NATURAL HISTORY MUSEUM

Slavery and the natural world

Chapter 3: Commercial plants

Chapter 3: Commercial plants

Context

This material is part of a wider project on slavery and the natural world, carried out at the Natural History Museum, 2006–08. The information is based on documents held in the Museum's libraries, and explores the links between nature (especially the knowledge, and transfer, of plants), people with an interest in natural history (mainly European writers from the sixteenth to eighteenth centuries) and the history and legacies of the transatlantic slave trade[1].

More can be found in the original documents, written by natural historians at the time of slavery. Contact the Natural History Museum Library www.nhm.ac.uk/research-curation/library/ +44 (0) 20 7942 5000. The additional references section has other useful sources such as relevant articles, books, journals and websites.

Contents

1.	Introduction	2
2.	Tobacco (*Nicotiana tabacum*)	3
3.	Sugar (*Saccharum officinarum*)	5
4.	Coffee (*Coffea arabica*)	8
5.	Cacao (*Theobroma cacao*)	10
6.	Mahogany (*Swietenia mahagoni*)	14
6.1	Ironwood (*Guaiacum sanctum*)	15
7.	Cotton (*Gossypium barbadense*)	16
8.	Dyes	18
9.	Alternative interpretations	21
10.	Additional references	22

1 For more background information see Chapter 1: The project.

1. Introduction

European empires in general, and the transatlantic slave trade in particular, resulted in a huge movement of people. As a result, both plants and knowledge were also moved and exchanged between Europe, Africa and the American continents. Many of the plants were grown commercially, to maximise profits.

> 'Three continents came to be inextricably linked in the years after the European settlement of the Americas; the money, commercial expertise and migrating instincts of maritime Europe, the land and economic potential of the Americas – and the peoples of Africa.' (Walvin, 2001, pvii)

Spanish and Portuguese colonisation of North Atlantic islands off the coast of Africa, such as Cape Verde and Madeira, and Central and South America showed the potential to grow tropical products commercially. These goods, especially sugar, were highly valuable because of their rarity in Europe.

The English were slower than the Spanish and Portuguese to establish colonies on the continents of North and South America and surrounding islands. They eventually realised the opportunities to establish commercial crops, especially sugar and tobacco, in the Caribbean and North America.

At first, indentured European servants and enslaved indigenous peoples of the Americas were used to grow plantation crops. But more labour was needed, so Africans were enslaved to work on the plantations.

Tobacco was the first crop the English produced on a large scale for profit, and it helped to make the British colonisation of mainland America successful. Cotton was grown on some Caribbean islands, but only on a small scale. Dyes, hardwoods, such as mahogany, and cotton were also small-scale, but valuable, exports. Rice was grown in the Caribbean, and more so in the southern states of America[2].

Gradually colonists in the Caribbean specialised in growing sugar, which became the most profitable plantation crop. Sugar grown by enslaved Africans had a big impact on the diet and the health (particularly the teeth) of British people. Coffee and cacao[3], from which cocoa is made, were also profitable crops. Europeans added sugar to these drinks and to tea (as well as to rice to make rice pudding), which became central to the British diet[4].

2 Rice is covered in more detail in Chapter 9: Transfer and exploitation of knowledge.
3 Cacao refers to the plant and its seeds or beans, whereas cocoa or chocolate refers to the drink that is made from them; see www.nhm.ac.uk/jdsml/nature-online/seeds-of-trade/index.dsml.
4 The Natural History Museum's Seeds of Trade website has further information on plantation crops: www.nhm.ac.uk/jdsml/nature-online/seeds-of-trade/index.dsml and Kew Gardens' website has particular reference to sugar: www.plantcultures.org/plants/sugar_cane_landing.html.

2. Tobacco (*Nicotiana tabacum*)

Tobacco (*Nicotiana tabacum*) was the first crop produced on a large scale that made money for the English from their colonies in the Americas.

▲ Tobacco (*Nicotiana tabacum*), a decorative ceiling panel from the roof of the Natural History Museum's Central Hall, Picture Library reference 37159 © The Natural History Museum, London

Indigenous peoples of the Americas already grew tobacco (it originated in the Andes mountains in South America). It was not only smoked but also used in ceremonies and as a medicine[5]. The explorer, Christopher Columbus, observed that the Arawak people of the Caribbean smoked tobacco through a tube called a *tobago*, from which the word tobacco comes.

John Rolfe (who married Pocahontas) was one of the first English colonists in Jamestown, Virginia (founded in 1607). He introduced the sweeter Caribbean tobacco to Virginia[6]. Tobacco also enabled the English to cultivate the heavily forested island of Barbados. It was an important export from the islands of Barbados, St Kitts, Nevis, Antigua and Montserrat in the early days of English settlement. Tobacco was the most profitable export from mainland North America before cotton was established, and from the Caribbean before sugar took over.

Tobacco was difficult to grow and needed hard work all year round. The rapid growth of plantations in Virginia meant more land and more labour were needed and neither indigenous peoples of the Americas (both enslaved and employed) nor contracted European labourers could meet the demand. Diseases brought by Europeans killed many indigenous peoples of the Americas, as did overwork and wars[7]. The English therefore turned to the trade in enslaved Africans that was developing across Europe to grow tobacco in America from 1619 (at exactly the same time as a group known as the Pilgrim Fathers began to colonise parts of North America looking for freedom from religious persecution).

