

Sugar: Sustainability, Consumer Sentiment, and Regulation

In September 1591, Queen Elizabeth I of England stopped at the home of the Earl of Hertford, Elvetham Hall in Hampshire, to spend a few nights. The Queen was on her annual progress – an extended trip she took around the country every summer. She would leave her royal residence and stay at the large houses of her courtiers over the course of several months. From these rural locations she would take the time to meet some of the ordinary people living in her kingdom. Having the Queen to stay was a great honour for a courtier, but it was a tremendously expensive occasion. Each residence had to be fit, quite literally, for a queen. Even though she and her companions would only stay for a few nights, it would take weeks to prepare the entertainments, accommodation, and, of course, the food that would be on offer.

In September 1591, the Earl of Hertford spared no expense. The second night's entertainment at Elvetham was reported to be quite the culinary spectacle: 100 torchbearers illuminated a banquet served in the garden, with over 1,000 dishes on the table. The most impressive and curious of them all were statues made from sugar: "Lions, Unicorns, Beares, Horses, Camels, Bulls, Rams, Dogges, Tygers, Elephants, Antelops, Dromedaries, Apes, and all other beasts", all of them rendered in sugar. Of the thousand dishes at the table, it was the ones made from sugar that were most noteworthy. The Queen famously enjoyed sweet and sugary food. A German visitor to her court described her blackened teeth and blamed the defect on "too great use of sugar".¹



Exactly 200 years later, in 1791, a different Queen of England took quite a different attitude to sweets. Queen Charlotte, a German princess who had married the British King George III in 1761, decided to abstain from sugar. She is pictured here in a cartoon by James Gillray, sitting with her husband and daughters at a sparsely populated tea table, pronouncing the following:

“O my dear Creatures, do but Taste it! You can't think how nice it is without Sugar: - and then consider how much Work you'll save the poor Blackeemoors by leaving off the use of it! - and above all, remember how much expence it will save your poor Papa! - O its charming cooling Drink!”

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Financial support for this case study was provided by Walter Scott & Partners Limited – a global investment firm based in Edinburgh, Scotland, and founded in 1983.

The queen was taking part in a sugar boycott which had spread across the entire country. Initiated by anti-slavery campaigners, up to 400,000 people refused to purchase or eat sugar produced by enslaved people in the West Indies. Sugar consumption was so widespread that organisers of the boycott hoped that the protest would inspire change within the industry and action in government. They hoped to outlaw the slave trade and slavery.

Over two centuries, the consumption of sugar transformed. Where once it was a rare luxury, found only on the tables of queens and other elites, it soon became an item of mass consumption, reaching the homes and mouths of the population at large. As production of sugar increased to meet a seemingly insatiable demand back home, the sugar industry generated huge amounts of wealth. However, these profits came at the cost of exploiting thousands of Africans – and were unsustainable.

By the turn of the 19th century, sugar was no longer so highly desired; the conditions of its production diminished its consumer appeal – though only to a certain extent, and for a certain duration. Global sugar consumption is ever on the rise, although its health implications remain controversial. Now we see sugar as the perpetrator of two public health crises: obesity and diabetes. Furthermore, it is a hugely water-intensive crop, and today we scrutinize the viability of its future production.

Sugar's beginnings

Archaeological evidence suggests that sugarcane originated in South Asia as early as 8000 BC, in either Papua New Guinea or Indonesia; references to it pepper Ancient Persian and Chinese texts.² References to the production of sugar from cane juice, however, do not come until much later. The first sugarcane industries grew up in the Persian Gulf, and then spread to India. Buddhist cuisine in India had adopted sugar by 260 BC.³ But it is not until about AD 500 that there is written evidence of sugar: the *Buddhagosa* or *Discourse on Moral Consciousness*, a Hindu religious document, describes the boiling and cooling of sugarcane juice to make a toffee-like substance.⁴

By the 7th century, sugar production and consumption become far more easily traceable. As Islam moved westwards, sugar travelled with it, along the familiar route also taken by rice, cotton, aubergine, watermelons, bananas, oranges, and lemons.⁵ These goods worked their way through Iran and Iraq, into the Jordan valley and on to the Mediterranean coast of Syria, from there spreading to Egypt and to locations in the European Mediterranean.

