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Sugar

By: Solow, Barbara L.

"In that place the people sucked little honeyed reeds, found in plenty throughout the plains, which they called 'zucra'; they enjoyed this reed's wholesome sap, and because of its sweetness once they had tasted it they could scarcely get enough of it. This kind of grass is cultivated every year by extremely hard work on the part of the farmers. Then at harvest time the natives crush the ripe crop in little mortars, putting the filtered sap into their utensils until it curdles and hardens with the appearance of snow or white salt. They shave pieces off and it seems to those who taste it sweeter and more wholesome even than a comb of honey. Some say that it is a sort of that honey which Jonathan, son of King Saul, found on the face of the earth and disobediently dared to taste. The people, who were troubled by a dreadful hunger, were greatly refreshed by these little honey-flavored reeds during the sieges of Albara, Ma'arra and Arga."

These words, written by an obscure German monk named Albert of Aachen almost a thousand years ago, explain how the Crusaders discovered the use of sugar in the Holy Land during the Middle Ages, and indicate the reasons that sugar would later fuel the rise of the Transatlantic Slave Trade.

Slavery in Europe was over by the year 1000, except in a few areas around the Mediterranean; but slaves were used in sugar production, and as the consumption of sugar spread around the world, so did slavery. Along with precious metals, the sugar-slave trade provided the first enduring economic links between the Old World and the New. The Atlantic trade based on slave-grown sugar was key to the economic development of Europe, North and South America, the Caribbean, and (perversely) Africa.

Spread of Sugar and Slavery

The Venetian Crusaders introduced sugar to Europe after they found Muslims cultivating it in the Holy Land—Palestine and Syria—in the late Middle Ages, as Albert of Aachen described. The Muslims finally expelled the Europeans from the Holy Land at the end of the thirteenth century. To sustain the lucrative sugar industry the Venetians transplanted it to islands in the eastern Mediterranean: first Cyprus, then Crete and Sicily. Islamic conquest introduced sugar plantations to Spain and Portugal, but soon this production was overshadowed by the output on the islands off Africa's Atlantic coast.

The uninhabited island of Madeira was rediscovered by Portuguese in the service of Prince Henry the Navigator in 1425. To make their new colony profitable the Portuguese introduced sugar production. By 1500 Madeira was the world's largest sugar producer. The Spanish conquered the Canary Islands, off the coast of Africa, in the middle of the fifteenth century. They easily overcame the islands' inhabitants, the Guanches, and initiated sugar cultivation in parts of the islands where growing conditions were favorable. Eventually the Canaries came to rival Madeira as Europe's primary source of sugar.

From the Canaries sugar production moved down the African coast to the island of São Tomé, colonized by the Portuguese. Sugar production methods were transported from there across the Atlantic to Brazil, from Brazil to the Caribbean, and from the Caribbean to the British North American colonies. Modern slavery followed this path.

From the start of the sugar industry, slaves were an essential part of the labor force. As sugar production moved west slavery became increasingly important. Some scholars believe that slaves were already in use for sugar production in Mesopotamia in the late Sassanid period and in Palestine before the Crusades. The Venetians had slave markets on Crete and used slaves there for sugar production. Venetians and Genoese had slave markets on Cyprus, where slaves from Arabia and Syria worked alongside indigenous serfs and immigrants from Palestine. Slaves were apparently not used for Sicilian sugar production.

The slave labor force for sugar production on Madeira and the Canaries included Berbers, Arabs, Spanish Moors, and Africans, working alongside nonslave labor. After the discovery of São Tomé, the Portuguese used Jews kidnapped in

Portugal and black slaves from Africa to convert the island into an important exporter of sugar to Europe.

