

BY PATRICIA L. CROWN



CHOCOLATE

CONSUMPTION & CUISINE

from Chaco to Colonial New Mexico

When you enjoy hot chocolate in New Mexico today, you are part of a tradition that began well over a millennium ago. To explain how we know this requires starting with a discovery made at Pueblo Bonito in Chaco Canyon over a century ago. There, on August 20, 1896, as George Pepper, a Harvard archaeology graduate student; and Richard Wetherill, a rancher and avocational archaeologist, uncovered an “unpromising” room, they discovered broken fragments of an unusual vessel form, and then an entire cache of 111 of these vessels. This form was the cylinder jar. One hundred and sixteen years later, research has demonstrated that Chacoans drank chocolate elixirs from these unusual vessels. But what is chocolate? And how did it get to Chaco Canyon?

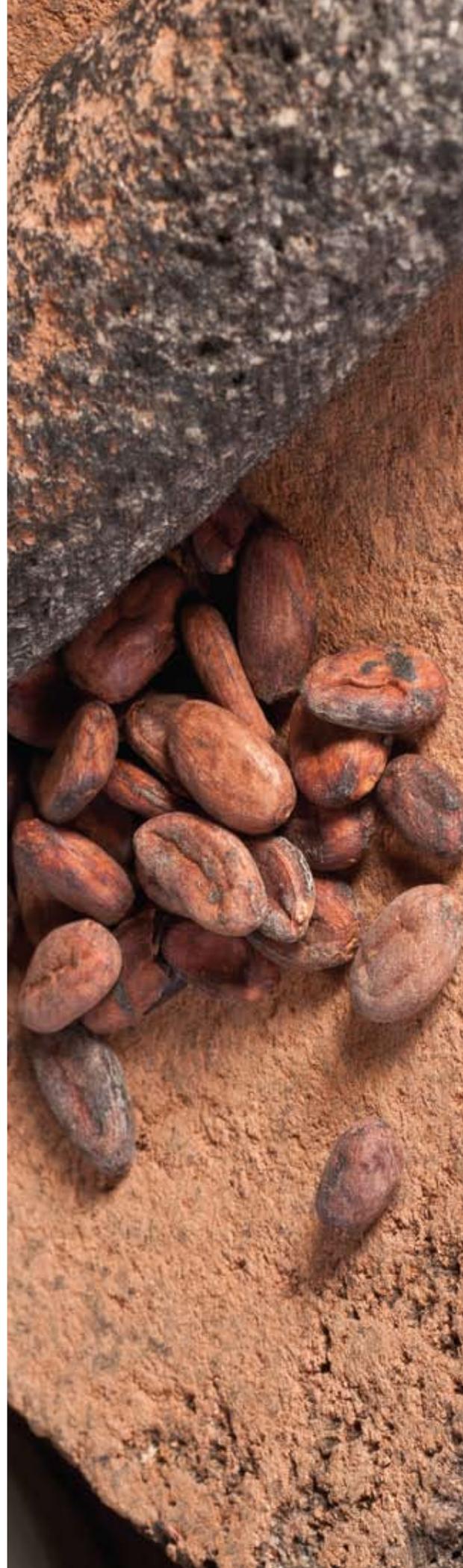
The Migration and Use of Chocolate

Chocolate comes from the tropical *Theobroma cacao* tree, which requires a moist, frost-free climate. DNA studies indicate a probable origin in the upper Amazon Basin. Indigenous groups in South America had many stimulant plants in their environment (including several varieties of high-caffeine plants; see sidebar), and there is currently little evidence that they used cacao. However, human populations expanded the range of *T. cacao* north to include virtually all parts of Central America and Mesoamerica where it could grow. Scientists do not currently know how indigenous groups initially cultivated the tree outside its natural range, but we can see the results of this effort in the distribution of the plants far from the Amazon.

The earliest evidence for cacao use comes from the southern Pacific coast of Mexico and the Olmec area (today's Veracruz and Tabasco) in pottery that dates to around 1900 BC. *T. cacao* could grow in this Mesoamerican region, and the Olmecs had probably started cultivating the imported plant by this time.