As Islam moved into Europe, the Christian church began a series of religious wars in the Middle East to defend religious sites. These Crusades sent European soldiers eastwards, where they came into contact with Islamic culture and food – including sugar and forms of sugar production. It is thought that sugarcane saved Crusaders from starvation during the First Crusade to what is now Palestine in 1095. Having developed a taste for sweetness, some Crusaders brought it back to England with them.⁶

When Europeans took over Islamic areas, they also took over sugar production in these locations. Venetians, for example, took control of sugar enterprises near Tyre and on the islands of Crete, Sicily, and Cyprus. As was the case for so many goods, Venice became a key conduit through which sugar was funnelled from east to west. It was the Portuguese, in alliance with Spain, however, who pushed the sugar industry even further west, out into the Atlantic. As they began their maritime imperial mission in the 15th century, the Portuguese conquered the islands of Madeira, the Azores, São Tomé and Príncipe, and the Canary Islands. The Portuguese invaded these islands, especially São Tomé, with the express purpose of growing sugarcane. It was in these Atlantic islands that innovations in sugar farming really took place. Indeed, by the end of the 16th century these new islands had become so productive that they rendered all other European sources obsolete.⁷

The islands were innovative across the whole industry: in cultivation, processing, and shipping. The developments included new systems of irrigation and plantation design, but most significantly, the Portuguese began to use enslaved labour. Farming sugarcane is labour-intensive, and plantation owners enslaved their labourers in order to perpetuate production. Sugar production also began to depend on a more integrated and international economy, since the expansion required more capital than the Portuguese could provide alone. German, Italian, and Dutch merchants financed the plantations, while slave traders

shipped enslaved workers from Africa. Once slaves had farmed the sugar, overseers sent it to refining centres in Antwerp and other major European ports. With their use of the labour of enslaved people, and relatively complex financing, these Atlantic plantations were (as James Walvin puts it) the “embryo” for the Caribbean industry which would develop in the following decades.⁸

From these Atlantic outposts, the move to Southern and Central America followed a grim logic. Christopher Columbus took sugar-cane plants with him on his second Atlantic voyage in 1493.⁹ From about 1516, colonisers shipped sugar back to Europe from Spanish Santo Domingo. But it was Dutch and Portuguese traders who quickly dominated the industry, setting up in Brazil. Portugal was already well-established as Europe’s chief supplier, and increased its supremacy when it conquered Brazil – especially the city of Pernambuco. Sugarcane grew well in Brazil: although the quality remained inferior to that grown in the Atlantic islands, it was far cheaper and became increasingly popular with the domestic market. By 1526, Portuguese colonisers shipped commercial quantities of sugar from Brazil, via Lisbon, to the rest of Europe.¹⁰

By the end of the 16th century, sugar was a well-established industry in the Americas. During the 17th century production accelerated: West Indian sugar production became a booming industry and a central source for European and North American markets. Furthermore, the English involved themselves in the trade. Previously, they had sourced sugar from Lisbon or Antwerp, and had occasionally stolen it from continental European ships.¹¹ The sugar at Queen Elizabeth’s table would have come from one of these sources.

The English had been engaging in maritime expansion for some time, having made attempts, some more successful than others, to build an overseas empire since the 1580s. In the 1620s they set their sights on the West Indies, occupying the island of St Christopher in 1624, Barbados in 1627, and Jamaica in 1655. Almost immediately, these colonisers began to grow sugar. However, they did not initially have great success. Sugarcane is difficult to grow and harvest. It requires technical skill and a lot of brute strength. When the Dutch arrived in the mid-century, they supplied the English with the capital, know-how, and technology which were instrumental to the islands’ development; they enabled a sugarcane revolution, of which an essential ingredient was the Dutch supply of African slaves.¹²

Over the course of the following fifty years, the English absorbed this knowledge from the Dutch and then transformed the West Indian islands into almost unrivalled sugar-producing regions. During this period, they increasingly squeezed the Dutch and Portuguese out of the European market.¹³ Richard Dunn has characterised the development of the sugar industry on each Caribbean island. He explained that the growth allowed Barbados and Jamaica and the Leeward Islands to supply “close to half the sugar consumed in Western Europe” by 1700.¹⁴ It would have been almost impossible for the planters to grow sugar at this volume without relying on enslaved labour.

Therefore, in order to achieve increasing levels of production, sugar planters trafficked more and more African people to plant the cane. In the 1570s, 2000 Africans were transported every year to the Americas, rising to 7000 in the early 1600s; the figure was 18,000 annually by the 1660s. Over the following century, as sugar’s popularity grew at pace, this figure increased astronomically. By the 1790s, 80,000 Africans arrived in the Americas each year, with the great majority landing in the Caribbean. More than one million landed in Jamaica, and almost half a million on the small island of Barbados. Even the tiny island of Dominica received 127,900 Africans.¹⁵

Consumer demand

High consumer demand spurred the increase in supply, and by extension, the decrease in price. By the mid-18th century, sugar graced almost every table and made its way into every servant’s cup of tea. By 1780, per capita consumption stood at an average of 10 kg a year – a huge rise from the 2 kg average of a century earlier.¹⁶ Sugar was ubiquitous and pervasive: available in many varieties, at different price points, with diverse packaging, and targeted at different customers. No longer a rare luxury, consumed only by royalty, sugar became a staple commodity.

