

## THE GRIM HISTORY OF SUGAR

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Once considered a “fat-free” source of energy, sugar is now seen as a threat to health,<sup>1,2</sup> but that is only one part of its grim history, as recently re-told by historian James Walvin.<sup>3</sup>

### HONEY

Sweetness is a universally pleasurable taste, and honey – the main natural source of concentrated carbohydrate calories – is a dietary staple in primitive societies. Honey may have played a role in human evolution because a metabolically demanding brain required a concentrated source of calories.<sup>4</sup> Honey can comprise 80 percent of calories consumed by the Efe pygmy people of the Congo, and up to 1,100 calories/day for the Ache, forest dwellers in Paraguay.<sup>4</sup>

Indigenous peoples use elaborate measures to get honey, including smoking bees out of hives with a brush fire (Tanzania), and climbing rope ladders on the face of cliffs (Nepal). Rock art as long as 26,000 years ago depicted honeycombs, bees, and honey collecting.

### SUGARCANE

Sugar was transformed from a luxury item to an affordable commodity during the 17th to the 19th centuries. As trade and the global economy expanded, the demand for sugar grew.

Historians agree that use of sugarcane as a commercial crop originated in South Asia before Christ, and spread to the Middle East and to China. After sugar entered Islamic cuisine from India, sugarcane spread around the Mediterranean with Islam – from Egypt in the 8th century, to the North African coast and Spain by the 11th.

The crusaders brought sugar back to England and Northern Europe in the 11th century. When the Islamic invaders were expelled in 1492, the European appetite for sugar was satisfied by Venetian and Genoese merchants, who got sugar from producers around the Mediterranean.

Sugar was eaten mostly by the nobility and royalty,

who suffered from rampant caries and tooth decay. In 1597 the French ambassador described Queen Elizabeth I as missing so many teeth that “one cannot understand her easily when she speaks quickly.”<sup>3</sup> In contrast, excavations of human remains in volcanic residue from Mount Vesuvius’s eruption in 79 A.D., reveal few cavities and intact dentition. Examinations of teeth in British burial sites confirm the scarcity of dental problems before the 17th century, and poor dentition after the 19th.

By the 15th century, the system for producing sugar was well-developed. The Europeans only needed a colony in a warm climate where sugarcane could grow, and a labor force. Bankers were eager to finance these lucrative enterprises, and by the end of the 15th century, the Spanish and Portuguese were planting sugarcane on every Atlantic island where they could overcome the local population. Madeira proved ideal, and by 1500 it was the largest sugar producer in the West, with almost 3,000 tons annually.

In the pre-industrial era, sugar production was maximally efficient when men worked in gangs doing back-breaking labor that men have never done willingly. The tragic solutions – depending upon the geographic area and economic system – were indentured servitude, prison labor, or slavery.

Many of these islands were a short distance from the coast of Africa, and it was inevitable that slave labor would become the mainstay of sugar production in that region.

In 1493, sugarcane crossed the Atlantic with Columbus on his second voyage. Brazil became the major sugar producer in the Americas, and when indigenous Indian workers proved unwilling or inadequate to fill the industry’s burgeoning needs, African slaves were imported. But Brazil never developed sophisticated refining methods that produced fine white sugar, and shipped much of their product to Holland for refining, which left an opening for the French and British. Though latecomers to the New World, they quickly made the Caribbean the most

important sugar-producing region in the world. By 1770, British Jamaica and French Haiti (then called St. Domingue) accounted for half of all Caribbean sugar production (36,000 and 60,000 tons respectively). The small farmers and indentured workers (those who worked in return for free passage to the New World) were displaced, and sugarcane was grown on large plantations where the evil system of slavery was exploited with maximum efficiency.

Only in the late 19th century did the cultivation of sugar beets in the colder, more Northern climates of Europe and North America allow sugar production to expand beyond the supply obtainable from sugarcane.

### THE ENVIRONMENT

In addition to sugar's links to slavery and obesity, its evils include damage to the environment. The expansion of sugarcane cultivation required the destruction of huge swathes of native terrain – mostly rainforest. The favored slash and burn methods destroyed native plants and animals, and irreparably harmed the ecosystem that the indigenous peoples depended upon. The introduction of foreign plant and animal species further upset the delicate balance of this ecologically unique region.

It is estimated that when the Europeans arrived in the Caribbean at the end of the 15th century, the region had about 2 million indigenous inhabitants. Within less than a hundred years they had disappeared, replaced entirely by peoples from Africa and Europe.

When slavery ended in the Western Hemisphere towards the end of the 19th century, the plantations solved their labor shortage with indentured workers from India. Just a small step above slaves, they soon comprised the third largest group of immigrants to the region.

Walvin<sup>3</sup> notes that the plantation system was “pioneered and perfected” in the cane fields, but it set an example that was then transposed to many other regions and crops: cotton in the American South, pineapple in Hawaii, tea in India, palm oil and cocoa in West Africa, and rubber in Malaya. Always, it was associated with the destruction of native terrain, and laborers trapped in some variety of servitude.

### THE TARIFF SYSTEM AND AMERICA'S HIGH SUGAR PRICES

Many countries regulate the prices of basic commodities to keep them affordable, but America professes to favor “free markets.” Yet, “temporary” restrictions on imported sugar first imposed in 1920 (and still in place), and protective tariffs first enacted in 1934, force Americans to pay about 50% more for sugar than the average world price.<sup>5</sup> (In the past the premium has been far greater.)

The process for making high-fructose corn syrup (HFCS) was developed in 1957, and in 1984, Coca-Cola and Pepsi, tired of paying inflated sugar prices, switched to HFCS. Consumers yawned, and the rest of the beverage industry soon followed. The North American Free Trade Agreement (NAFTA) took effect in 1994, but restrictions on Mexican sugar weren't eliminated until 2008. Thanks to a political environment now more receptive to tariffs, U.S. sugar producers are asking for tariffs on Mexican sugar again.

Although sugar represents just 2% of the total value of U.S. crop production, the sugar industry accounts for 40% of the crop industries' total lobbying expenditures, and their money has been well spent; U.S. farm bills regularly renew protections for the sugar industry.

The inflated price of sugar is all but invisible to American consumers, since most of the sugar we consume is in processed foods. Few Americans realize that the table sugar in the local supermarket costs far more here than in Paris. The European Union abolished limits on sugar beet production at the end of September 2017, dramatically boosting output. European prices for sugar are plummeting, but American consumers will not benefit.

When one commodity gains such a market advantage, it has the pernicious effect of encouraging other producers to seek similar treatment, thus distorting free markets more widely.

### FINAL THOUGHTS

Thankfully, the sugar we consume is no longer produced with inhumane methods, and more than half of America's supply comes from sugar beets. Still, as we physicians contemplate sugar's harm to our health, it behooves us to also be aware of the other costs of sugar throughout history: slavery, environmental destruction, and distortion of free markets.

### REFERENCES

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