



# Deepening Our Love Affair with Chocolate

by Anna Bond

Long before Hershey's kisses and Grandma's homemade brownies, chocolate was held in high esteem by native societies. Scientists are just beginning to understand why.

If chocolate grew on trees in our backyards, we wouldn't see chocolate chips, cookies or kisses dangling from luxuriant foliage. As with many of our most common foods, we find ourselves so far removed from their source, we wouldn't recognize them in their natural habitat if we stumbled upon them. This story aims to get us back to chocolate as the herb food that does grow on trees in all its bittersweet seduction.

The chocolate tree—actually, the cacao tree—is unimposing, at most five stories tall, with a canopy of oblong leathery leaves and foul-smelling pale pink flowers pollinated by midges, aphids, ants, thrips and wild bees. Cacao grows in the understory of larger trees, much like the banana in the wet lowland tropics of earth's equatorial rain forests.

Foot-long ovoid fruits called pods follow the cacao flowers. A tree may bear as many as 70 pods a year, each pod holding up to 50 seeds/beans surrounded by juicy, sweet pulp. In wild nature, these seed/beans are disseminated by animals, thus widening the range of the species. Cacao seeds are extremely rich in fat, carbohydrates, proteins, mucilage, polyphenols like catechins (the antioxidants in green tea), proanthocyanidins, tannins, minute amounts of the stimulating alkaloids theobromine and caffeine, anandamide, and the mood-lifting love molecule PEA.

Called *kakaw* in Olmec/Mayan, *cacahuatl* by the Nahuatl/Aztec, and *Theobroma cacao* (literally, food of the gods) by Linnaeus, the cacao tree—with its bark, leaves, flowers, fruit and seeds—afforded many benefits to its early human relations as food, drink, medicine and ritual. Perhaps we can learn from their ways of preparing and enjoying this unique bean and its humble tree.

The Native Americans of the western Amazon, the region where most of *Theobroma cacao's* wild relatives grow, gathered the fruits for their sweet pulp and infused leaves as a heart tonic and a diuretic. They boiled toasted seeds in water from cassava pressing to relieve eczema on the scalp.

From its wild origins in the Amazon Headwaters, cacao moved to Central America, where Mayan tribes began its cultivation circa 1500 B.C. Mayans and Aztecs attributed its divine origin to the god Quetzalcoatl and developed cacao beans into what has become a sweet confection and obsession in Western civilization.

The ingenious process the Aztecs devised to free the seeds from the mucilaginous cacao pulp involves a ferment like that of many other ethnic drinks and foods. Similar ferments used with the coffee berry and tea leaves have become highly sophisticated. Yeasts used to clean and mature the cacao bean give a very specific aroma to the final food and drink.

Ripe cacao fruits are taken with a sharp hooked machete mounted on a short pole. They are split open and the mucilaginous seeds removed. Piled in heaps, the seeds are covered with banana leaves and then weighed down with earth to ferment for as long as ten days. Like a compost pile, the seed heap is turned twice a day. After the fermentation period, the seeds rinse clean easily.

During the next few days, the seeds are dried in the sun on mats for two or three hours a day, then sweated in heaps the rest of the day to keep them plump. They are then roasted, husked and ground into a paste between hot rollers. The husks, as with coffee, make excellent mulch.

The heat of the grinding turns the cacao into a semi-liquid mass. When pressed, cocoa butter is

◀ The cacao tree's Latin name, *Theobroma cacao*, literally means "food of the gods." Its fruit has been used for thousands of years as food, drink, medicine, and in religious rituals.

expressed from the cocoa cake, which is then ground into cocoa powder. The cacao we know is made by removing part of the fat and mixing the paste with sugar and starch.

Cacao butter or oil is a yellowish white solid, with a rich aroma and a mildly sweet taste. An excellent emollient, this oil is used in cosmetic ointments to soften chapped hands and protect the lips. It is also used in pharmacy for coating pills and preparing suppositories.

The Aztecs prepared a hot, frothy cacao bean beverage with stimulant and restorative properties. They esteemed its ability to confer wisdom and vitality. Chocolate itself was reserved for warriors, nobility and priests. Aztec taxation was levied in cacao beans. One hundred cacao beans could buy a slave, 12 cacao beans bought the services of a courtesan. When Cortez arrived in the Aztec capital, Montezuma's coffers held more than 9,000 tons of cacao beans!

Early colonial era documents described cacao's medicinal uses. The *Badianus Codex* (1552) noted the use of cacao flowers to treat fatigue, whereas the *Florentine Codex* (1590) offered a prescription of cacao beans, maize and the herb tlacoxochitl (*Calliandra anomala*) to alleviate fever and shortness of breath and to treat the faint of heart.

European manuscripts over the subsequent centuries reveal over a hundred medicinal uses for cacao and chocolate. These fall into three categories: 1) helping emaciated patients to gain weight; 2) tonifying the nervous systems of apathetic, exhausted or feeble patients; and 3) improving digestion and elimination, counteracting the effects of stagnant or weak stomachs, stimulating the kidneys and improving bowel function.