With sugar came coffee. Catering to the new taste for the drink in the 17th century, coffee shops appeared across the country. While it is debatable as to whether the coffee itself was sweetened, coffee shops were places where sweet treats abounded. Phil Withington has argued that, as a result of the erratic and restricted trade in coffee beans, coffee shops actually served less of the hot beverage than their name

suggests. In fact, he argues that they survived because they diversified their offerings.¹⁷ Entering into a coffee shop, customers found a variety of foods and beverages on sale, including many sugared goods. In London, a sweetened refreshing lemonade known as sherbet was often found on sale alongside coffee.¹⁸ Moreover, coffee shops were also purveyors of medicinal goods. A pamphlet on “Doctors’ Pills” published in 1680 listed the locations where lozenges and pills made out of sugar were sold, naming six specific coffee houses as well as grandly stating that the pills can be found “at most other Eminent Coffee-houses and Noted Cities and Towns in the Kings Dominions and Plantations”.¹⁹



Coffee shops were not the only place where one could procure sugared goods. Cake shops, confectioners, and pastry vendors proliferated. The confectionery trade blossomed in the 17th century. At least forty such shops existed in London by the end of the 17th century, though sugared goods extended far beyond these specialist shops. Confectioners cooked, baked, and boiled sugar into other foods for sale.²⁰ The diarist Samuel Pepys makes frequent reference to buying cakes in London and further afield: such as at Wilkinson’s, in Westminster, where he bought scotch cakes, and in 1667 at the Red Lyon in Barnet where he ate some of “the best cheese-cakes I have eaten in my life”.²¹ Pepys also famously collected images of London street-sellers, and was possibly the first person to amass a collection of these ephemeral printed broadsides. Among them, for example, is an image of a woman carrying “hot pudding-pies” on her head which she promises will

“sweeten” the purchasers’ “dainty mouths”.²²

While Pepys was a wealthy Londoner, the image shows us that cheaper fast food would have been available for purchase on the street; and, just like fast food today, it would have been sugared. Street-sellers would also sell food at the doors of houses, even in rural locations. The accounts of the Hastings family in Leicestershire in the early 1660s record expenses for “tarts bought at the door”, and payments to those “who brought a cake”.²³ A couple of early 18th-century bills from the same family, recording expenses incurred when they were travelling across England, note purchases of sugar across the country. “A bill for travelling to Yorkshire and back again” records meals purchased on the road, including “an apple pie” as well as “Lemon shugar and butter” for 8d and “Tea sugar cream toast and butter” for 1s 1d.

Sugar consumption was also tightly bound to the increase in tea drinking in Great Britain. Hot beverages were the most common vehicles for sugar, and the rising popularity of hot drinks played an enormous part in increasing demand for sugar. A memo to the country’s Board of Trade from 1724 explained that “the Consumption of sugar in England, by the use of Tea and Coffy is very much encreased of late, especially by the cheapness of tea which will alwise [*sic*] enlarge the consumption”.²⁴

As with sugar, demand for tea increased as its price fell – as it did dramatically through the 17th century. The first tea to reach the London market in 1652 cost £3 10s per lb; by the 1660s it had fallen to £2 per lb. This was not cheap enough to be enjoyed by everyone until later in the 18th century, when it fell to about a quarter of the price (4s 10d per lb).²⁵ By this point, both tea and sugar were cheap enough to be enjoyed by all but the poorest in the country.

Generating wealth

The vast scale and complex nature of the sugar trade meant that it generated profits in many different sections of the economy. Owning a share in a sugar plantation was not the only way to make money; the economic spillovers were extensive. There was money to be made at every stage of the supply chain, from plantation to plate.

It created a huge influx of capital into the country, and the new class of merchants and plantation owners spent their new cash on property and a lavish lifestyle. Sugar funded many of the vast country houses built in Britain during the 18th century, furnished with expensive pieces of art and extravagant decoration. A survey by the National Trust in 2020 found that at least 93 of houses in the organisation’s care had links to slavery and sugar.²⁶

The financial sector also prospered. Banks financed plantations, because they demanded such a substantial amount of upfront capital. The lengthy and risky nature of long-distance trade stoked the insurance sector. The insurance market, Lloyds of London, which began life as Edward Lloyds Coffee House in 1688, underwrote many shipments – both of African people and of sugar.