Left: Cylinder jars in Room 28 at Pueblo Bonito, Chaco Canyon. Courtesy of the Maxwell Museum of Anthropology, University of New Mexico. Photographer: George H. Pepper. Catalog Number 88-42-11, 1896 (detail). These jars were used for frothing and serving chocolate drinks at Chaco Canyon.

Right: Cacao beans, being ground on a metate. Photograph by Kitty Leaken, 2012. Metate and cacao courtesy of Santa Fe chocolate historian Mark Sciscenti.





Up until the modern era, people consumed chocolate in drinks rather than as solid candy. Preparation of these early cacao drinks required harvesting the ripe cacao pods, opening them to remove the beans, fermenting them in the surrounding white pulp for a few days, drying the fermented beans for a week, roasting them, peeling the papery shell off to reveal the nibs, and then grinding the nibs on a grinding stone. The resulting paste could be consumed immediately or formed into cakes that would last up to two years, making them suitable for long-distance transport.

Preparation of chocolate drinks required four items: processed cacao nibs, additives to flavor the drink and dilute the cacao, a special vessel form, and a way to froth the drink. These four components of chocolate-drink cuisine characterize versions from Central America to Chaco Canyon.

In the Olmec area, cacao drinks were served in globular, neckless jars called *tecomates*. Archaeologists believe that these earliest drinks were concocted from cacao nibs or made by fermenting the sweet pulp surrounding the nibs. From this region, use of chocolate drinks made from the nibs spread widely. We know some details of this use through written records, images showing people preparing and drinking the elixirs, and archaeological evidence.

The Mayas drank chocolate from cylinder jars with hieroglyphic texts that recorded their contents. They apparently preferred their drinks hot, and they frothed the drinks by pouring them from one cylinder jar to another from high above, creating a cascading stream of chocolate with surfacing bubbles, like a waterfall. The Aztecs drank chocolate from decorated gourds or ceramic cups with a goblet or truncated figure-eight shape. They also frothed their drinks by the pouring method. Some other Mesoamerican groups used tubes or spouted vessels to blow air into and create froth on their drinks. All of the effort put into frothing vessels suggests that the froth was considered the most delicious part of the drink, an interpretation confirmed by later historical documents.

Recipes collected at the time of European contact reveal the variety of chocolate drinks consumed throughout Mesoamerica. Perhaps the most common drink was made of cacao, ground maize, and water. More elaborate drinks included honey, powdered chile, achiote (also called annatto, which would have colored the drinks red), vanilla, and various flowers.

In Mesoamerica, cacao was largely consumed by elites, particularly on ceremonial occasions, and by warriors. Commoners might drink chocolate on special occasions, such as weddings. Cacao was a form of tribute among the Mayas and Aztecs, and a form of currency at contact, with set values for purchasing goods or services. The beans were so valuable as currency that resourceful individuals created counterfeit versions out of clay.

Chocolate in New Mexico

How does New Mexico fit into the history of chocolate use in the New World?

Archaeologists work with chemists to determine the presence of chocolate by looking at organic residues in fragments of ceramic vessels from archaeological sites. In my ongoing research into Southwestern chocolate use, funded

by the National Science Foundation, I collaborate with W. Jeffrey Hurst, a nutritional chemist at the Hershey Technical Center in Hershey, Pennsylvania. For our analysis, samples come from fragments, or sherds, of ceramic vessels that are preferably unwashed. We burr the exterior surface off to reduce the chances of contamination, grind up a dime-sized fragment of the interior, and analyze that with a technique called high-performance liquid chromatography–mass spectrometry, which reveals absorbed (rather than visible) organic residues trapped in the pores of the ceramics.

In the case of chocolate, we look for theobromine, caffeine, and theophylline, which together are biomarkers for chocolate. Theobromine and caffeine also occur in some other New World plants, notably the holly plants used to make drinks such as mate, consumed throughout much of North and South America. We can distinguish the use of holly from that of chocolate based on the ratios of theobromine to caffeine (which differ for each plant) and the presence or absence of other residues, notably theophylline, which does not occur in holly; and ursolic acid, which does not occur in cacao.

