

Internal and External Factors in the Development of Bahia's Cacao Sector
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The concept of the commodity chain opens important avenues to those interested in the study of the history of tropical export regions and especially to the history of cacao exporting regions around the world in the last five centuries. As Clarence-Smith and I have argued elsewhere, the chocolate industry shaped demand for cacao in significant ways, and it is impossible to understand the history of cacao growing areas unless we recognize that.

That said, however, I have certain concerns about the concept of the commodity chain, particularly because it focuses narrowly on one crop, even if it follows that single crop from plantation to cup, to borrow an oft used phrase, when, to my mind, the history of cacao is closely intertwined with that of sugar and coffee at the very least—and in Bahia, the timber trade as well.

If we recall Bulmer-Thomas's argument that Latin American countries faced a commodity lottery in the nineteenth century, one of the major questions that the concept of the commodity chain does not fully answer is, why this commodity at this time? After all, many parts of the tropics are appropriate to the cultivation of a wide variety of export crops, and, Bahia in particular, as Bert Barickman persuasively argues, was home to at least three major export crops and one domestic crop in the nineteenth century—sugar, tobacco, coffee, and manioc—all of which would grow in the southern part of the state. Moreover demand for all four was growing, although there were well-recognized problems in the Bahian sugar sector. So, why was it that in some Bahian communities planters and farmers focused on cacao rather than these other crops?

In this paper, I argue that this was neither an automatic nor a predestined process. Cacao emerged as southern Bahia's dominant crop because of a series of decisions taken by southern Bahian planters and farmers during the nineteenth century on the basis of the information available to them, the cultural assumptions they shared, and the political and economic realities they faced. International demand for cacao played a significant role in this process, but it was not the only factor, or even consistently the most important factor, involved in these decisions. This paper argues that planters and farmers in southern Bahia came to believe that cacao was a better alternative than sugar, coffee, or food crops when they took into account four factors—Portuguese and Brazilian timber policy, climate and soil, labor availability, and international demand. Thus, I maintain in this paper that it is not sufficient to follow the commodity chain, one must also explore the interactions among and between alternative commodities and, at least in the Bahian context, look at reasons why planters and farmers chose to invest in one rather than the other.

Throughout the colonial period and during the first two thirds of the nineteenth century what is today southern Bahia produced timber, staples, and some rum and sugar, largely for consumption in Salvador, the provincial capital, but also for export, on about two dozen plantation and 300 plus farms. During the colonial period, Jesuits, colonial bureaucrats, and European colonists introduced coffee and cacao, the chief ingredient in

chocolate, to the region and by about 1800 southern Bahian farmers were growing and exporting small quantities of both crops each year.¹ Over the course of the next six decades, the economy grew significantly and by 1870 cacao had emerged as the region's most important crop. By 1890 cacao was one of Bahia's most important crops and one of Brazil's most important exports, while Bahia was the second largest cacao producer in the world. In the process, cacao not only supplanted sugar and staples, it also allowed planters and farmers to retain valuable timber and it overcame coffee, arguably the crop enjoying the strongest international demand at the time.

This process was a relatively slow one. Planters and farmers only gradually learned that the local climate and soil were excellent for growing a type of cacao called *forastero*, that strong international demand existed for the kind of cacao they could grow, and that cacao allowed them to adjust to the labor shortage imposed by the close of the international slave trade, while also allowing them to cut valuable hardwood only as rapidly as they wished. They were not clairvoyant, however, and so they did not understand all of this when Manuel Ferreira da Camara called attention to cacao's possibilities in 1789. Only gradually did they see that they needed an alternative to sugar and staples, and when they did, they did not necessarily see it to be cacao. Initially, they also thought coffee might be a good option; it was only over time that they understood that they should choose cacao. By 1870, however, Ilhéus had become a monocultural agricultural area devoted to the production of cacao. Southern Bahian planters and farmers continued to produce timber, sugar, aguardente, coffee, and manioc thereafter, but cacao dominated agriculture, the economy, the society, and political institutions in the region.¹

Timber Policy

In the eighteenth and nineteenth centuries, as Warren Dean and Shawn Miller effectively show, southern Bahia was the location of one of the last important stretches of the Atlantic forest that had once covered the Brazilian coastline from São Paulo to the northeast.² As important, it was easily accessible to the port at Salvador,

¹ Brasil. *Recenseamento do Brasil realizado em 1 de setembro de 1920*. 16 vols. Rio de Janeiro: 1922-1930. Vol. 3, Part 2, pp. 28; 114; 340.

² Warren Dean, *With Broadax and Firebrand: The Destruction of the Brazilian Atlantic Forest*. (Berkeley: University of California Press, 1996); Shawn Miller, *Fruitless Trees: Portuguese Conservation and Brazil's*

home to the Portuguese Naval shipyard in the colonial period and Brazilian shipbuilding thereafter. In an age when ships were largely constructed from hardwoods, and timbers for beams and masts were extremely valuable as well as difficult to find, southern Bahia offered an easily accessible—and therefore relatively inexpensive—supply of timber that was vital to Portuguese and Brazilian imperial security.

From the eighteenth through the nineteenth centuries, Portuguese and Brazilian governments alike recognized the relationship between protection of hardwoods and national defense. As a result, although government policy varied over time, from attempts to completely forbid the private harvesting of timber to few controls, it generally prohibited landowners with stands of hardwoods on their properties from freely logging their lands. As ouvidor of the comarca of Ilhéus in the late eighteenth century, Balthazar da Silva Lisboa had recommended that the Crown rescind all sesmaria grants in the area and do away with private property there in order to protect the forests. He went so far as to travel throughout the region, marking those parts of the forest that were to be protected from logging, even to develop agriculture. In the town of Ilhéus, he traveled up the Itaípe River in 1799, to the site of the Indian mission at Almada, indicating the locations of protected hardwoods and forbidding landowners to harvest them. In doing so, he also made as much as half or three fourths of the land claimed by a planter or farmer off limits to clearing and agriculture.³

As Morton showed, Silva Lisboa's efforts came to naught. José de Sá Bittencourt Camara used his influence with local sawmill owners to organize a strike and his connections to the colonial secretary to argue against government restrictions on private property. Landowners in southern Bahia did not, therefore, lose their land. Neither did they, however, receive a blanket permission to harvest timber. Despite the opposition of José de Sá's and the other sawmill owners, the Portuguese Crown legislated successfully against the free logging and sale of hardwoods commonly found in Brazil's forests, now referred to as *madeiras da lei*.⁴

At Independence control over the forest passed to the new imperial government. With the 1850 Land Law, the imperial government in Rio continued the practice of restricting logging close to the coast and along the navigable stretches of rivers. The private logging and sale of Brazilwood were completely prohibited. Sawmill

Colonial Timber, Stanford University Press, 2000, 83.

³ F. W. O. Morton, "Royal Timber in Late Colonial Brazil," *HAHR*. 58, no.1 (1978): 41-61.