Slavery and the sugar industry birthed new financial devices. The British slave trade flourished in part because British bankers and their colonial partners were willing to guarantee slave shipments using “bills in the bottom” – bills of exchange that could later be swapped for cash. The centralised credit markets meant that slavers were not concerned about getting paid: a slight advantage in stable market periods, when financial systems ran pretty smoothly, but enormously useful in times of greater volatility. These bills were the precursor to the personal cheque.²⁷ Without such financial backing, the sugar trade would have been far less feasible.

Sugar and slavery also encouraged the British manufacturing sector. Textiles from Yorkshire and Lancashire, salt from Cheshire, pottery from Staffordshire, metal goods (chains, fetters, manacles, and guns) from the Midlands – were transported along the canals to Liverpool to be loaded onto the slave ships bound for the triangular trade between Africa and the Americas. Ireland provided huge quantities of food to feed crews and slaves, and to be shipped to the American plantations. The meagre space on slave ships was whittled down further by materials and produce from all corners of the British Isles.

Once sugar arrived in Britain, it needed to be processed further. Sugar shipped from the Caribbean was an extremely dark and moist commodity – known as muscovado sugar. In order to make it into the (more desirable and expensive) refined white sugar, it needed to be boiled and cooled multiple times. With each boil, the sugar whitened as impurities cooked off. This burgeoning industry was significant to the country’s domestic economy. Sugar refining blossomed across the British Isles, and by 1700 became a home-grown industry. London remained the central location, with more refineries than any other city. The poll tax records for 1692 list 19 refineries in the City, most situated near the Customs Quay.²⁸ Other records show that areas on the outskirts were also home to at least six businesses, including ones in Battersea and Vauxhall.²⁹

However, London’s early leadership was not so comprehensive as to overshadow the growth of the industry elsewhere. There were other factors which encouraged growth and expansion across the country, often at the times when London was struggling. When the plague hit the capital in the 1660s, the intra-city trade slowed down, as did international trade in and out of the capital. Ships bound for London were instead forced to dock in Liverpool. The Liverpool Port Books for 1665 make note of a London-bound ship from Barbados which had to divert its course to Liverpool and offload its cargo there. Historian Mona Duggan suggests that such activity “might have alerted Liverpool merchants to the opportunities of trading with the West Indies”.³⁰ As might be expected, sugar houses remained close to coasts and major waterways, but still covered the length and breadth of the island. Sugar refineries were built as far south as Plymouth and as far north as Glasgow, as west as Liverpool and east as Ipswich. As John J. McCusker puts it, the sugar industry had a “defined place” among the outports by 1669.³¹

As tradesmen go, sugar boilers were mobile creatures. Rather than stick in one place, they covered the country to establish their burgeoning trade. While they may have begun their lives in London, they criss-crossed the country in search of new opportunity. The Great Fire of London also forced many industries to relocate out of the city. Such was the fate of the renowned refiner Mr Smith of Battersea: the fire of London destroyed his business, and consequently in 1667 he made the journey north to Liverpool, where the trade links with the West Indies had been well-proven only a few years earlier. Nearby mines reliably supplied coal to stoke the boilers, and there was a ready supply of cheaper labour.³² Family networks and social ties may also have been key to sugar’s spread: these refiners and their families wove a sticky web across the country, disseminating their knowledge and skill.

Sugar’s effect on the economy was much greater than merely creating employment. In fact, boiling sugar, though certainly demanding in terms of skill, did not require vast amounts of labour. But it was energy-intensive, requiring large amounts of coal; and to keep the process continuous, boilers needed to stockpile. The Ipswich refinery bought large amounts regularly in the early 17th century, often purchasing at least 10 chaldrons or almost 13 tonnes in one purchase. In 1703, London’s coal stocks were surveyed, and a sugar refiner in Southwark was found to have one of the most substantial supplies in the entire city, a prodigious 300 chaldrons or 400 tonnes.³³

Sugar and sugar refining also demanded copper pans. Copper was an appealing choice for sugar refiners, as it was the cheapest form of metal which had a high melting point and high conductivity. There was always the chance that the sugar, when boiled, would burn and ruin. Copper’s properties helped to mitigate

that risk. Sugar refining in the Caribbean (which involved turning the cane juice into the semi-processed muscovado) helped the British copper export industry. But by the end of the 18th century the growth in sugar imports drove an increased use of copper by the domestic industry as well, especially in London where copper equipment was used not only by sugar refiners, but also by dyers and rum distillers.³⁴ Once the sugar was refined, it needed to be stored in barrels and hogsheads and then transported to its final point of sale – where confectioners transfigured it even further, into delicious cakes and pastries. Packaging and shipping sugar drew other economic agents into the mix. Coopers made barrels to store the increasing volume of unrefined sugar coming into England.