Chocolate drinks were definitely present in Chaco Canyon sites by AD 900, and probably earlier. The cylinder jars found by Pepper and Wetherill show chocolate residues. In shape, the Chaco cylinder jars most closely resemble the Mayas' preferred chocolate-drinking vessel, although the Mayan form was no longer in use by the time that the Chaco cylinder jars were made. As with the Mayas and Aztecs, Chacoans probably frothed the drinks by the pouring method, since the vessels were made in sets of two to four jars. We do not know what additives Chacoans used to flavor their drinks or at what temperature they served them. However, cooks almost certainly sweetened the bitter chocolate with something, perhaps honey or agave nectar, and probably added other flavorants, such as ground corn or berries, to create different elixir varieties and help the exotic chocolate supply last longer.

Our ongoing research is not complete, but the results suggest that cacao was available in other parts of New Mexico prior to the Spanish entry into the Southwest. It was probably present by at least AD 800–900, and our research indicates that cacao was present in Southwestern sites until at least the mid-1400s. Because *T. cacao* trees would not grow anywhere in the New Mexico climate, we know that it was brought from Mesoamerica. The Spanish mapped cacao trees at contact, so we know where the closest cacao was growing in the 1500s; it is likely that cacao was growing in similar areas centuries earlier, so these distribution maps provide a good approximation of where the cacao found in New Mexico might have originated, particularly because the trees have such specific environmental limitations. The closest cacao would have been 1,200 miles south of Chaco, along either the Gulf Coast or the Pacific Coast of Mexico.



Above: This map shows the historical distribution of cacao, including the areas in Mesoamerica where it was produced and the archaeological sites in Mesoamerica and the Southwest where evidence of chocolate consumption has been found. Adapted from a map by Ronald L. Stauber, courtesy Patricia L. Crown.

Opposite: This Red Mesa Black-on-white beaker, ca. AD 950–1050, from Chaco Canyon, San Juan County, New Mexico, is an early example of the type of cylindrical jars found at Pueblo Bonito. This jar is on exhibit in the exhibition *New World Cuisine: The Histories of Chocolate, Mate y Más* at the Museum of International Folk Art. It is currently being tested for cacao residue by the Conservation Lab of the New Mexico Department of Cultural Affairs. Courtesy of the Museum of Indian Arts & Culture, Catalog Number 43334/11. Also on exhibit in *New World Cuisine* is a sherd from one of the ca. AD 1000–1150 Pueblo Bonito jars tested by Patricia L. Crown in her research discussed in this article. Photograph by Blair Clark.

Below: *Mancerina*, eighteenth century, silver, Mexico. Gift of the Fred Harvey Collection. International Folk Art Foundation (IFAF) collection, FA.1979.64.4. On exhibit in *New World Cuisine: The Histories of Chocolate, Mate y Más*, at the Museum of International Folk Art. The *mancerina* is a New World design for a chocolate saucer, intended to protect the user from spills (see Levine, this issue). Photograph by Blair Clark.

Opposite: This chocolate storage jar is evidence of the Colonial-era trade routes between China and Mexico. The ceramic jar with celadon glaze was made in China during the Kang Period (1662–1772) or slightly later. The iron lid with lock and key were made in Oaxaca, Mexico, during the eighteenth century and testify to the preciousness of chocolate during this period. IFAF collection, FA.1964.18.1V. On exhibit in *New World Cuisine: The Histories of Chocolate, Mate y Más*, at the Museum of International Folk Art. Photograph by Kitty Leaken.



How did chocolate get to New Mexico from such a distance? We do not know the answer to this question, but there are several possibilities. The Mayas and, later, the Aztecs maintained an extensive trading network. Indeed, Europeans first encountered cacao nibs during Columbus's fourth voyage in AD 1502, when some of his sailors met a Mayan trading canoe laden with goods from Mesoamerica. It is possible that some of the long distance from Mesoamerica to New Mexico was traversed by canoe, with the remainder on foot. Mesoamerican traders might have brought cacao to New Mexico directly. Or the Native American groups residing in New Mexico might have journeyed south to obtain cacao themselves. It is also possible that cacao was traded village to village along this extensive distance.