⁴ *Ibid.*

owners and others who wished to log their land had to request permission to do so from the provincial government and then wait for a license. Responsibility for supervising the licenses, and ensuring that the loggers cut only where and when their permits allowed, fell to the local municipal judges.

Landowners with good or excellent political connections had no difficulty in obtaining such permissions. Brant Pontes, José Antonio Arauca, Pedro Weyll and numerous others had obtained sesmarias and permission to clear the land at the same time. In later years, landowners regularly requested permission to log their land, and they just as regularly received it. Many of those loggers were farmers rather than the owners of large estates by 1845, when, in the two Almada villages of Itariry and Sambaituba alone, more than fifty property holders were asking permission to harvest timber.⁵

Imperial officials in Ilhéus complained that loggers took timber they were not supposed to, that squatters were falsely certifying that they owned land in order to obtain permission to log, and that the national forest was being destroyed.⁶ Nevertheless, no one was ever denied permission to log or prosecuted on that basis, even though it was suspected that Ilhéus planters were trading protected hardwoods for contraband slaves in the 1840s and 1850s.⁷ The only people ever prosecuted for taking timber in Ilhéus were those who took timber from land that belonged to the owner of a large estate without permission.

Despite the judges' suspicions and complaints, the owners of the sawmills were not interested in clearing all of the hardwoods out of the forest immediately. While those farmers, far from town, who simply wished to clear a bit of land, to plant a few crops or to build a small house did so and hoped that no one would notice, the sawmill owners did not enjoy that luxury. They produced timber and lumber for commercial sale, and so preferred to take only as much timber as they could profitably extract in a year. Moreover, they provided timber to the Imperial navy and to an international timber trade accessible principally through the harbors of Salvador and Rio de Janeiro. Flagrantly violating the law, therefore, placed their shipments in danger of confiscation. No one was willing to place their goods in such danger unless it was absolutely necessary. Consequently, if they could at least appear to be complying with the law, they preferred not to openly antagonize the government, and politely requested permission

⁵ Madeiras, maços 4616, 4617, 4618, APEB/SH.

⁶ Juiz de direito to presidente da provincia, 1858 Juízes, Ilhéus, maço 2397, APEB/SH.

⁷ Antonio Gomes Villaça, Juiz de Direito, to presidente da provincia, 29 November 1868, Juízes, Ilhéus, maço 2401; Joaquim Rodriguez de Souza, juiz de direito, to presidente da provincia, 17 February 1851, Juízes, Ilhéus,

to log their land as they were supposed to. Doing so was not a terrible hardship: they were not interested in clearing the land as rapidly as possible because the hardwoods on it were as valuable to them as any crops they could plant, and it was only as they removed those hardwoods—to the rhythms of demand and government licences to log large pieces of their property—that they faced the decision about what to plant.⁸

Climate and soil

Those decisions about which crops to plant depended first on climate and soil as they did in all agricultural areas. The climate and soil of this relatively small strip of land, however, were appropriate to the cultivation of a variety of crops. Cacao would eventually prove to be the one most suitable, but that was not obvious in the beginning.

Regardless of the time of year in which they visited, the first thing newcomers to southern Bahia noticed, after the forest, was the humidity and the rain. There was no real dry season in the area; instead, rain fell constantly throughout the year. So much rain fell in the eighteenth century that, according to Manuel Ferreira da Camara, local residents called the region “Heaven’s Urinal.”⁹ In the twentieth century, when scientists began measuring rainfall in the area, significant deforestation had already taken place, so there was probably not as much rain as there had previously been. Nevertheless, rainfall still averaged 133.6mm per month at the Cacao Research Station in Agua Preta, Bahia in 1935, roughly the same amount that fell in Trinidad and the Gold Coast at the time, and more than fell in the Recôncavo.¹⁰

The soil, on the other hand, varied significantly throughout the region. Near the ocean, the soil was very sandy, while a strip slightly further inland was composed of the reddish mixture of soil and clay known as *salões*. Beginning at the harbor of Ilhéus and spreading west roughly in an inverted triangle, however, lay the famous

maço 2397; juiz de direito to presidente da província, 20 December, 1858 Juízes, Ilhéus, maço 2398, APEBa/SH

⁸ This argument contradicts those of both Warren Dean and Shawn Miller about the attitudes of planter attitudes toward the forest and government regulation. I do not disagree with them that timber extraction was frequently wasteful of other species and the environment in general. The evidence for nineteenth-century Ilhéus, however, points in the direction of systematic removal of hardwoods until well into the century rather than thoughtless eradication on behalf of agriculture (Dean) or destruction in order to avoid government regulation (Miller). Dean, *With Broadax and Firebrand*; Miller, *Fruitless Trees*.

⁹ Câmara, “Ensaio de descrição,” 310.

¹⁰ Gregório Bondar. *A cultura de Cacao na Bahia*. Instituto de Cacao da Bahia, Boletim Technico. N. 1 (São Paulo: Empreza Graphica da “Revista dos Tribunaes”, 1938) 78-86.

massapé soil, for which the Recôncavo sugar districts were so famous.¹¹ All of these soils were relatively poor in potassium, lime, and nitrogen, but the different clay contents meant that fertility could vary significantly. The sandy soil and the *salões* were both quite porous and the heavy rains quickly leached out the nutrients that guaranteed soil fertility. *Massapé*, however, contained a much heavier clay content and so the heavy rains did not cause the leaching so damaging to the sandier soils nearer the coast.¹² Thus, once the land had been cleared of the forest canopy that protected the soil, *massapé* retained its value for agriculture much longer than did the other two.

The quality of the soil for agriculture depended not only upon clay content, but also on the terrain. Few areas were flat; rather, hills varying in height from 300 to over 1,200 feet, and broken by deep valleys, covered the territory. Although many of these hills were not very high, inclines could be quite steep. Traveling on foot or by animal through the region was-and is—a constant scramble up and down hills, and over boulders and rocks. While the same soil might occupy the top and the bottom of a hill, its use for agriculture would depend upon several factors related to where it was: bottom land might not drain well, while hilltops might be too exposed to wind and rain, and the north side of a hill might not receive sufficient sunlight, while a southern exposure might receive too much. This combination of soil and topography made it, as Gregório Bondar the first scientist to systematically study the region's soil put it in 1938, “difficult to find two or three hectares of absolutely equal...soil together.”¹³

The varied topography meant also that temperature in southern Bahia was not simply a question of latitude. Mean temperatures ranged between 19.3 C and 29 C at the research station in Agua Preta in 1935. In the town of Ilhéus, on the coast, or at lower elevations, temperatures averaged as much as two degrees higher. In the interior, at elevations above 1,200 feet, temperatures dropped to as low as 10 C in the winter, and it could become quite chilly although it never snowed.¹⁴ These lows were below those experienced in the Recôncavo, and certainly well under those in the northeast or the Amazon, although they were higher than those in São Paulo.