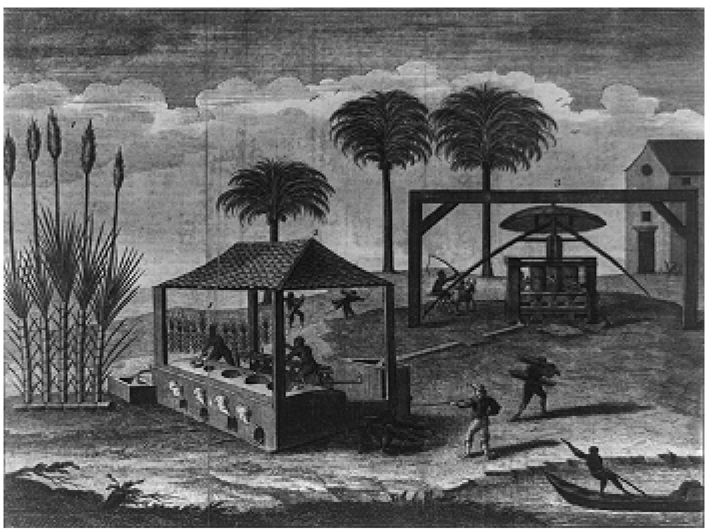
Brazil was not planned as a sugar colony but became one. Portugal sought gold in Brazil but in the meantime it needed an economic base to pay for the colony and fend off rivals. Among the ten early Portuguese settlements established, only those associated with sugar survived. Native Americans provided the first labor force, but as the sugar industry expanded they were supplanted by African slaves.

The first European settlers in the West Indies struggled to survive by growing tobacco, indigo, and cotton, using white indentured labor as well as slaves. They did not succeed. Once sugar was introduced to the West Indies the small-scale farms were transformed into large sugar plantations, worked by African slaves.

In both Europe and the Americas, besides working on plantations slaves labored in workshops as craftsmen and as servants. But these slave occupations either dwindled away or were overwhelmed by the number of slaves in plantation agriculture.

Why Slavery Is Associated with Sugar

Why is it that sugar (and to a lesser extent cotton, rice, indigo, and tobacco) used slave labor? Albert of Aachen understood why in the year 1100. Wherever the work was difficult, and free laborers would shrink from performing it unless offered very high wages, slavery was a likely outcome. Slaves would presumably dislike the work as well, and be motivated to do it badly, commit sabotage, or in extreme cases run away. So a crop that required onerous labor—and was thus a likely candidate for slave labor—would have to be produced under conditions conducive to the supervision and control of the labor force. Moreover, the crop would have to be important enough in the world economy to induce European countries to adopt slavery and the attendant legal, social, and political ideas—ideas with which they had had little familiarity for half a millennium.



Sugar This print from 1749 shows a sugar operation in the West Indies. Under the watchful gaze of an overseer, a group of workers busies itself with the harvest and production.

Library of Congress

Albert of Aachen saw in sugar the characteristics that made it a likely candidate for slave labor: (1)the difficulty of growing it and(2)the great demand it was likely to engender. From the time he wrote about sugar until the emancipations of the nineteenth century, sugar and slavery were inextricably bound together. Sugar was grown with slave or coerced labor in North and South America, the Caribbean, Britain's Natal Colony (part of present-day South Africa), Australia (Queensland), and the South Seas (Fiji).

Sugar production indeed requires hard labor. The plantation fields must first be cleared. The next task, also physically demanding, is to plant the sugar by burying sections of old cane in deep holes. As the plants grow they must be weeded and cultivated. Unwanted shoots must be cut back, and sometimes fertilizer must be applied. When the growing season is over the cane must be cut—an extremely difficult job in tropical climates. After it is cut the cane must be rushed to the mill immediately to prevent the sucrose in the cane from turning to starch.

The cane is ground in a mill by three vertical rollers, powered at one time by animals or wind and later by steam. The juice is pressed out and the crushed cane is removed for fuel. Then the juice is transferred to a large copper receptacle where it is boiled to just the right temperature, a task that requires skill and judgment. The liquid mass is then ladled into a series of copper pans, skimmed of impurities, and finally poured into containers with holes in the bottom. The syrup eventually crystallizes and the molasses drips through.