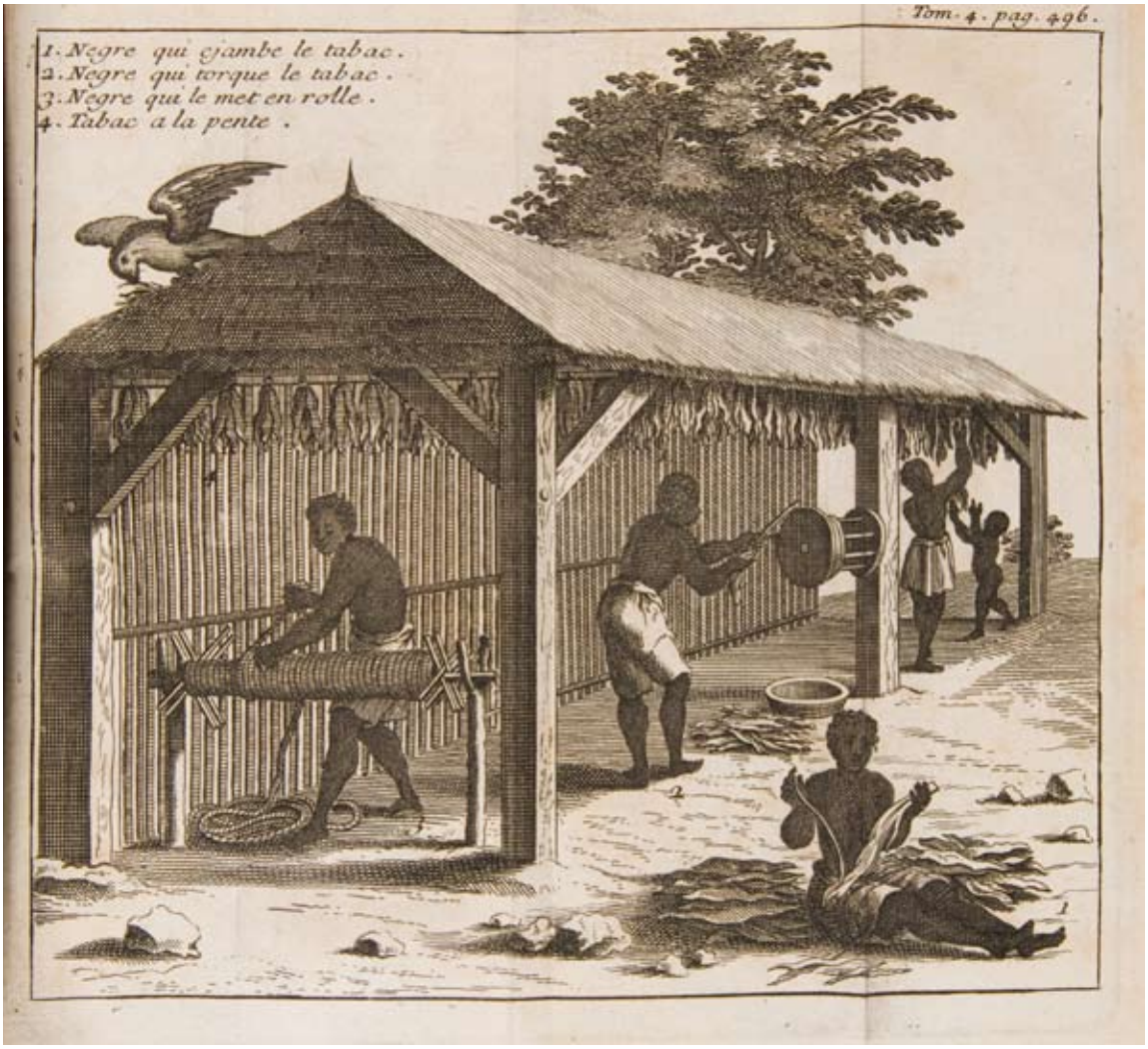
Tobacco became very popular throughout Europe. Francis Drake first introduced it to England in 1585, and Walter Raleigh made it fashionable. It was seen as a miracle medicine, curing anything from stomach ache to gunshot wounds, and snakebites to bad breath. King James I, however, was opposed to the use of tobacco; he taxed it, and described smoking as a:

> 'custome lothesome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs'. (King James I, 1604[8])

5 See Chapter 8: Medicines for its use medicinally among Europeans – especially to encourage sneezing and for the treatment of catarrh, asthmas, as a purgative and to cure sores.
6 For an overview of the colonisation of the Americas see King, 1999.
7 See also Chapter 2: People and the slave trade.
8 The *Counterblaste to Tobacco* was published in 1604, and then reprinted in the *Workes of King James* of 1616. G Putnam and Sons, London, reprinted it in 1905 with an appendix with the text of a statute issued by King James I in 1604 imposing fines on tobacco importation.

The Caribbean could not compete with the scale and quality of tobacco grown in America. As the natural historian Patrick Browne wrote, it was therefore only grown locally for personal use and sale by poorer whites, once enslaved but now freed Africans, and those of dual heritage:

> 'This plant was probably first introduced here by the Spaniards. But it is still cultivated by the negroes and poorer sort of white people in many parts of the Island...' (Browne, 1756, p167)



▲ Tobacco production, Labat, 1722 © The Natural History Museum, London

3. Sugar (*Saccharum officinarum*)

Sugar (*Saccharum officinarum*) was one of the most successful plantation crops, particularly in the Caribbean. It was often called 'white gold', and it made massive profits for Europeans for over 300 years.