Nineteenth century planters and farmers did not have access to studies that would provide them with the sort of specific information about soil and climate characteristics outlined above. Initially, Portuguese colonists had

¹¹ On Recôncavo soils see Schwartz. *Sugar planters in the Formation of Brazilian Society*, 107; Barickman. *A Bahian Counterpoint*, p. 9

¹² On southern Bahian soils see Bondar, *A cultura de Cacao na Bahia*, 87-125, on *massapé* in particular see 107; CEPLAC,

¹³ Bondar, *A cultura de Cacao na Bahia*, 107.

¹⁴ Ivar Erneholm, *Cacao Production of South America: Historical Development and Present Geographical*

chosen land for planting on the basis of the quality of the vegetation covering it; the presence of dense forest, with many large trees, was interpreted as a sign of soil fertility. By 1850, however, Bahian planters had known for at least two centuries, that sandy soils were better for cassava than was *massapé*, and *massapé* was excellent for sugarcane. Until the second half of the nineteenth century, there was relatively little effort to plant crops on the most appropriate soils. In large part this was because the areas with *massapé* were wilderness and remained in the hands of various groups of Indians well into the first half of the nineteenth century. It was therefore difficult to protect crops planted far from town. It was also, however, because almost anything would grow well in freshly cleared earth, regardless of the type of soil. It was only after several years that it became obvious that the sandy soils had been drained of nutrients, while the *massapé* had not. Thus at first planters and farmers chose to plant land near the rivers and the harbor, where access to the outside world was easier and protection from Indians was assured. Eventually, soil color and depth, measured by sinking a foot or a hand into it, would become a popular method to determine soil quality, but it would not be until after 1924, when Bondar published his first study of cacao in Bahia, that any information based on scientific evaluation of the soil and climate would become available. By that time, most of the cacao region had already been divided up into plantations and farms.

Many crops grew well in this climate and these soils. Sugarcane would grow to great heights in southern Bahia;¹⁵ coffee would ripen throughout the year;¹⁶ and cacao would produce two harvests, one large and one small, although cacao trees in most regions gave only one. Thus, southern Bahia seemed to be a perfect place to grow at least three crops for which there was international demand. As we will see further, however, cacao emerged as the one best suited to the region in the nineteenth and twentieth centuries, but that would not be immediately apparent.

Slavery in the Emergence of Southern Bahian Cacao

Southern Bahian planters and farmers were not in a position to make decisions about what they would plant simply on appropriate soil and climate. They also had to deal with the question of labor availability. In Brazil,

Distribution. (Gothenburg, Sweden: C. R. Holmquists Boktryckeri, AB, 1948), 147-149.

¹⁵ Camara, "Ensaio de descrição," 310, 315-16.

¹⁶ CEPLAC. *Diagnóstico socioeconômico da região cacauzeira*. 12 vols. Ilhéus, Bahia: Comissão Executiva do Plano da Lavoura Cacaueira, 1976. III:12-13.

slavery—and particularly African slavery—had been the answer since the second half of the sixteenth century. It was well understood that, given Brazil's low population density, it was impossible to guarantee sufficient labor for a plantation or farm without coercion.

Acquiring slaves had never been particularly easy for planters and farmers on the southern Bahian coast. During the colonial period, labor was scarce because few local planters were very prosperous and credit was scarce. That changed to some degree when elites like Brant Pontes began to acquire property in the area, and slave ships began appearing regularly in the harbor, but the 1821-24 slave revolt at Santanna put a damper on interest in buying new slaves and credit for doing so alike.¹⁷ The ease with which Ilhéus slaves were reputed to escape to the forest also tended to reduce purchases. No one wanted to invest in new slaves that might soon escape or rebel.

By the time that Ilhéus's slaves appeared to be thoroughly under control, in the 1830s, planters and farmers were facing the reality of international repression of the slave trade. It began in 1815 with an Anglo-Portuguese treaty prohibiting slaving north of the equator. Further treaties in 1826 and 1831 placed additional restrictions on the trade and finally prohibited it completely. As scholars have correctly pointed out, these treaties and laws were largely "*para ingles ver*," and thousands of African slaves were introduced to Bahia between Independence in 1822 and the end of the trade in 1850.¹⁸ In Bahia, however, no one could avoid understanding that the slave trade was in danger: one of Brazil's largest slave traders, José Cerqueira Lima, was bankrupted when the British Navy confiscated four of his ships, laden with slaves, on the high seas and sailed them to England.¹⁹ The trade continued, more or less publically, until 1850, but in that year there was a serious crackdown and the supply of new African slaves essentially ceased. Ilhéus was one of the few places in Brazil where it is clear that Africans were successfully landed after 1850, but even so slave prices more than doubled there in the following years. Slaves were still available for purchase, but their high prices made their acquisition even more difficult after 1850.

Given the obstacles to obtaining large numbers of slaves in Ilhéus, even before British pressure on the slave trade began, there were relatively few African slaves in Ilhéus. Only one of the 221 slaves on the Engenho Santana

¹⁷ Dale Graden has persuasively argued that slave revolts contributed to the end of the African slave trade in Brazil. Dale T. Graden. "An Act 'Even of Public Security': Slave Resistance, Social Tensions, and the end of the International Slave Trade to Brazil, 1835-1856," *HAHR* (1996) 76(2); 249-282.

¹⁸ Barickman, *A Bahian Counterpoint*, 136-37; David Eltis. *Economic Growth and the Ending of the Transatlantic Slave Trade*. (New York: 1987) p. 37 n. 38.

¹⁹ Pierre Verger, *Bahia and the West Coast Trade: 1549-1851*, (University of Ibadan, 1964); Leslie Bethell, *The*

in 1828 was born in Africa.²⁰ Moreover, only twenty African slaves appear in the baptismal registry for the 1820s through the 1840s out of a total of 261 adult slaves.²¹ Data collected from postmortem estate inventories and from purchase and sale agreements of properties from the 1840s through the 1880s shows that 55.6 percent of slaves had clearly been born in Brazil, while only 14.9 percent of the slaves were clearly of African origins.²² Granted, this leaves us without information on the origins of 29.5 percent of the slaves found in the documents. Still, it is a breakdown that coincides rather well with that of the 1872 census, which showed an African slave population of 14.1% and a Brazilian population of 85.8 percent.²³

As might be expected of a largely Brazilian group, the slave population contained roughly an equal number of men and women. In 1828, the Engenho Santana's slave force was, according to Stuart Schwartz, "well balanced with 109 males and 113 females."²⁴ On João Segismundo Cordier's farm there were seven slaves, four males and three females in 1849. The slave force on the Fazenda Victoria was half male and half female in 1857: of the 112 slaves on the property, 56 were male and 56 were female. Similarly, in 1861 on the Engenho Castello Novo, there were 26 females and 28 males. By the time of the 1872 census, the number of slave women exceeded that of slave men, 555 to 496.²⁵

A largely Brazilian group with roughly equal numbers of men and women would be expected to produce a large number of slave children, and that seems to have been the case. There were slave children on many of the plantations and farms where women of reproductive age lived. Between 1823 and 1843 a minimum of 190 slave babies were born on some 60 plantations and farms. At mid-century slave women continued to give birth to surviving children. In 1857 when Fernando Steiger took over the Fazenda Victoria, 29 of the 104 slaves on the

Abolition, 117.