The movement of sugar around the country encouraged new transport links. One Bristol sugar refiner, Robert Aldsworth, financed the construction of quays in the city.³⁵ For sugar to move inland, pulled by the sweet tooth of consumers, new routes developed. For example, merchants in Lancashire, although relatively near Liverpool, found it difficult to transport goods from the port across the moorland. In response, Lancaster sugar merchant John Lawson constructed a wharf in the town so that West Indian ships could reach further inland. Another possible solution to the problem was to clear and deepen the Mersey, which would allow small boats to access Warrington and Manchester. When the idea was first proposed in the 1660s, and a bill introduced in Parliament, it was defeated by landed interests.³⁶ However, the campaign did not end there. In the 1690s, Thomas Patten of Warrington, a tobacco and sugar merchant, financed the removal of old fish weirs from the Mersey as far east as Warrington, clearing the path for his goods from Liverpool.³⁷ Warrington flourished from the improved access to Liverpool. With this development, Patten decided that it would be cheaper to build a refinery in Warrington to refine sugar in a place closer to his customers. His sugar house complex was completed in 1717 and was seemingly successful. Daniel Defoe commented when he visited in the following decade that the sugar houses, copper works, and glass houses in the town “furnish the Industrious with the Means of living comfortably”.³⁸

The sugar trade was also an important source of income for the grocery sector, which flourished nationwide with the influx of new colonial goods.³⁹ Sugar encouraged the trade of confectioners and pastry makers, whose sweet goods sold across the country. By the end of the 17th century, there were at least 40 confectioners in London.⁴⁰ Confectioners stuck to port cities. The 1686 inventory of John Shaw, confectioner of Chesterfield in Derbyshire, 80 miles from Liverpool, records 11 different types of sugar valued at £24 18s 7d – just under 20% of his total assets.⁴¹

State support of sugar

The British Crown supported the sugar and slave trade with legislation that protected the interest of British commercial ventures against foreign competitors. Known as the Navigation Acts, these laws developed, promoted, and regulated English ships, shipping, trade, and commerce between other countries and with its own colonies. They stated that all commodity trade should take place in British ships, manned by British seamen, trading between British ports and those within the Empire. Only sugar from British plantations could be imported into Britain – thus creating an incredibly strong home market for British sugar without risk of foreign competition. As we saw earlier, demand for sugar was ever-growing, and all of these consumers were buying sugar produced on British-occupied islands.

The Crown was also involved in the slave trade, setting up the Royal African Company in 1660, in collaboration with City of London merchants. The company traded along the west coast of Africa, exchanging rum, iron goods, and textiles for enslaved people – whom they then shipped across the Atlantic to work on sugar plantations. It shipped more Africans to the Americas than any other company in the history of the Atlantic slave trade.

The Crown also created taxation policies which subsidised imports of semi-processed sugar from British-occupied islands, which encouraged the domestic refining industry. Refining was so successful that British merchants began to export their surplus to countries in Europe, as well as re-exporting large amounts of brown sugar around the world. This helped to solidify the nation’s balance of trade. For decades, the sugar trade was one of the most important in the country. These mercantilist policies did not last long, however. The sugar industry became secure enough that the government steadily removed these regulations during the 18th century and turned towards free trade.

Consumer sentiment forces a reckoning

Over the course of the 18th century, as the government unravelled its protectionist policies, information about the exploitation of enslaved Africans who farmed the cane began to filter through to the general

population at home. Sugar started to leave a bitter taste in consumers' mouths. In the following years, a growing moral outrage forced the industry to reckon with the conditions of its workers.

By the end of the century, Quakers led a powerful and vocal abolitionist movement in the UK that questioned the morality of slavery. In 1783, 300 members of the London Society of Friends signed a petition against the slave trade and presented it to Parliament. By 1787, the Quakers had decided to form a non-denominational group of 12 members: 9 Quakers and 3 Anglicans. Quakers were not permitted to serve as MPs, and therefore opening up the society to Anglican members increased the likelihood of influencing Parliament. The new society was named the Society for Effecting the Abolition of the Slave Trade, later referred to simply as the Abolition Society or the Anti-Slavery Society.

Another vocal abolitionist society, working closely with the Anti-Slavery Society, were the Sons of Africa. Its members were educated Africans in London – some of them formerly enslaved, such as the acclaimed writer Olaudah Equiano. They petitioned Parliament, wrote to newspapers, and gave lectures. In 1789, Equiano published his autobiography, *The Interesting Narrative of the Life of Olaudah Equiano*. He detailed how he was born in Benin, enslaved as a child, then shipped to the Caribbean and sold as a slave to an officer in the British Navy. The text revealed the horrors of chattel slavery and was enormously influential on anti-slavery sentiment, going through nine editions before the end of the century.