▲ Sugar cane, de Tussac, 1808
© The Natural History Museum, London

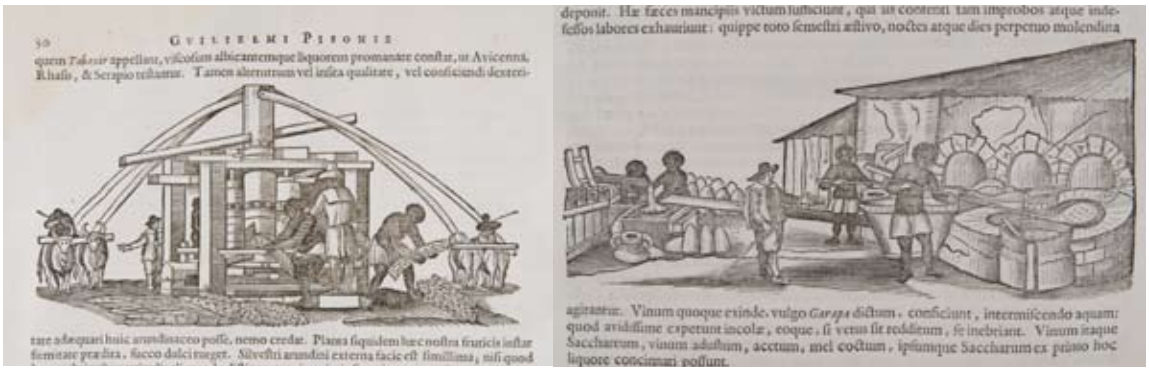
Columbus introduced sugar cane (and the idea of slavery) to the Caribbean in 1492. When the English took control of Barbados from the Spanish in 1625, they found perfect growing conditions for sugar, but it was Jamaica that later became the biggest sugar-growing island.

Sugar cane was (and still is) difficult to cultivate. Planting, weeding, harvesting and sugar production involved hard work all year. James Grainger (a doctor and poet) described the injuries enslaved workers suffered processing the sugar cane by boiling:

'Boilers are very apt to get scalded; especially when they are obliged to continue their labours in the night time. If the skin is raised into blisters; these should be immediately snip'd, and the water let out, otherwise that will become acrid, and erode the subjacent part. Banana leaves, or those of the castor bush are good applications against burns; so is the fire-weed. But sweet-oil blended with vinegar; or that drawn from linseed and mixed with plantane water, are more to be depended on. White ointment and Turner's cerate, may finish the cure. Those who feed the mill with canes, are sometimes liable to have their hands ground off between the rollers, especially in the night time.' (Grainger, 1764, p65–6)

James Grainger made suggestions to prevent these accidents:

'Wouldst though prevent this horrid accident? leave off working during the night: – or if that cannot be done, at least change those who supply the mill every two hours; by this means their growing sleepy may be prevented.' (Grainger, 1764, p65–6)



▲ Early illustrations of sugar milling and extraction, Piso, 1648 © The Natural History Museum, London

From 1650 sugar had become so important that natural historians such as Patrick Browne called many islands in the Caribbean the sugar-colonies. He described the effect rats had on sugar cane plantations in Jamaica:

> 'The fifth sort [of rat] is very common in all the sugar-colonies, where it proves extremely destructive to the sugar-canes, especially where the cane-pieces are covered with *trash*, or over-run with weeds. They generally cut and destroy a vast number of the plants, and frequently reduce the produce of a piece by one-fourth, or better.' (Browne, 1756, p484)

It is estimated that two thirds of all enslaved Africans transported across the Atlantic were made to work on sugar plantations. The death rate on Caribbean sugar plantations was so high that a continual new supply of labour was needed from West Africa. By 1700, Jamaica had 7,000 European settlers compared to 40,000 people of African descent[9].

> '...cultivating sugar cane by hand was – and still is – one of the hardest ways of life on earth.' (Hochschild, 2005, p65)

▲ Sucrerie, Du Tertre, 1671 © The Natural History Museum, London

9 Dunn, Sugar and Slaves, 2000, p312.

At the time of the transatlantic slave trade the global economy was largely based on sugar. William Wright, a naturalist and plantation holder, described the importance of sugar:

> 'The sugar cane is the glory and pride of those islands. It amply rewards the industrious planter, enriches the British merchant, gives bread to thousands of manufacturers and seamen, and brings an immense revenue to the crown... Sugar, formerly a luxury, is now become one of the necessaries of life.' (Wright, 1828, p233–4)

Some people made enormous amounts of money from sugar. It was hard to meet the growing demand. Almost all Europeans used sugar to sweeten tea, cocoa, coffee and puddings.

As William Wright described, all parts of the sugar cane plant were used in different ways:

> 'Nor is any part of this plant useless. The tops are fine food for cattle, or, when dry, an excellent thatch for houses. Even the refuse from the mill is dried, and makes good fuel for boiling sugar. The ashes taste very strong, and with little trouble might produce a great deal of fixed salt.' (Wright, 1828, p233–4)

Another important product made from sugar was rum, which was made and drunk by enslaved people, as well as slave traders and sailors, and exported to Europe.

> 'The skimmings from the coppers and drainings from the pots and hogsheads run in gutterings to the still-house, where, after being fermented in cisterns, they are distilled into rum.' (Wright, 1828, p233–4)

William Wright, a supporter of slavery[10], described sugar as a healthy food and as a medicine[11]:

> 'In crop time every Negro on the plantations, and every animal, even the dogs, grow fat. This sufficiently points out the nourishing and healthy qualities of sugar. It has been alleged that the eating of sugar spoils the colour of, and corrupts, the teeth: this, however, proves to be a mistake, for no people on earth have finer teeth than the Negroes in Jamaica... ' (Wright, 1828, p233–4)

In the 1680s, Hans Sloane, founder of the Natural History Museum, collected specimens of sugar grown by enslaved people in Jamaica. Hans Sloane's published description and drawings12 contributed to the Swedish physician Carl Linnaeus's knowledge of sugar cane when, in 1753, he gave it the scientific name *Saccharum officinarum.*

10 See also Chapter 10: Attitudes and acknowledgement.
11 See Chapter 8: Medicines.
12 See also Chapter 2: People and the slave trade and www.nhm.ac.uk/jdsml/nature-online/seeds-of-trade/index.dsml.