²⁰ Stuart Schwartz, *Slaves, Peasants and Rebels: Reconsidering Brazilian Slavery*. (Urbana and Chicago: University of Illinois Press, 1996), 53

²¹ Batismos, I

²² Livros de notas, postmortem estate inventories and court cases held in the Arquivo Público do Estado da Bahia and the Foro Epaminondas Berbert de Castro contain information on slave sales and on slave forces on plantations and farms. A random sample of this material allowed the creation of a database on 755 Ilhéus slaves, from which much of the following discussion is drawn. The baptismal registers were not used to create this data because women appeared in the baptismal registries in numbers disproportionate to their numbers in society, since the fathers of slave children were rarely mentioned at baptism.

²³ *Recenseamento, 1872*.

²⁴ Schwartz, *Slaves, Peasants and Rebels*, 52.

²⁵ No. 12, 12/4/1851-04/25/1854, Escrivão: Hostílio Tulo Albuquerque Melo, Livros de Notas, Ilhéus; SJ, Ilhéus; No. 02/786/1253/06, Inventory of Maria José Scola del Rei and Josefina Carolina Scola del Rei, (1861), APEBa/SJ;

plantation were children under age seven. Similarly, in 1861 on the Engenho Castello Novo, 11 of the 53 slaves on the property were children under seven, while another five were between ages seven and eleven. In 1872, there were 249 slave children between the ages of 1 and 11, some 23.6 percent of all slaves, in the whole parish. After the declaration of the Law of the Free Womb, Ilhéus slave women gave birth to 559 children, who although free were wards of their mother's owners until they reached adulthood.²⁶

These demographic characteristics suggest that Ilhéus planters and farmers had been relying on natural reproduction to help meet their labor needs at least since the beginning of the nineteenth century. At least one Ilhéus slave owner, Fernando Steiger, explicitly attempted to stimulate reproduction by encouraging marriage between his slaves and offering prizes to female slaves who bore more than six children.²⁷ He was unusual, but he may not have been the only local planter who hoped to see natural reproduction play a role creating a labor force.

We must recognize, therefore, that natural reproduction probably played a significant role in the number of slaves in the parish. Reproduction among Brazilian slave communities has been the subject of extensive debate. Initially, scholars believed that it could not maintain the size of the slave population much less allow it to grow. Without the slave trade, they argued, slave populations collapsed due to high mortality rates, low numbers of slave women, and low fertility rates.²⁸ More recent research is revealing that, under certain circumstances, trends could be different. Scholars suggest that in areas of economic decline, or where the economy was not thriving, or in agricultural sectors not as labor intensive as sugar, sex ratios could be more balanced, and fertility rates higher, than they were in booming export areas where owners had the resources to purchase large numbers of new slaves through the African trade.²⁹ Ilhéus resembled the former communities rather than the latter. The labor demands of the crops

Recenseamento, 1872.

²⁶ *Baptismos, II*, No. 12, 12/4/1851-04/25/1854, Escrivão: Hostílio Tulo Albuquerque Melo, Livros de Notas, Ilhéus, APEBa/SJ; No. 02/786/1253/06, Inventory of Maria José Scola del Rei and Josefina Carolina Scola del Rei, (1861), APEBa/SJ; *Recenseamento, 1872.*

²⁷ Maximilian, *Recollections of My Life*, III:358-59; In encouraging marriage he was unusual among plantation owners, since planters usually didn't. See Stein, *Vassouras*, 155, Schwartz, *Sugar Plantations*, 384; da Costa, *Da senzala à colônia*, 290 and *The Brazilian Empire*, 135-136.

²⁸ See, for example, Schwartz, *Sugar Plantations*, 359-60; Barickman, *Bahian Counterpoint*, 137-8.

²⁹ Horacio Gutiérrez, "Crioulos e africanos no Paraná 1798-1830," *Revista Brasileira de História*, No. 16, pp. 161-188; Clothilde Andrade Paiva and Herbert S. Klein, "Slave and Free in Nineteenth-Century Minas Gerais: Campana in 1831," *Slavery and Abolition*, Vol. 15, No. 1, April 1994, pp1-21; Laird W. Bergard, "Demographic Change in a Post-Export Boom Society: The Population of Minas Gerais, Brazil, 1776-1821," *Journal of Social History*, 1996 (29:4) pp. 895-933; Barickman suggests the existence of a marked contrast in fertility rates between sugar plantations and cane farms, where the male and African populations outstripped the female and Brazilian-born

that would grow in southern Bahia were, therefore, significant to the choices that southern Bahian planters and farmers made.

Industrialization and International Demand in the emergence of Cacao Cultivation

As early as 1789, observers were pointing to cacao's low labor demands as a reason for southern Bahian planters and farmers to grow it and they would continue to do so through the 1850s.³⁰ It was not until after the close of the slave trade, however, that planters and farmers in Ilhéus seriously turned their attention to cacao, to the frustration of government bureaucrats interested in regional economic development. There were many reasons why planters and farmers lacked interest in cacao, but one of them was associated with international demand. For most of the eighteenth and nineteenth centuries, the market for cacao—and especially the kind of cacao that would grow in southern Bahia—was rather limited. It did not make much sense, therefore, for planters or farmers to grow a great deal of it until demand began to seriously grow. That would not occur until the development of a chocolate industry based on the supply of pure cocoas and “eating” chocolates to a working class and middle class market in Europe, the United States and Canada.³¹ Thus, although cacao was grown in Bahia before significant industrialization, Amaral was not wrong when he argued that the Bahian cacao sector was born alongside the chocolate industry.³²

Although two types of *theobroma cacao* are now central to the international market, initially it was based solely on a variety known as *criollo*. It had an easily cut seed pod and round, white, only slightly bitter beans. As a result, it made a very flavorful, not very bitter chocolate, that required relatively little sugar to sweeten. The tree on which this grew, however, was very delicate and would grow in only a limited part of the tropics. It could not

significantly, and tobacco and cassava farms where sex ratios were more balanced.. Barickman, *A Bahian Counterpoint*, 157.

³⁰ Manuel Ferreira da Camara, “Ensaio de descrição,”(1789); Balthazar da Silva Lisboa, “Memoria sobre a comarca,”(1799); Miguel Calmon du Pin e Almeida, “A Cultura de Cacao,” (1838); Joaquim Rodrigues da Silva, “A lavoura de cacao,” (1851).

³¹ There are few scholarly studies of the development of chocolate consumption. The most important are, Sophie Coe and Michael Coe. *Chocolate*, which is best on pre-Columbian and early modern chocolate consumption; Mahony, *The World Cacao Made*, Chapters 1 and 5, and, most recently, William Gervase Clarence-Smith. *Cocoa and Chocolate: 1765-1914*. (New York: Routledge Press, 2001) My work emphasizes the growth of demand for cacao in the early nineteenth century, although Clarence-Smith convincingly emphasizes the slowness of that growth.

