



## Chocolate

by Alex W. Barker, Museum Director

Of the many plants brought from the New World—potatoes (*Solanum tuberosum*), tobacco (genus *Nicotiana*), tomatoes (*Solanum lycopersicum*), corn (*Zea mays*), and so on—perhaps none is more beloved than chocolate. It began in the New World, conquered the Old, and returned—or something like that.

Chocolate is made from the beans and bean pulp of the cacao tree, a spindly, 5-8m tall evergreen tree with broad elliptical leaves native to northwestern South America. Named by Linnaeus in his 1753 *Species Plantarum*, the tree's name says it all—*Theobroma cacao*, or “cacao, the food of the gods.” But like any divine favor, it doesn't come easily. Despite its widespread cultivation—more than 4.2 million metric tons of cacao beans are produced annually—cacao is actually a finicky crop to grow. Only a small number of insects, tiny *Ceratopogonidae*, *Forcipomyia* and *Euprojoannisia* midges, pollinate cacao flowers, and only about 5% of flowers receive enough pollen to successfully produce fruit. But its allure is enough to make the effort worthwhile.

The earliest evidence for cacao use is from the Mayo-Chinchipa culture of northern Ecuador, beginning about 5,300 years ago. In 2018 researchers documented cacao from the Mayo-Chinchipa site of Santa Ana-La Florida using three separate lines of evidence: 1) recovery of starch grains specific to cacao; 2) residue of the alkaloid theobromine, a characteristic of cacao, from inside ceramics, and 3) fragments of *T. cacao* DNA.

It's widely believed that Olmec communities used and prized cacao, but details remain unclear. By the seventh century BCE it's already in use by Maya communities. In Mayan myth, cacao is one of the precious substances released from *Paxil*, the cleft mountain, at the beginning of the current (fourth) age. Before that time, cacao grew from the decaying body of the maize god, overcome by the Lords of the Underworld in an earlier time. Early attempts in the new age to make humans from mud and wood failed, and only by later combining maize and cacao—twin gifts of the gods, linked by the origin of cacao from the decaying body of maize, and carried by the twin culture heroes of the Popul Vuh, Hunahpu and Xbalanque—are humans created.

We hold several cacao-related pre-Columbian works. Most obvious is a copper-alloy cacao bean-pod effigy, probably from Ecuador, the homeland of cacao. Made of two joined sheets, in its unoxidized state (the green patina of copper is generally a layer of oxidized copper sulfate, carbonate, or related salts) the color would have approximated that of an actual cacao pod.

(Continued on page two)



**Cacao Pod Effigy**  
Ecuador (Date and culture unknown)  
Copper alloy  
Anonymous gift (88.62)



# MUSEUM FRIDAY FEATURE

Another is a terracotta whistle in the form of a human figure wearing a skirt with a wide front flap; a cord hangs around the neck, from which a is suspended a large circular ornament. The figure, thought to be male, wears a headdress with a hole pierced through the top, incisions indicative of feathers, and a downward hanging appendage—a cacao bean—on the forehead.

Most intriguing is a polychrome bowl from Calakmul, a major Mayan center in the greater Petén Basin. Harvard's David Stuart reads these glyphs as "it is painted and full," followed by an unreadable glyph, then "his cup for fruity cacao," followed by the owner's (?) name, "Yopat B'alam." Yopat B'alam is the name of at least two rulers of the Maya polity at Yaxchilan; while far from Calakmul, wives of Yaxchilan rulers are known to have come from Calakmul. In fact, Yopat B'alam II rules Yaxchilan briefly before the son of a Calakmul wife retakes the throne in 752 CE. Like the Hundred Years War in Europe, much of classic Mayan history is dominated by the struggle between Calakmul and Tikal; Yaxchilan plays an important but brief role at the outset of these struggles, but is conquered by Calakmul and remains its vassal for most of the conflict.

Archaeologists Gary Feinman and Christopher Garraty argue for a form of preindustrial market economy in Mayan polities—using evidence including a Calakmul mural—with cacao as one of the important trade items. Jonathan Kaplan has argued that much of the endemic warfare of the Southern Maya may have been over cacao production (although other scholars see the conflicts in purely or primarily dynastic terms), and cacao is frequently shown on Mayan ceramics as tribute paid by subjects to Maya lords. The Aztecs valued cacao but (for the most part) needed to obtain it by trade, and as a result it became both a valuable prestige-good and a form of general currency—not merely a staple commodity, as among the Maya, but as a generalized form of 'commodity money' (a medium of exchange guaranteed by the physiocratic value of the underlying commodity).

Cacao was generally prepared by fermenting the beans, roasting them, then grinding them with chile and other flavorings. The mixture was then heated and added to hot water; agitation was required to dissolve the mixture, using both a stirrer (later called a *molinillo*) and decanting the mixture from one vessel to another, in order to make the mixture frothy.