▲ Sugar cane specimen (*Saccharum officinarum*), Sloane Herbarium, collected 1687–89, ID 550 © The Natural History Museum, London

4. Coffee (*Coffea arabica*)

▲ Coffee (*Coffea arabica*), a decorative ceiling panel from the roof of the Natural History Museum's Central Hall, Picture Library reference 14486 © The Natural History Museum, London

Coffee (*Coffea arabica*) originated in Ethiopia, east Africa, and it was established in the Caribbean from the seeds of just one tree[13].

> 'The agreeable liquor prepared from coffee seeds is said to have been drank from time immemorial in Ethiopia... The use of coffee was introduced into London... in 1652... ' (Lunan, 1814, p224)

Growing coffee needed less investment and labour than growing sugar.

> 'A single Negro may clear with ease sixty-five pounds in a day, besides which, it leaves the seeds behind unbroken, and comes perfectly clean from the rollers.' (Edwards, vol 2, 1819, p313)

Bryan Edwards was an early nineteenth-century merchant and plantation holder who was concerned with increasing the European population in the Caribbean. He thought that coffee could become as profitable as sugar in Jamaica:

> '... it is reasonable to conclude, that if labourers shall continue to be procured from Africa at moderate prices, and every advantage be made of the present moment, we shall establish in Jamaica a most extensive cultivation of coffee, which, as an export staple, will be of the utmost consequence to Great Britain, perhaps exceeding in value the staple of sugar'. (Edwards, vol 2, 1819, p357)

13 www.nhm.ac.uk/jdsml/nature-online/seeds-of-trade/.

He wrote about the costs and profits in detail to encourage the growing of coffee[14].

> 'I shall conclude the subject by offering a short estimate of the expenses and returns attending its culture, which I conceive tends more to the encouragement of industry, and of course to the increase of the white population in the West Indian islands, than that of any other of their staple commodities: its produce being more equal and certain than that of any plant in cultivation, and its average profits more considerable in proportion to the capital employed.' (Edwards, vol 2, 1819, p348–9)

Coffee was never as profitable as crops such as sugar and tobacco, and it was grown on a relatively small-scale. Plantation holders with large estates often grew coffee and cacao on land that was not suitable for sugar, such as the more mountainous areas of Jamaica, and relatively few workers could harvest them:

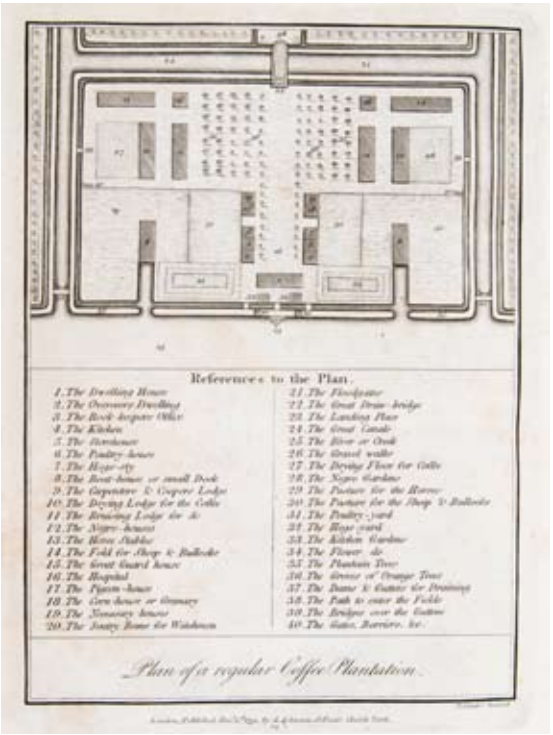
> 'The Negroes employed in this business are provided each with a canvas bag, with a hoop in the mouth to keep it open. It is hung about the neck of the picker, who empties it occasionally into a basket, and if he be industrious, he may pick three bushels in the day.' (Edwards, vol 2, 1819, p348–9)

John Gabriel Stedman (a mercenary fighting with the Dutch against rebels) described coffee growing in Suriname, South America. He also wrote about, and drew a plan of, a typical coffee estate:

> 'The buildings on a coffee estate are, first, the dwelling house, which is usually situated for pleasure near the banks of the river; and for convenience adjoining to it are erected the out-houses for the overseer and book-keeper with store-houses for them and small offices: the necessary buildings are a carpenter's lodge, a dock and boat house, and two capital coffee-lodges, the one to bruise and separate the pulp from the berries, the other to dry them; the rest consist of negro-houses, a stable, hospital, and warehouses, which altogether appear like a small village.' (Stedman, vol 2, 1806, p366–7)

14 See Edwards, vol 2, 1819, p351–3, which includes a balance sheet of how to set up a coffee plantation.

▲ Coffee plant, Stedman, 1806 © The Natural History Museum, London



▲ Plan of a coffee plantation, Stedman, 1806 © The Natural History Museum, London

5. Cacao (*Theobroma cacao*)

Hans Sloane wrote that the Spanish were fond of 'drinking Chocolate five or six Times a Day' (Sloane, vol 1, 1707, p16). Bryan Edwards described the history of the Spanish introduction of cacao plants (*Theobroma cacao*) to the Caribbean from South America:

> 'The cacao or chocolate nut, a production equally delicate, wholesome, and nutritive, is a native of South America, and is said to have been originally conveyed to Hispaniola from some of the provinces of New Spain; where, besides affording to the natives an article of nourishment, it served the purpose of money; and was used by them as a medium in barter, one hundred and fifty of the nuts being considered of much the same value as a royal by the Spaniards.' (Edwards, vol 2, 1819, p359)

The custom of using cacao beans as a form of money was established among the indigenous peoples of the Americas, for example, in Mexico:

> 'The Indians of this Country pay the King their Tribute in *Cacao*, giving him four hundred Carga's, and every Carga is twenty four thousand Almonds, which is worth in Mexico thirty Pieces of Rials of Plate... The Indians also pay their Tribute in Cacao from Campeche.' (Sloane, vol 1, 1707, p16)

The English took over the cacao groves left behind by the Spanish when the English conquered Jamaica in 1655. But they had no experience of growing cacao and many of the trees were destroyed by disease after 1670. The English only grew cacao on a large scale when they took over Trinidad and Tobago in 1814.

