3 3/4" x Width: 3 1/2" Weight: 65 grams

XRF Au.68.5% Ag.03%, Cu. 31%

Panama, Diquis, c. AD 1000 - 1500

The Frog has a classic body with his front legs becoming the suspension loops. From the mouth emanate two saurian heads back to back, with a mythological significance. The eyes each have a solid pellet inside to make noise when the frog is being worn. A similar example is illustrated in the catalog, BETWEEN CONTINENTS/BETWEEN SEAS: Precolumbian Art of Costa Rica, fig. 287. Similar frogs are also in the Rockefeller Collection and the Denver Museum of Art.

n4028

40



### **Diquis Cast Gold Figural Pendant With a Raptor Bird Mask**

Height: 3 1/4" x Width: 3 1/2" Weight: 97 grams

XRF: Au. 90.6%, Ag.6.3%, Cu. 2.8%, Platinum 1.03%

Panama, Diquis, c. AD 1000 - 1500

The imposing figure has typical Diquis style "C"-shaped wings with crocodile heads emanating from behind the head and feet. The figure is probably a male shaman in transition for flight to the other world.

This pendant is illustrated in Jones, pg. 105\*, and in Quilter, p. 72 f.\*

Another similar example of a Diquis pendant with a bat's head is illustrated in Between the Continents/Between Seas: PRECOLUMBIAN ART OF COSTA RICA, plate 93. Another very similar piece is in the Denver Art Museum. Ex-Jan Mitchell collection, prior to 1980.

n7055

41



### Cocle Cast Gold Anthropomorphized Twin Warriors

Height: 2" x Width: 4" Weight: 62.5 grams.

Panama, Cocle, c. AD 800 - 1200

Each warrior has human bodies with bird-like facial features. They are wearing headdresses with caimans in profile and holding a typical paddle-like weapons. There are curved serpents emanating from each of the warrior's mouths. The warriors have beaked noses, representing transformation into condors. Ex. Jan Mitchell prior to 1980.

n7033

42



### Macaracas (Cocle) Circular Gold Disc With Concave Center

Diameter 5 3/8" Weight: 24.6 grams.

Panama, Macaracas, c. AD 800 - 1000

The disc is embellished with two bands of small bosses on the narrow rim. There is a pair of suspension holes. On Columbus' 4th voyage off the coast of Panama, he and his men saw Indians wearing "Mirrors of gold." Illustrated in THE ART OF PRECOLUMBIAN GOLD, p. 119.\*

n7058

43



### Cocle Cast Gold Pendant of Pair Anthropomorphized Bats

Width 2 3/4" x Length: 3 1/8" Weight 100.6 grams

Panama, Diquis, c. AD 1200 - 1500

Lost Was cast depicting paired figures with bat faces, human hands, and a crocodilian body and tail. Duality was a known belief of the natural world: male and female, night and day, heaven and earth. Bats are nocturnal creatures and ruled the darkness. There are two cast suspension loops behind each shoulder. Ex-Jan Mitchell collection

n7027

44



### Diquis Style Cast Gold Figure of a Shaman Wearing an Crocodile Mask

Height: 3" x Width: 2.85" Weight: 63 grams

XRF: Au. 89.7%, Ag. 9.9, Cu. .02%

Panama, Diquis, c. AD 1200 - 1500

This is a hollow lost wax cast figure that has a relatively thick wall. The pointed upturned nose and sharp teeth are qualities of a crocodile.

This piece is illustrated and discussed by Ellen Howe in A RADIOGRAPHIC STUDY OF HOLLOW CAST GOLD PENDANTS FROM SITIO CONTE in the 45th Congress of Americanists, Bogota 1985, pg. 190-200. Ex-Jan Mitchell collection, prior to 1980.

N7059

45



### Diquis Cast Gold Anthropomorphic Figure with a Cone Shaped Crown

Height: 4 3/16" x Width: 3 3/4", Weight: 99.6 grams

XRF: Au. 72%, Cu. 24%, Ag. 2.4%

Panama, Diquis, c. AD 1200 - 1500

The figure has a crocodilian nose and mouth with serpents emanating from his head and wears a cone-shaped crown. His hands are held outward with broad shoulders which could also be wings, and his flipper-shaped feet are typical of the Diquis style. The earliest known example of this type is illustrated by Holmes in 1887, p. 15\*. A similar figure is illustrated in Benson, Masters of the Americas.\*

n7031

\* \* \*

\*For references cited, see bibliography at end of catalog in alphabetical order by author.