Consider this production system. First, the fieldwork requires tremendous strength; death rates on sugar plantations exceed those for other crops. Second, harvesting must be done rapidly; thus the demand for labor peaks at certain times. Third, there are economies of scale in milling; it costs as much to build a mill for 100 hogsheads of sugar as for 300, so small-scale mills cannot compete. The optimal plantation size in the Caribbean in the eighteenth century was about a hundred acres. This required the labor of a hundred slaves who worked in unison as gangs holing, planting, cultivating, and cutting cane.

Free labor would avoid this difficult and dangerous work, with its concomitant regimentation and discipline. Workers were reluctant to submit to the rigors of factory work in the early days of the Industrial Revolution; in the sugar-producing colonies the rigidities of the industrialized world had yet to be introduced into economic life. Using slaves to mobilize for peak labor requirements was much easier than depending on hired free labor.

At the same time the cost of monitoring slave labor was low. One overseer with a whip could control a large gang of field hands, especially for the strenuous but uncomplicated work of sugar production. On a small mixed farm where the work involved a variety of tasks requiring skill and judgment, slaves could easily have expressed their resentment, and it would have been very costly to monitor them; in the extreme case, it might have taken one overseer to watch one slave. This is one of the chief reasons that most agriculture is poorly suited to collectivization. The sugar plantation, however, is well suited. It has rightly been called a factory in a field.

Of all agricultural crops, sugar offers the greatest cost advantages in the use of slave labor rather than free labor. Gang labor is also economical in the production of cotton, rice, and indigo. Slave labor is not necessarily cheaper than free labor for the production of tobacco and coffee.

No insignificant crop could have justified the reintroduction of slavery. Albert of Aachen thought that sugar was addictive: “because of its sweetness once [people] tasted it they could scarcely get enough of it.” Since its introduction in Europe, sugar has played a major role in international trade. It was England's dominant import from the middle of the eighteenth century until the middle of the nineteenth. The combination of sugar and its complements, tea and coffee, captured a large proportion of international trade before 1850.

Atlantic System before Columbus

Just as the methods of sugar production explain why sugar was the vehicle for the rise of modern slavery, so does the organization of the sugar industry as a whole explain why sugar and slavery were so important in the development of the Atlantic world. When most of Europe was slowly emerging from feudalism, the slave-based sugar industry was organized along capitalistic lines. It required large investments, capital and credit markets, imported labor, disciplined production, and a marketing system involving shipping and insurance. It was a long-distance trade, requiring facilities for ships and harbors.

Even before Columbus sailed for America the slave-based sugar economy was established on the Atlantic islands. Genoa, Germany, and Portugal sent capital to the islands; Africa and the Iberian peninsula sent labor; England and The Netherlands sent textiles and other supplies; and the sugar was sent to northern Europe to be marketed. The slave-based sugar industry of the Atlantic islands drew together Italy, Germany, Portugal, Spain, the Netherlands, and Africa in an interdependent economic network that could not have emerged without the labor of slaves on sugar plantations.

New World before Sugar and Slavery

For two centuries after Columbus discovered America, the economic impact of the New World on the Old was barely felt, aside from Spain's trade in precious metals. Only Virginia, Barbados, and Brazil were built on a firm economic foundation, and further economic growth would require slaves.

All new colonies require an export crop to pay for what they cannot yet produce and to sustain themselves while they build up their societies. The Spanish found nothing to develop in the Caribbean islands. Long before the end of the sixteenth century the Spanish abandoned the West Indies. The indigenous peoples had been killed off by disease and social dislocation, and the islands themselves, inhabited by a small number of mostly transient Spaniards and some slaves, served as nothing more than a support area for the mining interests of mainland South America. When mining declined, the Spanish Empire fell into a state of stagnation and decay.

The British and French occupied the islands the Spanish abandoned but they too were initially unable to build viable economies. The white population of the British West Indies peaked in the 1640s. It consisted of small farmers trying to make a living from tobacco and other crops with the labor of white indentured servants and a few slaves. The early history of the British West Indies is one of corruption, famine, disease, and failure, with the greatest concentration of poverty-stricken free people in any part of Britain's colonial dominions.