³² Luis Amaral. *História geral da agricultura brasileira no triplice aspecto político-social-economico*. 3 vols. (São

tolerate the low temperatures of the Central American highlands or those of southern Bahia or São Paulo, where coffee might thrive. Nor could it survive significant dry seasons, unless irrigation were available. Moreover, it was highly susceptible to a series of diseases. Thus, it was successfully being cultivated in lowland Central America and some parts of southern Mexico when the Spanish arrived in the Americas, but it was not easy to introduce to new regions.³³ Southern Bahian planters and farmers didn't grow it because they couldn't.

By the seventeenth century, colonial authorities and settlers had discovered that another variety of cacao, widely found growing wild in Venezuela and the Brazilian Amazon, would make acceptable, if not excellent, chocolate and could be more widely propagated. It was, in particular, more tolerant of low temperatures—although still not as tolerant as coffee—and more resistant to disease, although no more adaptable to dryness. There was a problem with the beans from this cacao tree, known as *forastero* because it was growing wild, however: they were more bitter than the *criollos*. Connoisseurs would not use them in chocolate, and even those with less developed palates found that they needed to use more sweetener in their chocolate to make it acceptable. Experience showed, however, that fermentation of the beans, before drying, would bring out their flavor and reduce their bitterness. It was not long, therefore, before the Spanish were introducing *forastero*-based cacao cultivation to their other American colonies. Shortly thereafter the French, Dutch, and English had captured some of those colonies with cacao or had introduced it to their new colonies in or near the Caribbean, and the Portuguese were cultivating it in the Brazilian Amazon.³⁴ By 1750, the Jesuits had introduced it to southern Bahia.

Paulo: Companhia editora nacional, 1939-41) II:380.

³³ The most important works on this era of cacao cultivation include René F. Millon. "When Money Grew on Trees: A Study of Cacao in Ancient Mesoamerica," Ph.D. diss., Columbia University, 1955; René Millon. "Trade, Tree Cultivation, and the Development of Private Property in Land," *American Anthropologist*. 57:4 (1955): 698-712; Murdo MacLeod. *Spanish Central America: A Socioeconomic History, 1520-1720*. (Berkeley: University of California Press, 1973); Carmen Duenas de Anhalzer. *Marqueses, Cacaoteros y Vecinos de Portoviejo: Cultura Política en la Presidencia de Quito* (Quito: Universidad San Francisco de Quito, 1997); Frédérique Langué. "Le cercle des Alliances: Strategies D'honneur et de Fortunes des Aristocrats Venezueliens au 18e Siecle" *Annales D'histoire e Sciences Sociales* (1999) 54(2): 453-480; Janine Gasco. "Consolidation of the Colonial Regime: Native Society in Western Central America," *Historical Archaeology*. (1997) 31(1): 55-63; Gasco. "Cacao and Economic Inequality in Colonial Soconusco, Chiapas, Mexico. *Journal of Anthropological Research* 1996 52(4): 385-409; Inez Leontine Verhagen. "Caluco, El Salvador: The Archaeology of a Colonial Indian Town in Comparative Perspective," Vanderbilt University, Ph.D. diss. 1997.

³⁴ There is a growing literature on this period, including Robert J. Ferry. *The Colonial Elite of Early Caracas*, (Berkeley: University of California Press, 1989); "Ecomienda, African Slavery, and Agriculture in Seventeenth-Century Venezuela," *HAHR* 61:4 (1981): 609-35; Eugenio Piñero, "The Cacao Economy of the Eighteenth-Century Province of Caracas and the Spanish Cacao Market," *HAHR*, 68:1 (1988), 83; Juan Carlos Solórzano. "El comercio de Costa Rica durante el declive del comercio Espanol y el desarrollo del contrabando ingles: periodo

Despite the discovery of the possibilities of *forastero* cacao, demand did not take off immediately. That was, in part, because making chocolate palatable did not only involve cacao, it also required sugar. Although sugar production was growing rapidly, it remained a rare and valuable commodity in Europe and the British North American colonies.³⁵ Sugar had been produced in the Americas since the sixteenth century, but it had yet to be marketed in amounts sufficient to make it an item of popular consumption.³⁶ At the same time, European beet sugar, which would become a prominent source of sweetness in the nineteenth century, had yet to make a significant impact on the market for sugar.³⁷ Thus, the sugar required for chocolate was not easily available and chocolate made with *forastero* cacao required more sugar than did chocolate made with *criollo*.

Demand also lagged, however, because making chocolate—the principal product made from cacao—was very complicated and required skill and strength. It involved much more than simply taking cacao beans, grinding them up, and adding water and sugar, as one could do with coffee or simply adding boiling water, sugar and milk as one could do with tea. The beans had to be selected with care, to assure that they had been well dried and shipped, and that most were the flavorful *criollo* beans. Then they had to be sorted by hand to remove any sticks, stones, or sacking that had made it into the cacao load, and washed to remove the red dirt with which *criollo* cacao was treated in the Americas in order to improve its resistance to dampness during shipping. The beans then had to be roasted, in a hot, difficult, and dangerous process. Chocolate makers had to hover over open fires and tend the roasting cacao, as the beans burned easily and the smell and taste of burned cacao permeated any chocolate that was made with it. The grinding required less skill, but was just as laborious. Until the eighteenth century, it was done on a *metatyl*, a mesoamerican grinding platform that sat on the ground. The person grinding the cacao then knelt at the *metatyl* and,

1690-1750,” *Anuario de Estudios Centroamericanos* (1994) 20 (2): 71-119; Eugenio Pinero. *The Town of San Felipe and Colonial Cacao Economics* (Philadelphia: American Philosophical Society, 1994).

³⁵ Sidney Mintz, *Sweetness and Power*

³⁶ Sidney Mintz, *Sweetness and Power*

with a pestle, meticulously ground the beans. That ground cacao was then transferred to a flat surface over a fire, where it was once again heated, and the cocoa butter carefully separated.³⁸ Once the appropriate amount of cocoa butter was removed, hot water, sugar, and sometimes vanilla and cinnamon were added, and the mixture was beaten before serving.³⁹

³⁷ Eisenberg, *The Sugar Industry in Pernambuco*, 19; 237-240.

³⁸ Paul Zipperer, *The Manufacture of Chocolate* (London, 1902), 98.

³⁹ Dufour, *The Manner of Making Chocolate*, 102-4.