In the same year that Equiano published his autobiography, a member of the Abolitionist Society, William Wilberforce, introduced the Abolition Bill to Parliament. It was blocked, however, by those who had a vested interest in the continuation of the slave trade and sugar production. Frustrated by this inaction, in 1791 another abolitionist, William Fox, published *An address to the people of Great Britain, on the utility of refraining from the use of West India sugar and rum*. The pamphlet became the century's most popular, with over a quarter of a million copies printed on both sides of the Atlantic.

Fox forcefully implicated the consumer in the perpetuation of slavery: "If we purchase the commodity we participate in the crime. The slave dealer, the slave holder, and the slave driver, are virtually agents of the consumer, and may be considered as employed and hired by him to procure the commodity ... In every pound of sugar used we may be considered as consuming two ounces of human flesh."

The text, alongside others like Equiano's autobiography, precipitated a huge consumer boycott of slave-produced sugar. At its height, more than 400,000 people took part in the boycott across the country, and grocers reported that demand had dropped by a third.⁴² It was also a powerful way for women, who did not have the vote but were influential consumers, to express an opinion. This was important context for the depiction of Queen Charlotte, wife of King George III, as an "anti-saccharite", abstaining from taking sugar in her tea. Charlotte was one of many women who were able to use their consumption habits as a lobbying force.

However, the cartoon also poked fun at the Royal Family's notorious frugality. It suggests that the King reduced his consumption because he wanted to save money, rather than out of support for the exploited workers. In fact, George was a well-known supporter of the slave trade and opposed the abolitionist movement. His sponsorship of the trade hindered attempts at reform. Indeed, many people who were financially invested in the sugar and slave trade had influential positions in government. Their livelihoods depended on the success of sugar and slavery and they were able to block legislation in order to protect their financial interests. As shown earlier, sugar was an enormously profitable industry that had received large amounts of regulatory support. It was a monumental mission to move away from the forced labour on which the trade was built. It took 15 years after the first boycott for the law requiring the abolition of the slave trade to pass.

But as the new century dawned, the economic structure of the UK evolved. Sugar was no longer a growth industry, and the manufacturing sector – textiles and the production of iron and machine tools – was where progress and profits were centred. The economy no longer relied on the triangular trade, which meant that the voices of the pro-slavery groups held less weight in Parliament. By 1807, abolitionists held 35-40 seats in Parliament, supported by an influx of Irish MPs who joined Parliament after the Acts of Union in 1800, many of whom supported abolition. After several iterations, abolitionists introduced the Slave Trade Act to Parliament in January 1807, officially entitled *An Act for the Abolition of the Slave Trade*. It was submitted to the House of Commons on 10 February 1807; on 23 February 1807, after a debate lasting ten hours, the House agreed to the second reading of the bill which abolished the Atlantic slave trade by 283 votes to 16. The Act came into effect on 1 May 1807, a landmark year for abolition.

However, sugar and slavery continued to be tightly intertwined. It took a further 26 years for Parliament passed a bill requiring the abolition of slavery altogether. Plantation owners continued to grow sugar using slave labour. While they were unable to enslave more Africans to work the cane, they were entitled to continue to enslave those who were already on their property, as well as the offspring of the enslaved. Any children born to enslaved women automatically became the property of the plantation owner. This meant that plantation owners became obsessed with the reproductive capacity of enslaved women. Women who could bear multiple children were vital to prolonging the plantation's labour source. This only added to the brutality inflicted upon enslaved workers. Working and living conditions were already terrible and inhumane, but women were now frequently raped, as well as undergoing terrible gynaecological treatment, all with the expectation that they would produce more children. Until 1823, abolitionists seemed to lose interest in tackling the continuation of slavery. But the slave trade was actually only a small part of the sugar industry, and by 1807 not a very profitable one. Sugar plantations, however, were still generating huge profits and were a much harder battle to fight.

In the 1820s, however, another consumer boycott precipitated further change. Some members of the Anti-Slavery Society again encouraged consumers to abstain from sugar grown in the West Indies. In response to this, East India merchants used the opportunity to market their sugar as an ethical alternative. Sugar in the East Indies was farmed by indentured servants rather than enslaved people. Indentured servants were not actually treated much better, but this was not much discussed by abolitionists. The society endorsed East Indian sugar and set up a depot for its distribution in 1824. Sugar bowls bearing the anti-slavery logo of the kneeling slave and the motto "East India Sugar, not made by slaves" were produced by the famous ceramicist Josiah Wedgwood.