We may never know exactly how such commodities moved, but goods may have moved through multiple channels in the past. Cacao was not the only Mesoamerican commodity found in New Mexico: copper, live macaws, pottery, pyrite mirrors, some shell species, and several plant species ultimately derive from Mesoamerica. Interaction between these two vast areas was probably continuous over thousands of years. We also do not know what might have passed southward in exchange for cacao, although many scholars argue that turquoise was a valued local commodity possibly traded for Mesoamerican goods.

Because we have never found cacao pods or nibs in archaeological contexts in Southwestern sites, it seems most likely that already-processed cakes of chocolate were brought to New Mexico, rather than the unprocessed pods. However, some images found in rock art and on pottery might represent cacao trees or pods, perhaps evidence that Southwestern peoples had knowledge of the actual plants rather than only the processed cakes.

The earliest Spanish documents do not describe chocolate in the American Southwest. While it is possible that explorers did not notice chocolate during the early expeditions into the Southwest, it is also possible that the upheaval of the Spanish conquest in Mesoamerica disrupted access to chocolate for the peoples of the Southwest. Although the Spanish initially found chocolate drinks unpalatable, they recognized the importance of cacao within the Aztec economy, and they maintained the fundamental aspects of that economy, including cacao. Eventually, they expanded the area where cacao grew as the demand for cacao in Europe increased. The Spanish gradually adopted chocolate drinks, adapting them to fit their own cuisine. As the Mayas, Aztecs, and Chacoans had done before them, the Spanish created special vessel shapes, including the *mancerina* (a saucer with a raised inner lip) and *jicara* (a cup that fit into the *mancerina* lip); created new recipes with ingredients such as sugar and Old World spices (including cinnamon, anise, and sesame); and frothed the drinks with the *molinillo* (a wooden whisk).

Society, Ritual, and Taste

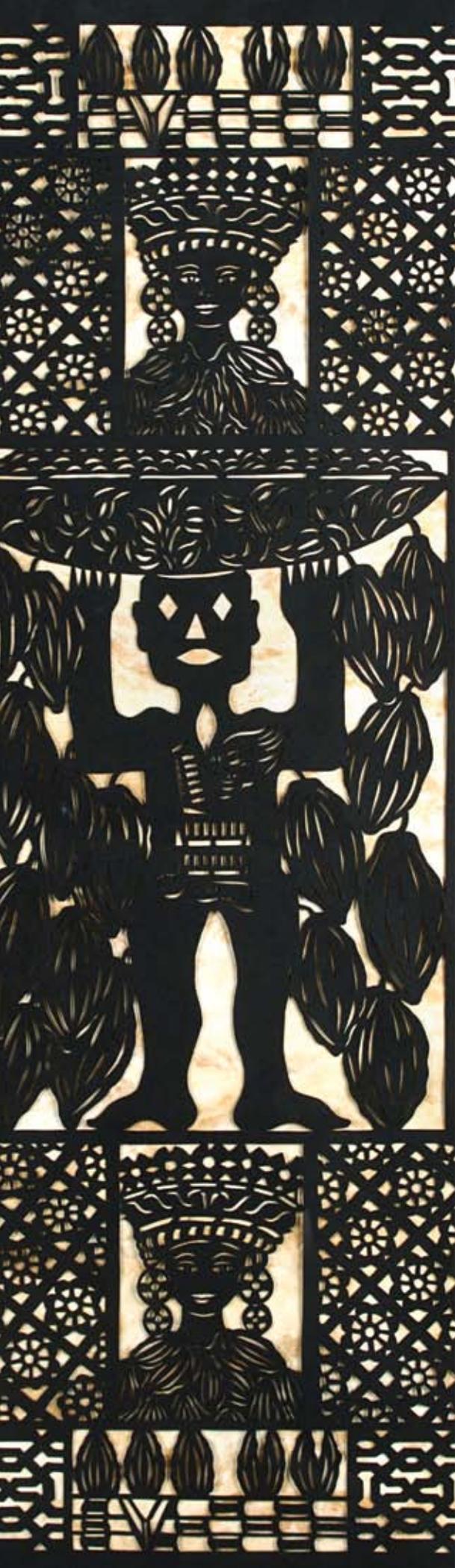
In New Mexico, the earliest mention of chocolate comes from an inventory dating to 1600. Chocolate was consumed by priests, soldiers, and wealthy settlers in New Mexico, and records indicate it was used sometimes in payments for goods and services. Documents suggest that the Spanish controlled access to chocolate, along with many other luxury goods, in New Mexico (see Levine and Snow, this issue). Chocolate was prized by all social strata and ethnic groups in the Southwest, and the written documents suggest that Spanish officials and priests served chocolate drinks to honor guests of high rank, and especially in encounters involving negotiations, as a form of “gastro-politics.”