Other health challenges reported in the manuscripts as responding to chocolate and cacao include anemia, poor appetite, mental fatigue, poor breast milk production, tuberculosis, fever, gout, kidney stones, weak sexual appetite and low virility. Preparations of cacao bark, cacao butter, leaves and flowers have been used to treat burns, bowel dysfunction, cuts and skin irritations.

Over centuries, chocolate has become a symbol of sweetness, sensuality, innocence, pleasure and the richness of life. Chocolate is also the object of intense fascination, craving, addiction and, sadly, modern child slavery. Today, chocolate is heavily cultivated in the Caribbean, Africa, Southeast Asia and some South Pacific Islands. Half the world's cacao is grown on about 600,000 plantations in the Ivory Coast. An investigative report by the BBC in 2000 indicated that hundreds of thousands of children are being purchased from their parents for a pittance—or in some cases, outright stolen—and then shipped to the Ivory Coast, where they are sold as slaves to cacao farms. These children, usually 12 to 14 years old, and sometimes younger, are forced to do hard menial labor 80 to 100 hours a week. They are paid nothing, are barely fed, and are often viciously beaten if they try to escape. Most will never see their families again.

The \$13 billion U.S. chocolate industry is heavily dominated by Hershey and M&M Mars, who control two-thirds of the market. Both of these companies, along with a dozen other big name manufacturers such as Ben & Jerry's, use large amounts of Ivory Coast cacao, so their products almost certainly exploit child slaves.<sup>1</sup>

At the same time, a growing number of companies, perhaps not as well known by name, are taking the steps to assure their chocolate is untainted by slavery. They use only organic or Fair Trade cacao. Along with the move toward organic agriculture and non-exploitative labor practices, chocolate companies are combining real foods, whole grains, nuts, fruits and orange zest with their chocolate. One company even combines wild Amazon rain forest herbs with chocolate in small spheres reminiscent of Tibetan herb balls.

Like pulque, tobacco, sacred mushrooms, coca and other stimulants, cacao was long considered a sacred plant in the charge of male deities: the Mixtec Seven Flower and the

Aztec Lord of Flowers, Xochipilli, god of song, poetry and spring. The sacred beverage *xocoatl* was drunk from golden cups. It was this *xocoatl*, sweetened and flavored with cinnamon and vanilla, that Montezuma first served Cortez in 1519.

The Aztecs prepared several different chocolate beverages, some made only with beans and others blended with ground maize or ground-up fruits like hot pepper (to relieve pain) and vanilla (to induce sleep).

Like tobacco, sacred mushrooms and coca, chocolate in Western society became an addictive substance rather than a plant sacred in the context of its culture. To indigenous people, tobacco was life-enhancing. Smoking the ceremonial pipe strengthened the relationship among all people present and put them into relationship with the sky, the earth, and all beings on earth. However, plantation-grown tobacco, dependent on slave labor and blended with carcinogenic chemicals, has turned into a deadly addiction in our society.

Similarly, high in the Andes, natives have chewed on coca leaves for millennia to relieve hunger, fatigue, pain, cold, chronic high-altitude sickness and even death. Used in ritual ceremonies, coca enhances the natives' relationship with what they term "the powers." Oriented toward substance rather than relationship, industrial societies refine coca into a white powder to be snorted for a rush of euphoric—and many times death-dealing—excitement.

Cacao in its traditional culture was a bitter herb, a sacred rite and a social drink. In comparing the stimulating effects of coffee, black tea and chocolate, spiritual scientist Rudolf Steiner writes that coffee promotes logical consistency and stability in the physical sheath; black tea stimulates "flashes of wit and sparkling intellect"; and chocolate occupies a place somewhere between the two, as it "tends to loosen the life body from the physical," making the physical body more mobile. Steiner sees its energetic nature as a relaxing, festive one.

#### THE CHOCOLATE RUSH

Through nutritional analysis, we are learning and naming the more than 300 chemical compounds at play in cacao. We are exploring their psychochemical effects on us—our central nervous systems, our bodies, minds and moods. What is it about chocolate that would make some 50% of women reportedly claim to prefer chocolate over sex?

Yes, most chocolate contains some amount of sugar. But chocolate clearly delivers far more than a brief sugar high. Remove the refined white sugar, and we move closer to the bitter herb of its origins. What is it we love so much in chocolate?

Could it be chocolate's tryptophan, the essential amino acid that enhances serotonin function, hence diminishing anxiety? Cacao and chocolate are the richest known sources of theobromine, a little-known alkaloid with about one-tenth the stimulating effect of caffeine. Although theobromine is a weaker stimulant than caffeine, it can increase the pulse rate and is now proving to be an effective fat burner. Theobromine may be the Aztecs' agent against mental stupor.

Chocolate, we are now discovering, contains high levels of polyphenols, known for their antioxidant benefits and their ability to reduce the oxidation of LDL cholesterol, thereby protecting against heart disease.