However, cacao was still used locally as well as exported to Europe. Hans Sloane[15] observed people drinking cocoa in Jamaica, including children and infants:

> 'Chocolate is here us'd by all people, at all times... The custom, and very common usage of drinking it came to us from the Spaniards, although ours here is plain, without spice. I found it in great quantities, nauseous, and hard of digestion... though Children and Infants drink it here, as commonly as in England they feed on Milk. Chocolate colours the Excrements of those feeding on it of a dirty colour.' (Sloane, vol 1, 1707, pxx)

▲ Cacao specimen (Theobroma cacao), Sloane Herbarium, collected 1687–89, ID 80 © The Natural History Museum, London

Chocolate was drunk mainly as a medicine, both in the Caribbean and in England[16]. It was traditionally mixed with spices to act as a purge. It was also seen as a way of helping people take medicine:

> 'I have always imagined it would be a very great advantage to physick, if medicines could be administered to sick People under an agreeable Form, and a familiar taste... Chocolate may serve for very proper Diet, and an excellent Vehicle, wherein to take a Medicine at the same time.' (Quelus, trans. Brookes, 1724, p70)

Chocolate covered up the taste of unpleasant ingredients in medicine:

> 'After this manner may you mix with the Chocolate the Powders of Millepedes, Vipers, Earthworms, the Livers and Galls of Eels, to take away the distasteful Ideas that the Sick entertain against these Remedies.' (Quelus, trans. Brookes, 1724, p73)

Hans Sloane's distaste for the drink meant that:

> '... it was a Year before I could drink of it, for which the Indians would laugh at me.' (Sloane, vol 1, 1707, p16)

15 See also Chapter 2: People and the slave trade.
16 See also Quelus, trans. Brookes, 1724, p71 and p91.

He mixed cocoa with milk to make it less nauseous, rather than with water as it was prepared in Jamaica. Hans Sloane then sold his recipe for drinking chocolate as a medicine to a London apothecary. One of the trade cards advertising it recommended it *'for its lightness on the stomach and its great use in all consumptive cases'*. Cadburys (a Quaker company that was against slavery) later made drinking chocolate using Sloane's recipe.

▲ Sloane's trade card for milk chocolate, 1849–1885, Picture Library reference 2946
© The Natural History Museum, London

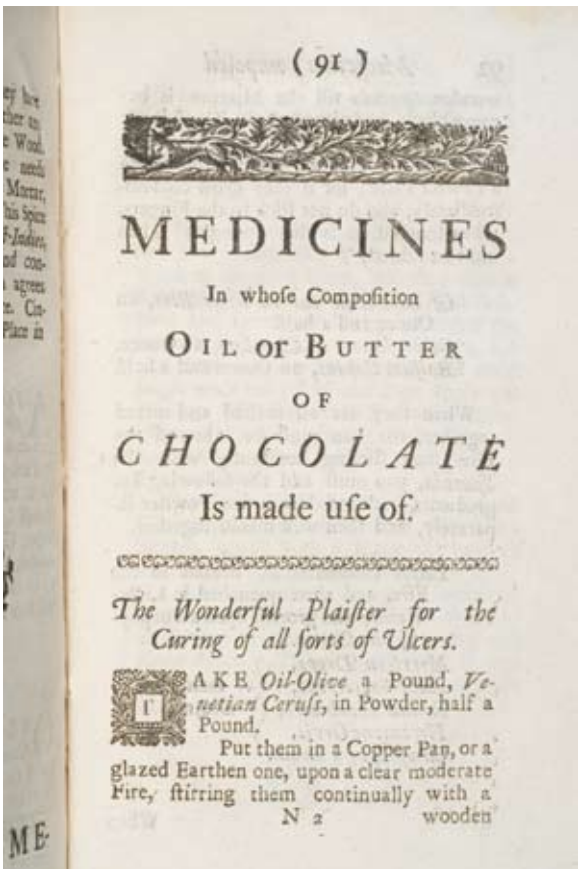
'The chocolate, so much and so justly preferred by the West Indian natives to most other aliments, is highly restorative, insomuch, that one ounce of it is said to nourish as much as a pound of beef. It is esteemed in all countries where it is known, and is found a suitable part of diet for all ages, but in particular agreeable to infants, old persons, valetudinarians, and such as are on the recovery from sickness; and, prepared with milk is highly approved of in consumptive habits.' (Long quoted in Lunan, vol 1, 1814, p187)

Although chocolate was drunk mainly as a medicine, other parts of the plant, as well as the beans, were also useful:

'Under this rind there is a thick shell, which they burn and make Powder of, and use it as a Remedy for certain Diseases.' (Sloane, vol 1, 1707, p15)

Chocolate was also mixed with other ingredients to make a plaster for the skin:

'It cures the most stubborn and inveterate Ulcers…' (Quelus, trans. Brookes, 1724, p93)



(91)

MEDICINES

In whoſe Compoſition

OIL or BUTTER

OF

CHOCOLATE

Is made uſe of.

The Wonderful Plaiſter for the Curing of all ſorts of Ulcers.