From the point of view of consumers, there were any number of problems associated with this chocolate, even though it was reputed to be healthful and delicious. First, this was drinking chocolate, not eating chocolate, and it was meant to be served hot, so it was not easily carried once made. Second, it was much more difficult to make than coffee or tea, the two beverages that were chocolate's principal competition. Third, it was outrageously expensive: according to Eugenio Piñero, the cost of one pound of chocolate, presumably the chocolate mass from which the beverage was made, was about twice the average daily wage of a worker in Spain in the early modern period. When the cost of sugar was added, the price would have been even steeper.⁴⁰ As a result, it was nothing that most housewives could afford to purchase, even if they knew how to make it. Under such circumstances, chocolate was a luxury, consumption of which was almost entirely limited to the aristocracy and developing bourgeoisie, and perhaps their favored servants.⁴¹ Over time this created another problem for chocolate, this one political, in that critics of the aristocracy refused to drink it even if they could afford to do so.⁴²

As a result of all of these problems, world demand did not grow very fast, so neither did world production. In 1730 Venezuela, the world's largest cacao producer was exporting perhaps 4,500 tons of cacao per year, about one quarter of which went to Europe.⁴³ By the end of the century Venezuelan exports had risen to 5,500 tons but then fallen to 4,500, while Ecuador, which had begun exporting cacao to Europe in the colonial period, provided about 2,500 tons, and Brazil, 2,300, less than 25 tons of which came from Bahia.⁴⁴ The British, French and Dutch were also exporting cacao from several of their colonies in or near the Caribbean, but as late as 1800 world production probably did not exceed 11,100 tons.⁴⁵

From the eighteenth century on, enterprising shopkeepers and millers in Europe and its American colonies had begun to try to make a chocolate that was inexpensive enough to find a market among the emerging middle and working classes of the emerging cities.⁴⁶ As a first step, they used the less expensive *forastero* cacao in place of the

⁴⁰ Eugenio Piñero, "The Cacao Economy of the Eighteenth-Century Province of Caracas and the Spanish Cacao Market," *HAHR*, 68:1 (1988), 83. He draws his data from Earl Hamilton, *War and Prices in Spain* (Cambridge, MA: Harvard University Press, 1947) and Fernand Braudel, *Civilization and Capitalism: 15th-18th Century*, 3 vols., Sían Reynolds, trans., (New York: Harper and Row, 1981-84), I:249.

⁴¹ Clarence-Smith sees European import taxes as a significant reason for this high cost. While I do not entirely disagree, I see the combination of small supplies and labor intensive production as the central issues involved in high costs. Clarence-Smith, *Cocoa and Chocolate*.

⁴² Clarence-Smith, *Cocoa and Chocolate*.

⁴³ Erneholm, *Cacao Production of South America*, 45.

⁴⁴ The most complete historical statistics on world exports of cacao can be found in Clarence-Smith. *Cocoa and Chocolate*. Appendix 2. 234-239.

⁴⁵ Clarence-Smith. *Cocoa and Chocolate*, 234.

⁴⁶ Much more research is needed on the colonial chocolate industry and chocolate consumption as opposed to cacao

criollo, or they mixed the two, adding as much *forastero* as they could without changing the flavor too noticeably. They also began to add water soluble sweeteners like molasses, known in Britain as treacle, and tried to make the production process less onerous. Around 1732 a French chocolatier put the *metatyl* that was used to grind roasted cacao on a table, allowing chocolate makers to stand for the first time. This made the task less difficult, although no more rapid. Chocolate makers next organized artisanal factories where workers could specialize in particular aspects of the chocolate making process. Despite their efforts, it is not clear that a single individual in any of these factories could make more than 30 pounds of chocolate per day. It was possible for these factories and shops, however, to make their own chocolate, and, in addition, to sell cacao mass in blocks or pieces to other shopkeepers or housewives and servants.

By the end of the eighteenth century, chocolate makers in Europe, the United States, and Canada were beginning to use the tools of the industrial revolution to reduce production time and increase the amount of chocolate that could be made in a day. First, they introduced mechanical grinders for reducing cacao to cocoa mass, which did make a significant improvement in the amount of chocolate produced daily. Next they harnessed water power, through water-driven mills, to power these machines, which once again increased production. The combination of the two developments allowed their owners to produce and sell chocolate themselves and to accept raw cacao from clients to be ground on order.⁴⁷

It was not long before the larger of these chocolate makers began to harness steam to run the chocolate-making machines. This was a significant development, because it allowed multiple machines to be driven by the same power, and therefore factories could expand. When this development took place is unclear. Some historians credit a French chocolatier with opening the first factory with steam-driven mechanical devices, while others mention a German prince, and still others believe a Spaniard was responsible.⁴⁸ The English chocolate makers, J.S.

cultivation in the Americas. As Clarence-Smith suggests, however, such work would yield significant rewards, because there was a significant market for cacao in the Americas when the Spanish first arrived, and that market continued to grow in the following centuries as it spread outward from Central America. Clarence-Smith. *Cocoa and Chocolate*, 10-32.

⁴⁷ Baker & Co., *Cocoa and Chocolate*, 28-29; Fry & Co, *The Industrial Record*, (Somerdale, England: n.d.), 64a; Baker and Company, *Cocoa and Chocolate*, 45.

⁴⁸ Richard Whympster. *Cocoa and Chocolate*. (Philadelphia: 1921)16; Marcia and Frederic Morton, *Chocolate: An Illustrated History* (New York: Crown Publishers, 1986), 78.

Fry and Sons, were using steam to drive their machines by 1795.⁴⁹ By 1805 at least one French chocolate maker had introduced a steam engine that powered a grinding machine to his factory in Paris.⁵⁰ Regardless of who first introduced it, however, by the first years of the nineteenth century steam power was in widespread use in Europe and, shortly thereafter, in the United States.

These machines cut the labor required to produce chocolate to a fraction of what it had been, and allowed chocolate makers to produce much more each day. One French chocolate maker claimed that his new machine, which was probably a grinder, could do the work of seven men.⁵¹ Another early industrial chocolate maker claimed to be able to make 600 or 700 pounds of cocoa and chocolate per day with the new machines.⁵² Nineteenth-century observers agreed that mechanization allowed mill owners to produce much larger quantities of cocoa and chocolate, and by the middle of the century some quoted figures as high as a ton per day.⁵³ This probably did not mean that they made 365 tons of chocolate per year, however, because as late as 1800 Bakers' Chocolate in Boston only operated from September to May due to problems in the summer months with power because water in the Neponset River was low and with chocolate because the cocoa mass would not solidify during the hottest period of the year.⁵⁴

Nevertheless, these developments also allowed a group of grocers, who would later become some of the most famous names in chocolate making, to introduce a new product, cocoa, aimed at competing with coffee and tea for the attention of the working class and middle class household consumer. Until this point, chocolate had been sold either as a ready-made drink in cafes, or as a block of cocoa mass which would be melted down and used for a variety of purposes in the home, particularly of the well-to-do. The block chocolate, in particular, required a good deal of preparation before it could be made into a beverage, or anything else for that matter. Cocoa, however, did not—all a housewife needed to do was add boiling water to a cup that contained cocoa and the beverage was complete. This was a significant development in the marketing of cacao-based products, because it meant that chocolate was now no more difficult to make than coffee or tea.

⁴⁹ Morton, *Chocolate*, 78.