Across the ocean, enslaved people in British colonies heard about this movement, and were buoyed by other uprisings taking place across the region. An enslaved Baptist deacon in Jamaica named Samuel Sharpe preached about revolution to groups of elite slaves. In December 1831, these Jamaicans began their rebellion. The uprising lasted less than two weeks, but led to the death of at least 500 slaves – both during the fighting and in subsequent reprisals. The British authorities hanged Sharpe a few months later. Although the uprising was not in itself a success, it accelerated the pace of change in legislation in the UK. The combination of the boycott and rebellion led many to support the abolition of slavery altogether. In 1833, the British government passed the Slavery Abolition Act, which finally forced sugar planters to free their remaining labourers and pay them proper wages. Government regulation, which had encouraged the sugar trade, was now trying – belatedly – to force it to be more responsible.

Sugar and tax today

People in the West have been consuming sugar in vast quantities for over 300 years now. And just as sugar proved controversial in the past, in recent years global public opinion has again turned against sugar – provoking renewed attempts to regulate it. It is now known that the sugar industry long downplayed the damaging health effects of eating too much sugar. Indeed, back in the 1960s, sugar industry professionals shifted the blame for cardiovascular problems, obesity, and diabetes onto fats. They ignored or suppressed any scientific investigations into the negative effects of sugar on the body.⁴³

As the sugar industry has loosened its grip on the scientific community, however, there has been a substantial increase in scientific investigation into just how sugar affects us both psychologically and physiologically. The studies demonstrate how the human body and brain respond to sugar, and how we are biologically hard-wired to consume more of it at certain times.

Human beings have evolved to enjoy sugar.⁴⁴ Our primitive ancestors were scavengers, who needed food to be high in calories to give them energy, and also easy to digest. Early human brains therefore adapted to respond positively to sweet foods. Since our human brain is functionally the same as that of our primitive ancestors, when we consume sugar, the taste receptors in our bodies send the same signals to our brain. These receptors are not just in our mouths but throughout the human body: researchers have found them in the intestinal tract, the central nervous system, the skin, and even the lungs. Our entire bodies are primed to register sugar.⁴⁵ Consuming sugar activates the "mesolimbic dopamine system", which is the brain's reward system. The taste receptors initiate the secretion of dopamine on encountering sugar. When dopamine is released, we register that an event was a positive experience. Sugar, therefore, activates our brain's "hedonic hotspots". Put simply: we feel good when we eat sugar.

We also want to repeat the experience of consumption. The release of dopamine in the brain reinforces behaviours and encourages recurrence. As one scientist has put it, “dopamine ‘hits’ from eating sugar promote rapid learning to preferentially find more of these foods”.⁴⁶ The brain, moreover, is plastic and re-wires itself in response to this activity. The more sugar we consume, the higher the tolerance we develop for it.

There are close connections between the historic sugar trade and that of the modern era. Both are directly exploitative of people of colour. Communities of colour suffer disproportionately from obesity and diabetes. One of the main causes of these illnesses is over-consumption of sugar-sweetened beverages. Recent studies have shown how soft-drink companies have repeatedly focused their advertising towards young people of colour. Between 2013 and 2020, spend on sugary drink advertising in the US jumped 26% to a total of \$1.04 billion, and such advertising specifically targeted Hispanic and Black communities. Black children and teens see more than twice as many sugary drink ads (256 and 331 ads per year) as their White counterparts.⁴⁷ Big sugar and big soda market their offerings specifically to these communities with no warnings of the health dangers of high consumption. In Caribbean societies, diabetes is also a legacy of the historic sugar trade. In locations where planters produced sugar at the expense of other forms of agriculture, sugar plays an enormous role in the everyday diets. Current levels of diabetes constitute a major public health threat in the region.⁴⁸

We now know that we are biologically predisposed to consume sugar. We also recognise that over-consumption of sugar is linked to a range of health problems – most significantly obesity and diabetes. Today, as in the 19th century, there has been a radical overhaul of public perception of the foodstuff and calls for governments to regulate companies which exploit this preference for profit, and to level the playing field for companies who want to discourage sugar dependence in their consumers. More recently, others have added their voices to these calls. The environmental sustainability of the sugar industry is now under scrutiny. Annual sugar-cane production emits the same amount of carbon as just under 50% of annual worldwide aviation emissions.⁴⁹ Sugarcane continues to be farmed in tropical areas, and today these farms are the biggest driver of deforestation in Brazil; as they are so water-intensive, they are particularly damaging to rainforest areas.⁵⁰ Our current levels of production and consumption of sugar are too high to be healthy, both for our planet and our bodies.