TAKE *Oil-Olive* a Pound, *Venetian Ceruſs*, in Powder, half a Pound.

Put them in a Copper Pan, or a glazed Earthen one, upon a clear moderate Fire, ſtirring them continually with a

N 2 wooden

▲ Recipe for a cocoa butter plaster for ulcers, Quelus, 1724 © The Natural History Museum, London

Enslaved Africans were used in the harvesting and drying of cacao beans:

> 'They go from tree to tree and from row to row, and with forked sticks or poles, they cause the ripe nuts to fall down, taking great care not to touch those that are not so, as well as the blossoms: They employ the most handy Negroes in this work, and others follow them with baskets to gather them, and lay them in heaps, where they remain four days without being touched.' (Quelus, trans. Brookes, 1724, p24–5)

Edward Long described how cacao was seen as a potentially important cash crop:

▲ Cacao fruit pods and beans, de Tussac, 1808, and Catesby, 1771 © The Natural History Museum, London

> 'This tree grew once so plentiful in Jamaica, that the inhabitants flattered themselves it would become the source of inexhaustible wealth to them.' (Long quoted in Lunan, 1814, p185)

Bryan Edwards blamed the reduction in cacao production on taxes, which he claimed also affected indigo exports:

> 'At present I believe there is not a single cacao plantation from one end of Jamaica to the other. A few scattered trees, here and there, are all that remains of those flourishing and beautiful groves which were once the pride and boast of the country. They have withered, with the indigo manufacture, under the heavy hand of ministerial exaction. The excise on cacao, when made into cakes, rose no less than twelve pounds twelve shillings per cwt...' (Edwards, vol 2, 1819, p362–3)

6. Mahogany (*Swietenia mahagoni*)

Europeans exploited trees for many reasons as well as dyes. Wood was used in construction, shipbuilding, and furniture and musical instrument making, as well as in medicine. Mahogany was a particularly valuable hardwood in Europe in the eighteenth century. The name mahagony has been used for the high quality wood of a number of tropical tree species, found both in Africa and the Americas, belonging to the family Meliaceae.

> 'The beauty of the mahogany wood is said to have been first discovered by a carpenter on board of Sir Walter Raleigh's vessel, at the time the ship was in harbour at Trinidad, in 1595.' (Macfadyen, vol 1, 1837, p175–7)

▲ Mahogany tree, Catesby, 1771, Picture Library reference 14881 © The Natural History Museum, London

Yoruba people in west Africa recognised the importance of mahogany, and the Asante used it to make sacred stools. Enslaved in Jamaica, African people identified Jamaican mahogany (*Swietenia mahagoni*) as very similar to, if not the same as, the African tree (Khaya senegalensis). The name mahogany may come from the Yoruba term M'oganwo, meaning king of trees. Both Jamaican and African varieties of the tree were sold as mahogany wood.

European demand for mahogany meant large trees were cut down in the Caribbean, especially in Jamaica. This caused environmental problems such as soil erosion and the spread of weeds.

'It was from this Island that the supply for Europe was in former times principally obtained, and the Old Jamaica Mahogany is still considered superior to any that can now be procured from any other country. In 1753, according to Dr Browne, 521,300 feet in planks were shipped from this Island. It was formerly so plentiful as to be applied to the commonest purposes; such as planks, boards, shingles, &c. Now, however, although by no means scarce, we employ inferior woods on such occasions.' (Macfadyen, vol 1, 1837, p175–7)

'We may imagine the plenty of it in former times here, when it used to be cut up for beams, joists, planks, and even shingles. But it is now grown scarce, within ten or twelve miles from the sea-coast; and must every year become still scarcer, and consequently dearer, unless nurseries, or plantations, are formed of it in places where the carriage is more convenient for the market.' (Long quoted in Lunan, 1814, p471)

Jamaican mahogany (*Swietenia mahagoni*) is now an endangered species and large trees (unless specifically planted and preserved) are very rare in many parts of the Caribbean.

Although Hans Sloane, the founder of the Natural History Museum[17], brought preserved specimens of some 800 plant species back from Jamaica, he did not have any *Swietenia mahagoni*[18]. However, most museum cases in the 1700s that housed collections from around the world were made from mahogany.

6.1 Ironwood (*Guaiacum sanctum*)

▲ Ironwood (*Guaiacum officinale*), Sloane Herbarium, collected 1687–89, ID 966 © The Natural History Museum, London

Lignum vitae, also called ironwood (*Guaiacum* spp.), is another hardwood that was highly valued because it is very dense and hard-wearing. The naturalist Henry Barham wrote:

'I met with a tree in Jamaica that had a very black heart, and a fine scent, much resembling lignum aloes, being very bitter: A carpenter who first shewed me this tree, called it sweet iron-wood. A negro that I employed to get some of it, when he brought it me, said the same sort grew with them in Africa, where they called it Columba… ' (Barham, 1794, p86)

17 See Chapter 2: People and the slave trade.
18 See www.nhm.ac.uk/research-curation/projects/sloane-herbarium/specialistsguidetothedatabase.htm#No.4.

Trees of distantly related species producing wood with similar qualities in other parts of the world, including Africa, are often called 'ironwood', but *Guaiacum* is indigenous to the Americas. Lignum vitae wood is very hard and dense (it sinks in water), and it was used for pulleys, cogs and bearings in shipbuilding and industry, as well as for police batons. Lignum vitae was also used for medicinal remedies by the indigenous peoples of the Americas[19].

Guaiacum sanctum is the national tree of the Bahamas, and *Guaiacum officinale* is the national flower of Jamaica, although it is now rare to find large individuals of these species.