⁵⁰ Eugene and Auguste Pelletier. *Le thé et le chocolat*. (Paris: 1861) 78.

⁵¹ Zipperer, *Manufacture of Chocolate*, 98.

⁵² Zipperer, *Manufacturer of Chocolate*, 98

⁵³ Baker, *Cocoa and Chocolate*, 29.

⁵⁴ "A Calendar of Walter Baker and Company, Inc. and Its Times, 1765-1940," p. 39; H.C. Gallagher to F. Malcolm Forbes, 10 October 1900, H.C. Gallagher, Letter Book, 1900-1913; Payroll Records, Baker and Company, 1869; 1879, Walter Baker and Company Collection (Hereafter WBC), MSS 435, Baker Library, Harvard University.

This early industrial cocoa was generally bore little resemblance to either the eighteenth-century artisanal chocolate or the products that would dominate the market in the late nineteenth and twentieth centuries. Sorting machines had yet to be introduced, and so chocolate makers either had to pick over the raw cacao by hand, or put it into the roasting and grinding machines without really going through it. Many chose to do just that. Moreover, while the grinding and roasting machines could speed up the process of making a powdered cacao, they did not help in the removal of cocoa butter, which allowed the cocoa to become water soluble. Again, rather than going to the expense and trouble of removing the cocoa butter by hand, some chocolate makers simply added fillers to make the cocoa mix with water. When those additives were sweeteners, like sugar or treacle, the result might be delicious, if rather sludgy, but many early industrialists added some kind of starch or less palatable items to the cocoa to solve the problem.⁵⁵ Much later Cadbury's admitted that their early cocoas were four fifths potato starch, sago, flour, and molasses, and only one fifth cocoa. Government investigators in the middle of the nineteenth century charged, however, that much of the cocoa made at that time contained everything from sticks, dirt, and pieces of sacking, to molasses, boot black, and umber.⁵⁶

These cocoas were so adulterated, in part, because an industrial method for removing cocoa butter was not yet widely available. Several alternatives for removing excess cocoa butter were developed in the early years of industrial cocoa, but each had problems. The so-called "Weiched method" required that chocolate makers stir "the beans in water until the seed membrane became removable and then [heated] the beans sharply until the husks broke off."⁵⁷ Another method for removing the cocoa butter from the bean, called the "water process," involved boiling the seeds until the fat surfaced. Both of these processes, however, were purported to remove the chocolate flavor and aroma along with the cocoa butter.⁵⁸ In 1828 the Dutch chocolate maker, C. J. Van Houten, invented a machine to separate the cocoa butter from the cocoa which did not suffer from the drawback of the other methods, but it would be many years before it was widely adopted.

Van Houten's machine did not find wide acceptance, at first, because making cocoa and chocolate with it required more cacao than making the adulterated products. At the time the technology was developed, world cacao

⁵⁵ Morton, *Chocolate*, 75.

⁵⁶ Cadbury Brothers Ltd., *Cocoa and Chocolate from Grower to Consumer* (Bourneville, England: n.d.) 178; I. A. Williams. *The Firm of Cadbury: 1831-1931*. (London: 1931) 25.

⁵⁷ Zipperer, *Manufacture of Chocolate*, 102.

production was estimated to be only 14,000 tons, produced by Ecuador (5,000), Venezuela (4,500), Brazil (3,000), and Trinidad (900). The Spanish American wars of Independence had disrupted cacao cultivation so much that it did not yet surpass that of 1800 very seriously.⁵⁹ Moreover, a “pure” cocoa, which Van Houten’s process allowed, meant that the cocoa sold contained no sweetener, but presumed that the housewife or her servant could add it herself in the kitchen of her home. Between the Haitian Revolution and the Napoleonic Wars, both cane sugar and beat sugar were often in short supply, making them difficult and expensive to obtain.

These new developments in technology and marketing, however, did provide the demand to encourage new cacao planting, particularly of the hardier *forastero* varieties.⁶⁰ Exports from the Brazilian Amazon had increased to 3,480 tons by 1861, when Ecuadorean exports reached 8,592 tons.⁶¹ Moreover, the Portuguese had introduced cacao to Fernando Pó and São Thomé, two of Portugal’s colonies in Africa. Had Venezuelan exports grown, the supply of cacao would have truly exploded in the middle of the nineteenth century, but it did not. In 1853 Venezuela’s cacao production dropped to a level below its 1830 production, and did not return to normal production levels until 1882.⁶² Still by 1860 world production had risen significantly, and most of that cacao was *forastero*.

It was at this time that cacao production in Bahia really began to take off. Regular exports of cacao date from the 1780s, but they were still limited to 26 tons a year in 1830, when Bahian officials began publishing statistical data on exports after the disruptions associated with the struggle for Independence in Bahia. By 1860, however, exports had increased more than 10 times to 570 tons, and cacao was already the largest single source of revenue for southern Bahian farmers.

The growth in the amount of *forastero* cacao being harvested each year, together with industrial developments, put chocolate within the reach "of even the very poor" in Europe and the United States. According to

⁵⁸ Whymper, *Cocoa and Chocolate*, 170.

⁵⁹ C. J. J. van Hall. *Cacao*. (London: 1932) 6-7.

⁶⁰ Cacao cultivation during this period had not received nearly the attention it deserves. Although several unpublished theses have been written on cacao cultivation in the Americas, few studies have been published. Important exceptions include Miguel Angel González Leal. “Insurgencia popular, oligarquía regional y estado en el ecuador liberal (1895-1925): La huelga general de guayaquil, 1922. *Anuario de Estudios Americanos*, (1997) 54 (1) 159-184; Andres Guerrero. *Los oligarcas del cacao: Ensayo sobre la acumulación originaria en el Ecuador: Hacendados cacaoteros, banqueros, exportadores y comerciantes in Guayaquil (1890-1910)*. (Quito: Editorian El Conejo, 1980).

⁶¹ Ernehlm, *Cacao Production*, 69, 109.

⁶² Ernehlm, *Cacao Production*, 123.

the Pelletier brothers, second generation chocolate makers in Paris the simultaneous “reduction in the price for colonial commodities, and the suppression of the cost of labor brought about by mechanization”⁶³ made it possible for them to reduce the price of all qualities of chocolate that they produced by one half.⁶⁴ This, in turn, allowed newly urbanized workers and middle classes in cities and towns across Europe, the United States and Canada to include cocoa and chocolate in their diets.

The reduction in prices associated with increased cacao supplies and industrialization also allowed manufacturers to consider acquiring the expensive technology to remove cocoa butter from the cocoa bean and market a “pure” cocoa. Cadbury’s was the first of the British and American firms to do so, and in 1866, the firm brought out England’s first “pure” industrially made cocoa, using the Dutch technology, and they called it Cocoa Essence. The British firm, Fry’s, followed suit two years later, and in the next fifty years it became more and more common to find more or less “pure” cocoas among the product lines of the major European and American manufacturers. The changeover was not instantaneous, however, because Cadbury’s carried its most popular adulterated cocoas until 1891 and presumably others did as well, but “pure” cocoas were widely available.⁶⁵

The increase in cacao stocks and the industrial removal of cocoa butter also allowed the eating chocolate, as opposed to the cocoa, industry to develop dramatically. For most of its history, chocolate had been a drink, not a food. Granted enterprising cooks from Mexico to France had long used cacao or chocolate, in combination with sugar, in a variety of foods, from mole sauce to cakes and covered fruit. Again, however, these foods were not easily transportable—they were nothing that a school child, a worker, or a soldier could carry to eat later. Nor were they something that a suitor might give a woman as a special treat.