When groups use a special vessel form for drinking something specific, anthropologists argue that it is because they want others to know, even from a distance, that they are consuming that particular substance. The vessel form need not be very functional, as long as it is distinctive from other vessel forms. For instance, in our own culture, martini glasses are used to serve martinis and are shaped in such a way that everyone recognizes what a person is drinking from them, even from across the room. They are not particularly functional as containers because they have such a high center of gravity and an open form, so the signaling of what is being consumed overrides the physical function of that form. Cylinder jars, tecomates, goblets, spouted vessels, and the mancerina/jicara duo probably all served the same signaling function for these societies: anyone within the culture would recognize that someone, probably of high status, was drinking chocolate when they saw them lift their culturally appropriate form to their lips. Such signaling is typically associated with highly valued foods and drinks, rather than with more commonly consumed staples, such as water.

Why did so many cultures prize chocolate? Those of us who love chocolate find this easy to understand. Chocolate has many properties that make it a valued food, in addition to its distinctive flavor. Chocolate has high nutritional value, including significant amounts of fat, carbohydrates, dietary fibers, and protein, as well as a range of vitamins and minerals. As many recent studies confirm, it is a healthful food. Chocolate also has pharmacological effects as a stimulant, and worldwide it has had many medicinal uses. For instance, the Aztecs used chocolate to treat stomach and intestinal problems, control coughing, and cure infections.

It seems unlikely that chocolate represented an important nutritional component of the prehispanic diet in New Mexico, because it was probably not available in sufficient and reliable amounts to add much to the diet. The context in which Chacoans left the cylinder vessels provides some clues to cacao consumption at Chaco. First, the fact that cylinder jars were deposited almost entirely in caches (including that excavated by Pepper and Wetherill in 1896), rather than in association with individual burials, suggests that individual people did not own the cylinder jars. In other words, if people owned cylinder jars, they would likely be buried with their valued drinking vessels. The jars are not found with individual burials, however (although they some-





times occur in rooms with burials, they were placed in locations away from the individual burials). Instead, the recovery of the jars in groupings suggests they belonged to the community or some subset of the community, such as a clan or religious order. Hence, when that community left Chaco or no longer needed the vessels, they deposited the jars as a group in these caches. Second, caching suggests that whatever the activity associated with drinking chocolate, it was probably ritual in nature, leading to special disposal of the vessels. Finally, rituals associated with groups tend to concern the well-being of the community rather than the well-being of the individual. There are not enough jars known for every occupant of Pueblo Bonito or Chaco Canyon to have owned one. This suggests again that only a subset of the entire community drank chocolate from cylinder jars. Because it was a commodity that was hard to obtain, the subset that had access to chocolate probably consisted of higher-status individuals and/or perhaps individuals who belonged to a specific religious society.

Although we are far from understanding the extent of chocolate consumption in New Mexico, putting chocolate in the context of the artifacts associated with its use helps us to understand at least some aspects of how and why the people of this area incorporated chocolate drinks into their lives.