7. Cotton (*Gossypium barbadense*)

▲ Cotton, de Tussac, 1808 © The Natural History Museum, London

▲ Cotton specimen (*Gossypium barbadense*), Sloane Herbarium, collected 1687–89, ID 796 © The Natural History Museum, London

Cotton (*Gossypium barbadense*)[20] was a tropical crop that grew in commercial importance throughout the 300-year duration of the transatlantic slave trade. It was not as important as a cash crop in the Caribbean as it was on the American mainland. Barbados exported some cotton before sugar took priority.

Cotton could be grown on a small scale without too much investment or land. It was traditionally used as a medicine as well as for clothing[21]. Some European indentured servants earned enough money to set up their own cotton farms at the end of their contracts.

John Gabriel Stedman[22] described cotton that was grown and processed by enslaved Africans in Suriname, South America:

> 'I will now proceed to a description of that useful plant, which has only been cultivated in Surinam from about the year 1735, but not with advantage till about the years 1750 or 1752... The cotton will prosper in any of the tropical soils, and produces a good profit if the crops are not spoiled by a too long rainy season, being cultivated with very little trouble and expense... The raw material is spun in the West Indies by a rock and spindle, and extremely fine, when by the negro girls it is knit into stockings, &c. one pair of which are sometimes sold for the price of a Portuguese joe, or sometimes for two guineas. The Indians or natives of Guiana make very good hammocks of cotton, which they barter with the inhabitants of Paramaribo for other commodities.' (Stedman, vol 1, 1806, p221–3)

19 See Chapter 8: Medicines.
20 It was almost certainly Sea Island (or Pima) cotton, *Gossypium barbadense*, being grown at this time, later supplanted by *Gossypium hirsutum*, or upland cotton.
21 See Chapter 8: Medicines.
22 See also Chapter 2: People and the slave trade.

▲ Cotton specimen (*Gossypium barbadense*), Sloane Herbarium, collected 1687–89, ID 797 © The Natural History Museum, London

Cotton needed a lot of hard labour to harvest and process it before machines were used. Baron Albert von Sack described a cotton-cleaning machine in Barbados:

> 'Mr. C [has made] many improvements; for instance, he has built a windmill, for the purpose of cleaning cotton from the seeds, which process was formerly done by negroes turning a wheel by the motion of the feet; but this, Mr C. assured me, made the labourers' legs swell, and also produced many other complaints... This method of cleaning cotton is so easy that it can be performed by little boys, to whom indeed it is a kind of amusement, whilst the other method was even fatiguing to a full grown negro.' (Sack, 1810, p33)

Baron Albert von Sack thought machines could be used more effectively to help enslaved Africans in the Americas. He described an invention to end the back-breaking work of digging and planting seeds while bending over:

> 'After the land is well prepared for cultivating cotton, the negro whose business it is to sow it, makes holes in the earth with his finger, and drops into each three or four seeds; but this operation is very injurious to the labourer, who is obliged to be continually stooping, and thus propels the blood to his head, which is also exposed to the full force of the ardent rays of the sun... Now I think this might be easily remedied. Let the negro have a stick of the thickness of his finger, on which shall be fastened a small round piece of board as a stop, to determine how deep the hole shall be made; then through a high hollow cane, put afterwards in the hole, let him drop the seeds without at all stooping, and cover over the hole with his foot...' (Sack, 1810, p101–2)

▲ Digging stick, Sack, 1810 © The Natural History Museum, London

Plantation holders were less enthusiastic about his ideas as they thought enslaved Africans would lose their strength if they did not work hard:

> 'When I asked a director whether this mode was not practicable, he replied, that it would not be so well, to render every kind of labour too easy to the negroes, otherwise they might possibly lose their strength for want of practice; but it is certainly a most absurd notion, as there will always be in husbandry some task where the strength can be exercised; and in fact this method of sowing does not require any strength at all, though it is the most painful employment performed by the negroes.' (Sack, 1810, p101–2)

8. Dyes

▲ Fustic (*Maclura tinctoria*), Sloane Herbarium, collected 1687–89, ID 74 © The Natural History Museum, London

When Europeans first colonised the Caribbean, they harvested natural resources growing there as well as cultivating plantation crops. Individuals working by themselves or hiring one or two workers lived alongside wealthy plantation holders. They were often involved in timber logging, turtle hunting and keeping livestock. People living in this way included poorer European labourers (often former indentured servants), runaway sailors, freed (emancipated) enslaved Africans, Maroons, and indigenous peoples of the Americas who survived slaving raids and epidemics. These people, known as buccaneers,[23] lived by trading in smoked pork and beef, turtles and timber. Many buccaneers became pirates or mercenaries for the Navy as a result of their knowledge of the sea, the islands and their survival skills.

Dyes were one of the natural resources that were particularly valuable. Cochineal was a very precious crimson-coloured (red) dye obtained from insects (*Dactylopius coccus*, which feeds on various species of cacti). The Spanish controlled cochineal production in Mexico until the early nineteenth century[24]. Indigo was a blue dye traditionally used for African textiles as well as across Europe. It was historically obtained from a range of plants in different parts of the world, including the woad form in Europe. It was so popular that tropical plant varieties that produce indigo were established commercially in Jamaica and South Carolina.

Europeans also extracted dyes from wood commercially. They particularly valued logwood (*Haematoxylum campechianum*) and brazilwood (*Caesalpinia echinata*), from Central and South America, and old fustic (*Maclura tinctoria*), also known as dyer's mulberry or yellow-wood, which was established in the Caribbean[25].

▲ 'Fustick' wood, Sloane, 1725, Tab 158, fig 1 © The Natural History Museum, London

23 Buccaneers take their name from boucan, the French version of the word barabicu used by the indigenous Taino people in the Caribbean for the wooden frame on which the buccaneers smoked meat. The Taino word is also thought to be the origin of the word barbecue.