Taxation is one answer to over-consumption and over-production; another is to redesign sugar itself and to create a sweetener that is as appealing to consumers but without the concomitant health dangers. This is a certainly a long-term solution, as a true substitute has yet to be developed. The qualities of sugar are enormously hard to replicate, and humans are so sensitive to its precise characteristics that we can recognise “fake sugar” very easily. As always, consumer desire and the development of the sugar trade are inextricably intertwined.

Endnotes

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- ² Noel Deerr, *The History of Sugar*, 2 vols. (London: Chapman & Hall, 1949), p. 35.
- ³ James Walvin, *Sugar: The World Corrupted* (London: Pegasus Books, 2018), p. 6.
- ⁴ Sidney Mintz, *Sweetness and Power* (London: Penguin Books, 1986), p. 23.
- ⁵ Walvin, *Sugar: The World Corrupted*, p. 8.
- ⁶ *Ibid.*, p. 9.
- ⁷ Christopher Ebert, *Between Empires: Brazilian Sugar in the Early Atlantic Economy, 1550-1630* (Leiden: Brill, 2008), p. 2.
- ⁸ Walvin, *Sugar: The World Corrupted*, p. 9.
- ⁹ *Ibid.*, p. 34.
- ¹⁰ Mintz, *Sweetness and Power*, p. 33.
- ¹¹ At the turn of the 16th century, there was a small surge in sugar refining in London as Elizabethan pirates looted Iberian ships. See Daniel Strum, *The Sugar Trade* (Stanford, CA: Stanford University Press, 2012), p. 215.
- ¹² Piet Emmer, *The Dutch in the Atlantic Economy: Trader, Slaver and Emancipator* (Farnham: Ashgate-Variorum, 2010), pp. 20-27.
- ¹³ Jonathan Israel, *Dutch Primacy in World Trade 1585-1740* (New York: Oxford University Press, 1989), pp. 292-359. I develop my discussion of this point more extensively in the following section.
- ¹⁴ Richard Dunn, *Sugar and Slaves* (Chapel Hill, NC: University of North Carolina Press, 1972), p. 48.
- ¹⁵ David Eltis and David Richardson, *Atlas of the Transatlantic Slave Trade* (New Haven, CT: Yale University Press, 2011), p. 201; and Walvin, *Sugar: The World Corrupted*, p. 43.
- ¹⁶ Carole Shammas, "Changes in English and Anglo-American consumption from 1550 to 1800", in John Brewer and Roy Porter, *Consumption and the World of Goods* (New York: Routledge, 1993), p. 181.
- ¹⁷ Phil Withington, "Public and Private Pleasures", *History Today* [<https://www.historytoday.com/history-matters/public-and-private-pleasures>, accessed May 2020].
- ¹⁸ Like coffee, sherbet came to England from the Middle East, where the two beverages were also frequently sold together.
- ¹⁹ Nathaniel Lomax, *Delaun Reviv'd, Vix. A Plain and Short Discourse of that Famous Doctor's Pills, their use and Virtues VVith Choice Receipts for the Cure of the Scurvy, Dropsy, Jaundies, Venereal and Other Diseases. before I Speak to this Famous Medicine, I Will Declare Who Delaun was; then, the Price of His Pill and how to Take it, and of its several Virtues in Order, in such Plain Words, as to the Weakest Capacity may Understand: And I Intreat those Who Hope for Help Hereby, would Thoroughly Read this Short Book, and Observe My Directions for their Own Good and the Authors's Credit* (London: s.n., 1680), p. 12.
- ²⁰ Nuala Zahedieh, *The Capital and the Colonies* (Cambridge: Cambridge University Press, 2010), p. 221.
- ²¹ Robert Latham and William Matthews (eds.), *The Diary of Samuel Pepys, Vol. 8: 1667* (London: Harper Collins, 1971), pp. 557, 381.
- ²² Sean Shesgreen, "The Cries of London in the Seventeenth Century", *Papers of the Bibliographical Society of America*, 86 (1992), p. 286.
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- ²⁵ *Ibid.*, p. 29.
- ²⁶ <https://nt.global.ssl.fastly.net/documents/colonialism-and-historic-slavery-report.pdf>
- ²⁷ Nicholas Radburn, "Keeping 'the Wheel in Motion': Trans-Atlantic Credit Terms, Slave Prices, and the Geography of Slavery in the British Americas, 1755-1807", *Journal of Economic History*, 75, no. 3 (2015): 660-89.
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- ²⁹ Mawer, *Sugar Refining Database* (<http://www.mawer.clara.net/loc-westldn.html>).
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- ³¹ McCusker, *Rum and the American Revolution*, p. 42.
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