There is still much to learn about the history of chocolate in New Mexico. But we are absolutely certain that chocolate has been a favorite drink of the residents of this landscape for over a millennium. And the lure of chocolate led to its presence in some surprising places. According to George Pepper's diary, on September 13, 1896, twenty-five days after finding the first cylinder jar in Chaco, Richard Wetherill felt too sick for dinner. George Pepper ate, though, and washed his hair; then the two men walked to the kitchen attached to the back of Pueblo Bonito, where they made and drank some hot chocolate. Chocolate drinks had returned to Pueblo Bonito. ■

Acknowledgments

Many wonderful books on chocolate were consulted for this article. Two of the best are *Chocolate in Mesoamerica*, edited by Cameron L. McNeil (Gainesville: University of Florida Press, 2006); and *Chocolate: Pathway to the Gods*, by Meredith Dreiss and Sharon Edgar Greenhill (Tucson: University of Arizona Press, 2008). My research on chocolate has been funded by a grant from the National Science Foundation (jointly with W. Jeffrey Hurst) and a Snead-Wertheim Lectureship at the University of New Mexico.

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Yerba Mate and the Black Drink

Caffeinated drinks have a long history in the New World. Throughout much of North, Central, and South America, Native populations developed ways to process the leaves, twigs, bark, or nibs of various plants into drinks with caffeine. These drinks include chocolate, derived from the *Theobroma cacao* tree pods (see article) and yerba mate, derived from *Ilex paraguariensis* leaves and twigs. *Ilex* species are members of the holly family, found on every continent except Antarctica. In South America, yerba mate remains a popular drink in Uruguay, Argentina, and Brazil, where people often share the drink from a common hollow gourd using a metal straw. Other drinks made from holly plants in South America include *té o' mate*, made from *Ilex tarapotina* in northern Peru; and *guayusa*, made from *Ilex guayusa* in Ecuador. In North America, early explorers reported Native American groups in what is now the southeastern United States drinking quantities of a beverage made from the toasted leaves of *Ilex vomitoria* or *Ilex cassine*. Although the Native groups had many different names for this drink, explorers generally called it “black drink.”

These drinks share some common characteristics. They were made from plant parts that were toasted, broken or ground up, then diluted with water. Preparation of both chocolate and black drink involved introducing air to create a froth on the drink. All of these drinks were served from special vessels with distinctive shapes. They were often consumed in social settings involving groups.

In the case of black drink, historical documents provide detailed descriptions of how important it was to populations in the southeastern US. Although there is some variation in who drank it and on what occasions, most frequently black drink was part of ritual cleansing and purging performed by men before any important activity. Men consumed quantities, often from cups made of seashells (or ceramic cups shaped like seashells), followed by vomiting. So basic was this activity to social life that the plants were cultivated outside of their natural range along the coastal plain. Recent research has shown that holly was exchanged to create ritual beverages at Cahokia, near modern St. Louis, as early as AD 1050. Cahokia is over 300 miles from the closest known natural source of suitable holly.

Ilex guayusa leaves were found in a burial interpreted as that of a medicine man in the Bolivian highlands dating to AD 500. These leaves must have come from much lower elevations east of the Andes. Combined with what we know about the use of caffeinated drinks in other parts of the New World, a picture is now emerging of widespread exchange in the plants needed to make these ritually important drinks. By at least AD 500 and perhaps increasing in distribution over time, the peoples of the New World drank caffeinated beverages, apparently in ritual contexts, and perhaps traveled great distances to obtain the raw materials for them. —PLC

Opposite: Catalina Delgado Trunk, *El Señor del Cacao* (The Chocolate God), detail, 2011, Japanese paper, 35 ⁷/₁₆ × 28 ¹⁵/₁₆ in. IFAF Collection. FA.2011.52.1. On exhibit in *New World Cuisine: The Histories of Chocolate, Mate y Más*, at the Museum of International Folk Art. Photograph by Blair Clark.

Below: Cahokia Beakers used to drink the ritual Black Drink, eleventh–thirteenth century, from the collections of the Illinois State Archaeological Survey. Photograph by Linda Alexander.