24 See also Schiebinger, 2004, and Drayton, 2005.

25 For a description of fustic in Jamaica, see Sloane, vol 2, 1725, p3.

The wood of logwood and that of several species collectively known as brasiletto, including brazilwood, produces bright-red dyes, which were very valuable in Europe from the early sixteenth century. They were used for dyeing wool, cotton, fur, leather and silk, and for making red ink:

'It is ground to Powder by Mills made for that Purpose, and used by Dyers, as I am told, to give their Cloaths a good Ground and Foundation for other Colours.' (Sloane, vol 2, 1725, p183)

▲ Logwood, Sloane, 1725, Tab 231 © The Natural History Museum, London

The English competed and fought with the Spanish for access to logwood trees in Mexico and Central America[26].

'It is often called Campeche-wood, from the great quantity growing in the Bay of Campeche, where the English cut it, and send it to Jamaica; but not without great risk and hazard of their lives, being in the dominions of the Spaniards, who often cut them off. In the year 1715, I had an Indian slave, that I sent down to the Bay of Campeche to cut logwood, whom I ordered to send me up some of the seed of it, which he did; and I ordered it to be planted in Jamaica, where it takes to growing admirably well, even in the worst of the lands; so that there are now seed-bearing trees enough to stock the whole island... ' (Barham, 1794, p91–2)

26 Logwood trees were also called bloodwood, Campeche wood and Campeachy wood.

The logwood camps led to the colony of British Honduras (now Belize), which was established in order to trade in the dye. Instead of treating the indigenous peoples as trading partners, the English captured and sold them into enslavement [27].

'The Indians of this place us'd formerly to Trade with them, but the English not keeping their Faith, but taking and selling them, they are retired up into the Country several Leagues.' (Sloane, vol 1, 1707, plxxxii–lxxxiii)

Large patches of natural forest were also cleared in Jamaica, Haiti and other Caribbean islands to plant logwood.

The dye, haematoxylin, obtained from logwood is still used by scientists to stain cells for study under the microscope.

▲ Bloodwood tree (*Haematoxylum campechianum*), Picture Library reference 8968 © The Natural History Museum, London

▲ *Haematoxylum campechianum*, Clifford Herbarium, ID 160 © The Natural History Museum, London

The country Brazil is named after the brazilwood tree (*Caesalpinia echinata*) that gives a red dye. But similar species grow in the Caribbean, Central and South America.

'This Kind of Wood [Brasiletto] is very like Logwood, only is smaller and generally in longer Pieces, but for Weight, Colour, Use, &c. comes very near it. It grows in Jamaica, where 'tis cut and sent into England for Dyers Uses, in great Plenty every Year.' (Sloane, vol 2, 1725, p184)

The European demand for dyes meant that many of the trees were cut down. Writing in 1747, Mark Catesby observed that brasiletto trees were already becoming rare in the Bahamas:

'The value of this Wood has occasioned a scarcity of it on the Bahama Islands, particularly the largest trees being cut down... The inhabitants of the Bahama Islands formerly got a great part of their subsistence by cutting this wood, but it is now much exhausted. It is used in dying; there being yearly great quantities of it sent from these Islands, and other parts of the West Indies, to England for that use.' (Catesby, vol 2, 1771, p51)

27 See also Chapter 2: People and the slave trade and Chapter 10: Attitudes and acknowledgement.

Today most brasiletto tree species are rare and some, such as brazilwood, are near extinction.

▲ Brasiletto (*Caesalpinia violacea*), Catesby, 1771 © The Natural History Museum, London

▲ Brasiletto (*Caesalpinia vesicaria*), Sloane Herbarium, collected 1687–89, ID 751 © The Natural History Museum, London

9. Alternative interpretations

This chapter presents research information and context. The evidence itself can be seen in different ways and raises many questions and some further areas for research. Through the Natural History Museum's slavery and the natural world public programme many alternative interpretations and questions relevant to this chapter have been collected and some of these are summarised below:

- Are there botanical and environmental legacies relating to the commercial crops grown at the time of the transatlantic slave trade?
- Do you think colonisation and the growing of commercial crops was the beginning of globalisation?
- Many Africans died while working on sugar plantations – why? The brutality of the process needs to be noted.
- What did they do with the cotton seeds? They could not save them all for planting, so did they save them for oil? Because there is cotton seed oil.

People also commented that:

- Lignum vitae was a wood used as everyday items and was imported into England and used for furniture and items in big houses.
- The tobacco smoked then was very different from today. It was used for entering trances.
- Many of the products of the slave trade were bad for the health of the people and the soil.
- Europeans enslaved Africans on plantations on the Continent as well as in the New World.

10. Additional references

There is a full list of references, including all of the research documents, in Chapter 1: The project. These references offer additional reading specifically relating to this chapter.

Information on plantation crops can be found at the Natural History Museum's Seeds of Trade site:

www.nhm.ac.uk/jdsml/nature-online/seeds-of-trade/index.dsml

More information on sugar is available at:

www.plantcultures.org/plants/sugar_cane_landing.html

Drayton, Richard, ***Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World***, Yale University Press, 2000

Dunn, Richard S, ***Sugar and Slaves: The Rise of the Planter Class in the English West Indies***, 1624-1713, The University of North Carolina Press, 2000

Hochschild, Adam, ***Bury the Chains: The British Struggle to Abolish Slavery***, Pan Books, 2005

King, J C H, First Peoples, ***First Contacts: Native Peoples of North America***, Harvard University Press, 1999

Schiebinger, Londa, ***Plants and Empire: Colonial Bioprospecting in the Atlantic World***, Harvard University Press, 2004

Walvin, James, ***Black Ivory: Slavery in the British Empire***, 2nd edition, Blackwell Publishing, 2001