



***THEOBROMA CACAO*—DIVINE INTERVENTION?**

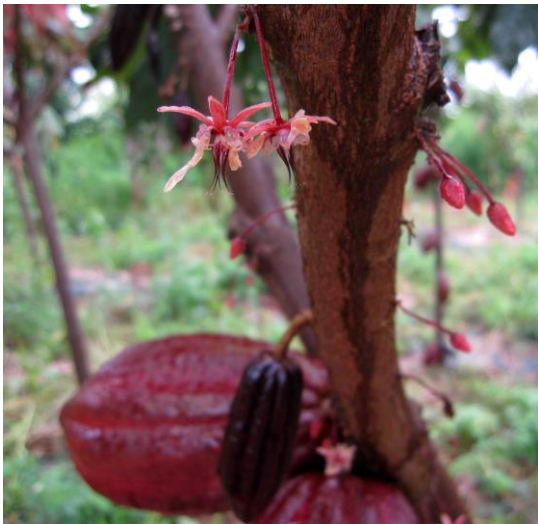
I drink cocoa:

with it I am glad –Aya! –

my heart takes pleasure, my heart is happy

—**Nezahualcōyotl** (circa 1460) ¹

Dear NHS Members and Friends,



Last session we assessed Hawai'i's emblematic and embattled 'ōhi'a lehua, *Metrosideros polymorpha*. In this segment on ***Theobroma cacao***, source of cocoa and chocolate², we'll return to Hawaiian shores, but only at the end of a serpentine path that winds from Amazon headwaters in South America through Mexico, Spain and Sweden, then on to Amazon headquarters in Seattle.

Few edible items elicit such expressions of euphoria: *Heavenly, sublime, nectar of the gods*; but as with all polarities there is a flip side: *devil's food, sinfully delicious*, down to the hyperbolically-named confection *death by chocolate*. A French cleric in 1620 called chocolate "the damnable agent of necromancers and sorcerers" around the same time an Italian physician lauded it as "celestial, sweat of the stars, panacea³ and universal medicine."

In recognition of its alluring (if not addictive) tendencies, both Merriam-Webster and Oxford English Dictionary record the birth of the neologism "chocoholic" in 1961.



Received wisdom long held that cacao was first cultivated in Mesoamerica (southern Mexico and Central America), as an abundance of cultural artifacts and written records attest to its widespread use among the Maya and before them the Olmec civilization. However, genomic research shows that *Theobroma's* greatest diversity is found much further south, in the upper Amazon basin where Colombia, Ecuador, Peru and Brazil converge, indicating this as its center of origin. Moreover, **current archeological analysis** in Ecuador establishes human use of cultivated cacao from around 5,400 years ago, or 1500

years earlier than the oldest such evidence in Mesoamerica.

For the Maya and more recently the Mexica (Aztecs), cacao was central to their existence. Viewed as a gift from the gods, its almond-shaped seeds (often called "beans") were used as currency, medicine, stimulant and aphrodisiac. The bitter, frothy beverage made from it, both spicy and pricey, was usually reserved for ceremonies and religious rites. Unless you were of the nobility. Spanish chronicler Bernal Díaz witnessed Emperor Moctezuma II in 1519 quaff nightly up to 50 cups of the heady stuff. Does this make the ill-fated monarch the world's first documented chocoholic?

It took another 200 years for cacao to be formally described in Western science. In recognition of its “divine” qualities, Swedish taxonomist Linnaeus coined *Theobroma* (from Greek words for “god” and “food”) for the newly classified genus, keeping *cacao* for the specific epithet and logging it in his groundbreaking publication *Species Plantarum* in 1753. By this point the lusty beverage (now sugared) had taken Europe by storm and was giving coffee a run for its money.

Although *Theobroma cacao* is cultivated in the same places as *Coffea arabica* and *C. canephora*, it’s fussier, messier and more challenging to grow and process than coffee. The lion’s share (nearly 2/3) of cacao production today is centered in four equatorial African countries, across the Atlantic from its origins, while all Latin-American countries combined produce only 1/6 of the world’s total. Due to its particular needs, cacao is grown and harvested (in miniscule amounts) in just one state of the USA. This brings us back to Hawai’i.

Cacao was introduced to the land of Aloha around 1850, but only in the last 20 years has its cultivation flourished. The Hawaii Chocolate and Cacao Association, formed in 2009, now has 37 members. Its current vice-president is former Seattle resident and ex-NHS board member Dan Corson⁴, who along with husband Berndt Stugger began planting cacao on abandoned sugarcane acreage in 2007. Now boasting 650 pod-producing trees, their [Hāmākua Chocolate Farm](#), just north of Hilo on the Big Island, is a model of sustainable agriculture –and a spot of head-spinning beauty.

Having known Dan and Berndt for 20 years, I’ve been able to track the cacao cycle at their place from curious blooms to multihued, ribbed pods adorning the trunks, followed by harvest (usually once per month) and communal “cracking parties” with all hands on deck to split, scoop, stir and separate the sticky, tangy-sweet pulp from the seeds, which then await days of painstaking processing before evolving –at the master’s hands– into luscious bars of earthy richness.

Closer to home, cacao is grown under glass in a few places. Sadly, two of the public entities (Seymour Conservatory in Tacoma and UW Biology Greenhouse in Seattle) are closed for renovation. But if you score admission to Amazon’s [Seattle Spheres](#) at Seventh Ave. and Lenora St., you can get within sniffing distance of an adolescent *Theobroma cacao*.

Horticulturally yours,
Daniel

Notes:

1) Extract of “Poem 55” from *Romances de los señores*, by Nezahualcōyotl (1402-72), Mexica (Aztec) monarch of Texcoco. Translated from the Náhuatl by [John Curl](#).

2) **Cacao** and **cocoa** are synonymous. The former should be used when referring to the tree that produces the pods whose seeds, when fermented, dried and processed, yield a fluid paste from which are made a concentrated powder (called “cocoa” in popular parlance) or solid chocolate. “Cacao” is the Spanish transliteration of Maya “*kakawa*”. The English word “cocoa” emerged around 1670 from mishearing “cacao” and conflating it with “coco(nut)”. **Chocolate**, initially referring to the beverage made from cacao, entered English as a loanword from Spanish in 1604. Its origin in Náhuatl is uncertain but may derive from “*xoco*” (bitter) and “*atl*” (water).

3) It may not be a panacea/cure-all, but cacao contains antioxidants and flavonoids that [NIH-approved studies](#) indicate may reduce risk for diabetes and protect nerves from injury and inflammation, among other health benefits.

4) **Dan Corson** will present a **webinar** for **NHS** on his Hawaiian horticultural feats Wednesday, **Oct. 13**. To register, visit the [northwesthort.org](#) calendar.