Perhaps chocolate's key to our heart is its phenylethylamine (PEA) content. Phenylethylamine, commonly called the "love molecule," is a natural chemical, suspected of causing the euphoria experienced by lovers. (The "high" runners experience after a race may be a reaction to the secretion of PEA in the brain as well.) Providing the base molecule for such psychoactive compounds as mescaline,

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European manuscripts over the centuries mention over one hundred medicinal uses for cacao and chocolate.

# Light of Things

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it sounds in an empty corridor. Maybe in my voice she hears those highs and lows only dogs are supposed to hear. And maybe I can see what she can't. But I don't see anything in her eyes, not even a small fire. It bothered me. That's all.

Then it had been too long. So she turned and showed me her ear, pushed her hair back like a curtain, and that bothered me too. Like the underside of a rock, it bothered me. I moved a little, put some space between us and leaned back a little.

"Well," she said, "there's this," and slipped the rubber band off that second shoebox. She knew all along we hadn't burned everything. "From Mrs. Murray's class," she said, "and Mrs. Murray doesn't cheat."

She lifted paper figures from the box, rows of cut-out dolls, chains of colored loops, blue ponies and green dogs hard to tell apart even with looking, purple flowers, black

hearts, white stars, and written in crayon on most was "We love you, Miss Rainer."

Mariah led them each to the fire—without me. Pushed my hand away and said she didn't need my help, thank you. The red horse, the blue tree, the brown fish, they all turned the same yellow color and disappeared. The crayon sizzled and flickered white.

Mariah stood, quivering and smiling, asking if she was a mess. No, I said, though it wasn't true. But it didn't matter. She wasn't listening. Her hair fell over her ears. She waded away through the dark, through the dark that must have been cool being far from the fire, to the door where she paused and played her fingers over the wall.

"You'll need light to find your way out," she said and flipped the switch. She lifted her face to the ceiling, that way she had of feeling light, and touched her way into the bedroom, leaving gray circles around the switch. Leaving me in the bright room with the fire going dark.

Ann Darby is author of the novel *The Orphan Game* (HarperPerennial 2000), a *Los Angeles Times* Bestseller. A recipient of the Bennett Cerf Prize, she has been nominated for the Pushcart and Henfield Prizes. Formerly a dancer, she lives in New York City.

Anna Tomczak works are included in the Brooklyn Museum of Art, the Southwest Museum of Art and the Polaroid Art Collection. For more information, visit her website at [www.annatomczak.com](http://www.annatomczak.com).

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PEA is produced naturally in our bodies from the amino acid phenylalanine when stimulated by strong positive emotions such as love or high achievement. PEA is also produced by the breakdown of tissue during the fasting process, and when the body is critically ill. PEA may be responsible for triggering the visions that many people experience at these times.

Recent research has uncovered that small, almost homeopathic doses of the herb *Cannabis sativa* elevate PEA levels in the brain by nearly 400%. Larger quantities, however, inhibit its production. PEA's presence in wild blue green algae may explain the increased energy, enhanced mental clarity and pervasive sense of optimism experienced by algae-eaters.

Considered to be one of our bodies' main "reward" neurotransmitters, PEA releases midbrain dopamine into the pleasure centers and peaks during orgasm. Its effects include increased confidence, exhilaration, lowered fatigue and a general sense of well-being. Eating chocolate causes the release of endorphins, our body's endogenous opiates.

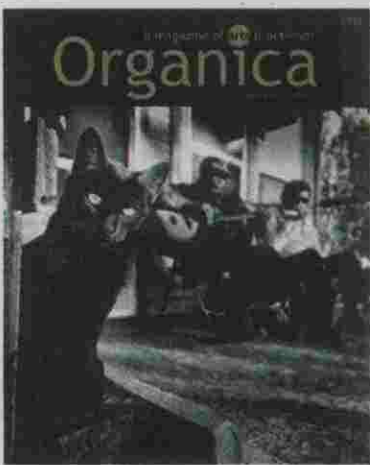
How can we recapture the health-giving energetics of pure chocolate, its natural festive qualities, and the ceremonial rituals it evokes? We can express our gratitude by knowing and honoring the Amazon rain forest origins of the cacao. The Amazon represents the great source of life energy on the planet. From the mere 2% of its botanicals Western science has researched, we derive 40% of our modern pharmaceuticals. What other treasures lie waiting in the expanses of rain forest now threatened by loggers, ranchers, miners and oil drillers?

As we consider the origins of our chocolate, we come to appreciate the sources of the cacao we enjoy. This appreciation may get us back to the source of our other daily foods. Considering the sources of our chocolate—Third World countries with staggering human, social, economic and environmental challenges—we may imagine solutions for those conditions.

Finally, remembering the ingenious processing that gets the cacao from tree bean to mouth-watering chocolate morsel, let us bring equally imaginative mindfulness to the quality of all our food and of all our relations.

"Is There Slavery in Your Chocolate," by John Robbins.  
[www.foodrevolution.org/slavery\\_chocolate.htm](http://www.foodrevolution.org/slavery_chocolate.htm)

For more information about pure chocolate, its origin, sources and processing, please call Anna Bond at (802) 387-2341 or email her at [annabond@together.net](mailto:annabond@together.net).



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