The French fared no better. Their earliest colonists also tried tobacco; when it failed to yield the necessary profits, they tried cotton, indigo, and other, lesser crops. Like the early English colonies in the West Indies, the French colonies remained outposts of impoverished farmers. The future greatness of British North America—the United States and Canada—was nowhere apparent in the early colonial period, and Europe's links with the New World were frail and unimportant.

After the Introduction of Sugar and Slavery

Portugal's transfer of the slave-based sugar plantation economy across the Atlantic to Brazil was one of the most momentous events of modern times. It initiated the forced removal of some 11 million slaves from Africa to the Western Hemisphere and the inclusion of the Western Hemisphere in the world economy. With an assured labor supply and a dependable staple crop, Europe began to send capital to the New World and organize production there. The introduction of the sugar plantation with slave labor solved the problem of economic development in the colonies and turned them into valuable assets.

With sugar production twenty times higher in Brazil than in the Atlantic islands at the close of the seventeenth century, the per capita income of white settlers in Brazil far exceeded the prevailing per capita income in Europe. In the late seventeenth and early eighteenth centuries the sugar industry spread from Brazil to the British and French islands of the Lesser Antilles: Barbados, Saint Kitts and Nevis, Montserrat, Guadeloupe and Martinique. By the middle of the eighteenth century sugar production had reached its peak in Jamaica and Saint-Domingue (now Haiti) in the Greater Antilles, making the latter the most successful colony in the New World. By this time also the Atlantic was crisscrossed by ships laden with human and economic cargoes to support the sugar industry: slaves, the products of slave labor, supplies and capital bound for slave colonies, and European goods purchased with the profits of the slave colonies. Not much else of human origin moved in the Atlantic at this time.

In 1650 the British mainland colonies in North America were 97 percent white and the British West Indies were 80 percent white. By 1750 the mainland was 80 percent white and the islands only 16 percent white. Nineteen out of twenty slaves shipped to the mainland colonies were sent below the Mason-Dixon Line to work in crops suited to slave labor.

By the third quarter of the eighteenth century, the exports of the Upper and Lower South attributable to slave labor amounted to 50 and 75 percent of their total exports, respectively. Forty-two percent of the exports of the Middle Colonies went to slave colonies, and 78 percent of New England's exports went there. The colonies with the greatest wealth per (white) person were those with the closest links to slavery. The West Indies and the American South were the wealthiest colonies, the Middle States and New England the least wealthy. The transformation of these latter colonies from simple agricultural economies into mercantile societies was due in large measure to trade with the West Indies slave colonies. To a great extent the development of the United States in the colonial era depended on the sugar of the West Indies, and on the slavery there and in the American South.

Once the Atlantic system was in place European trade shifted accordingly. Europe realized great economic benefits by combining European investment, technology, and organizational skills with labor stolen from Africa and land stolen from Native Americans. Saving and investment increased, commercial services—banking, shipping, and insurance—developed, and above all, industrialization accelerated. The most dynamic sectors in Europe at the end of the eighteenth century were exporting simple manufactures and other industrial products to the Americas.

In particular the notable increase in the growth of the British economy in the last quarter of the eighteenth century was fueled in large part by American demand for goods. Without this demand, ultimately generated by slave production, England would have been less commercial, less industrial, and poorer, and it would have grown more slowly.

Conclusion

The Renaissance marked the start of the modern era. Until then the civilizations of classical Greece and Rome were considered unsurpassed in the Western world. As long as this view persisted the idea of progress could not take hold. With the Renaissance it became apparent that the ancients had lacked many important inventions. A famous series of prints made at the end of the sixteenth century portrays, among others, these discoveries: printing, gunpowder, the mariner's compass, windmills—and sugar.

See also Mining in Latin America and the Caribbean; Slavery in Latin America and the Caribbean.