While modern Mexican dishes like *mole poblano* use chocolate as a savory flavoring for food (and note please that mole and chocolate need not go together; like *pesto*, *mole* is more of a technique than a recipe, and all

(Continued on page three)



**Whistle Figurine with Cacao Pod Pendant from Headdress**  
Southern Veracruz, Mexico  
Maya, ca. 600–800 CE  
Terracotta  
Gift of Mr. J. Lionberger Davis (69.957)



**Polychrome Vase with Glyphs**  
Mexico, Campeche, Calakmul, Maya  
Late Classic period, ca. 600–900 C.E.  
Pottery  
Gift of Bernard R. Sperling (84.179)

Visitors to the Museum are **REQUIRED**  
to wear masks and practice social distancing.  
Groups are limited to no more than 6 individuals.

Website: <http://maa.missouri.edu>

Museum Galleries have **REOPENED**

**Gallery Hours**

Monday - Friday: 9am to 4pm

Saturday & Sunday: Noon to 4pm

**CLOSED Mondays**



# MUSEUM FRIDAY FEATURE

kinds of *moles* featuring different ingredients can be found), there's little evidence of its use in daily Maya or Aztec cuisine. Instead, it seems to have been more commonly drunk, often in medicinal or ceremonial contexts.

Chocolate's introduction to Europe is shrouded in mystery—or rather hidden behind a bevy of apocryphal tales. Some credit Columbus, claiming he intercepted a trading vessel bearing cacao in 1502; others credit Hernan Cortes, claiming he brought cacao back to Spain but kept the beans secret for years; and still others point to (better-documented) Franciscan gifts to Philip II of Spain in 1544. Whatever the truth, by 1585 it was a regular Spanish import. As chocolate became popular in Europe, the same basic techniques for preparation were used, although after Anne of Austria (shown here in the *Exchange of the Queens*, an early eighteenth century print adapted from Rubens' Medici cycle of the early 1620s) brought her choco-love to the French court of Louis XIII in 1615, a more refined (one might almost say extravagant) serving vessel was needed.

Enter the chocolatière, an elaborate porcelain or silver vessel with a distinctive handle (and sometimes a side handle) and a special lid with integrated molinet (the French version of a molinillo) inserted

as a finial for agitation and frothing. Chocolate caught on, and although the English were long dubious (its Hapsburgian associations made it seem vaguely papist), it became a staple of the English coffee houses where commerce and empire were joined. And Sir Hans Sloane, whose 71,000-piece collection



Trade Card Advertising Hans Sloane's Milk Chocolate (British Museum, Trade Card Wm. White, Heal, 38.10)

formed the nucleus of the British Museum, the British Library, and the Natural History Museum of London, played no small role in chocolate's acceptance, as his recipe for chocolate using milk instead of water was widely copied.

(Continued on page four)



Jean Marc Nattier, designer (French, 1685–1766) and Jean Audran, engraver (1667–1756), after a painting by Peter Paul Rubens *L'Exchange des deux Reines (The Exchange of the Two Queens)*, early 18<sup>th</sup> century Engraving on paper Gift of Donald S. Dawson in memory of his wife, Ilona Massey Dawson (81.268.20)



Hand Made French Silver Chocolate Pot Paris hallmarks, circa 1750 900 silver (8.4 x 5.25 x 3.25 in.) (Trade picture)



# MUSEUM FRIDAY FEATURE

In 1828 Casparus van Houten developed a technique to press the fat (cocoa butter) from the nib, which is itself more than 50% fat. The resulting cocoa butter had many uses, but the resulting cake could be pulverized into a finer powder. Van Houten's son, Coenraad Johannes van Houten, later developed "Dutch process" cocoa by treating the powder with alkaline salts, making it more readily dissolve in water; the technique is still widely used today. These industrial techniques made cocoa affordable and easy to prepare, and its consumption became widespread. Elaborate chocolatières and molinets were no longer needed, and hot chocolate progressed from a time-intensive delicacy to easy comfort food.

Chocolate returned to what is now the United States in 1641, aboard a Spanish ship bound for Florida, and the first chocolate house opened in Boston in 1682. Or did it? Chemical analyses of tall, cylindrical mugs from Pueblo Bonito—the largest ancestral Puebloan ruin in Chaco Canyon, New Mexico—found theobromine residue in a whole series of vessels. The chocolate is believed to have been traded northward in the early eleventh century CE, along with other prestige goods including parrots. At least some studies suggest the presence of theobromine at vessels at Cahokia, the great Mississippian mound center outside St Louis, Mo.—occupied about the same time as Pueblo Bonito—but there may be a catch. Theobromine also occurs, in differing percentages, in beverages known to have been used by ancient southeastern Native communities, especially *Ilex vomitoria*, the sacred Black Drink of the historic southeast. For the ancient southwest the evidence now seems secure, for the ancient southeast opinion remains divided.

Recipes for pre-Columbian style chocolate abound; some are [simple](#), others less so. Or, if you'd rather try chocolate in the pre-Dutch process European tradition, there are several recipes at Jane Austen's [World](#), and the British Museum offers a modern adaptation of Sir Hans Sloane's celebrated "[milk chocolate](#)," made with milk, bitter chocolate, honey, dried chiles, cinnamon sticks, and vanilla pods (*caveat lector*: getting any of these recipes to the required frothy state can be a chore). ■



Cylindrical Mugs from Pueblo Bonito  
(the kind used for chocolate)

Photo: National Museum of the American Indian, 052109.00 (right); 052116.00 (left)

**DISCLAIMER:** considerable amounts of chocolate were harmed in the production of this work.