Given the differences among the European nations, it is not surprising that there should have been significant differences in the eating chocolates developed in each one. The first chocolate bar was probably created in England, the nation with the largest industrial working class in the world at the time. Certainly it was first marketed there, first by Fry’s and shortly thereafter by Cadbury’s. French chocolate makers, on the other hand, took the lead in the production of bon bons, particularly chocolate-covered creams and fruits, while Swiss and German chocolate makers began earning a reputation for producing high quality, expensive, eating chocolates of various

⁶³ Pelletier, *Le Thé et le chocolat*, 23.

⁶⁴ Pelletier, *Le Thé et le chocolat*, 23.

sorts.

These chocolates represented a significant development in the chocolate industry, but they were not the sorts of chocolates that would later become popular. Rather they were harsh and granular, and contained no milk. They probably tasted much more like bitter, dark chocolate or baking chocolate than anything marketed today. Nevertheless, chocolate could now be carried to school, to work, to the battlefield, or even given as a gift.

The invention of milk chocolate in 1876 revolutionized this eating chocolate industry. Daniel Peter, a Swiss chocolate maker, was the neighbor of Henri Nestlé, who had developed a company to sell condensed milk in Europe. At some point, it occurred to Peter, that a delicious eating chocolate could be created by adding that condensed milk to chocolate.⁶⁶ In the next thirty years his invention was so successful that each of the other major chocolate companies, and many minor ones, attempted to produce their own milk chocolates. They were unable to do so at first, in part because Peter guarded the technology closely, but also because Peter's proximity to the Nestlé condensed milk factory resolved some problems that the other producers could not overcome. Milk spoils easily and is quite heavy to transport. Water makes up 7/8's of milk's bulk, but only milk solids are needed for milk chocolate, which Peter had discovered by happy accident as Nestlé's neighbor. His imitators, however, had difficulty in finding the right form of milk to mix with the cocoa, and then in acquiring sufficient quantities of it to make the chocolate before it spoiled.⁶⁷ It was not until the twentieth century that other manufacturers figured out how Peter was making his product. When they did, however, the products that they produced were immediately successful.

Like coffee and tea, cocoa and chocolate were benefitting from the extraordinary changes that had taken place in European and North American diets and social practices. Where beer, ale, and wine had been regularly consumed with meals and alone in the eighteenth century, by the close of the nineteenth century, industrialization was doing away with "Saint Monday" and imbibing spirits during the work day. Drinking alcohol gradually earned a reputation as a social ill, as reformers attempted to move the new working and middle classes away from spirits and toward a group of stimulants—coffee, tea, and chocolate—that did not intoxicate. All of them were consumed with hefty amounts of sugar and milk, and so, they provided a rapid source of calories as well. Chocolate had the added benefit of including nutrients that the other two did not, and so could be marketed as a healthful food as well as a

⁶⁵ Williams, *The Firm of Cadbury*, 71.

⁶⁶ Jean Heer. *World Events, 1866-1966, The First Hundred Years of Nestlé*. (Rivaz, Switzerland: 1966).

beverage that provided an alternative to alcohol. Thus, as work and social life became increasingly distinct in the industrial societies developing in the United States and Europe, chocolate found an important niche alongside coffee and tea.⁶⁸

All of these changes created extraordinary growth in the demand for cacao. In 1880 Europeans consumed an estimated 32,000 tons of raw cacao, or more than twice the amount that all the producers in the world had exported in 1830. The British and Irish alone used fifty times as much cacao in 1880 as they had in 1820. Between 1892 and 1899, German cacao imports rose from 73 tons to 189 tons. Similarly, French usage rose from 5,300 tons of raw cacao in 1857 to 25,000 tons in 1897.⁶⁹ It is then thought that the European cocoa and chocolate industry consumed almost twice the cacao in 1900 that it had in 1880.⁷⁰ The increase in United States' consumption was no less striking: in 1860, the U.S. consumed 595 tons, while by 1885 it absorbed 4,200 tons, almost seven times what it had used twenty five years previously.⁷¹ Between 1909 and 1927, the world's average net imports of raw cacao more than doubled, increasing from 225,000 tons to 466,500 tons. No wonder students of the chocolate industry were commenting that "Chocolate will sell itself in any part of the world at the present time, provided that it is palatably sweet and that it tastes of chocolate."⁷²

Not surprisingly, supply expanded to meet these demands. By 1890 Bahian exports had reached 10,000 tons, and quadrupled to 40,000 tons by 1914. At the same time, various colonies in West Africa entered the market in a serious way, and rapidly became the most important suppliers of *forastero* cacao in the world, with the Gold Coast leading world cacao producers by exporting over 53,000 tons of cacao per year. Bahia, however, had become the second most important producer of cacao in the world—a position that it would maintain for most of the twentieth century.

These developments took place, in large part, because the industrial manufacturers of chocolate liked Bahian cacao for their products. That cacao was *forastero*, widely considered of "poor" quality, as were all

⁶⁷ Williams, *The Firm of Cadbury's*, 92.

⁶⁸ Mintz, *Sweetness and Power*.

⁶⁹ Baker, *Cocoa and Chocolate*, 4-5. Zipperer, *The Manufacture of Chocolate*, 29.

⁷⁰ Zipperer, *The Manufacture of Chocolate*, 29, Baker, *Cocoa and Chocolate*, 2-5, Whympfer, *Cocoa and Chocolate*, 18.

⁷¹ Walter Baker & Co., *Cocoa and Chocolate: A Short History of Their Production and Use* (Dorchester, MA: 1899), 5.

⁷² Whympfer, *Cocoa and Chocolate*, 219; Clarence Smith. *Cocoa and Chocolate*, 236-237.

forastero varieties, but it was perfect for the new industrial cocoas and chocolates being marketed in Europe, the United States, and Canada. For that reason, Taft and Hogins, cocoa traders in New York, reported to Walter Baker and Company in Boston Massachusetts in 1888, that “Bahia had maintained its popularity, and the imports and consumption have been increased.”⁷³

It is reasonable to ask, however, to what degree we can assume developments in this market affected the decisions made by southern Bahian planters and farmers—in other words, how much they knew about these changes in the production and consumption of cocoa and chocolate. Surprisingly enough, some probably knew a great deal, although arguably most knew almost nothing. This information came from a variety of sources. Under the auspices of the Bahian Association for Industry and Agriculture, the essays of Ferreira da Camara, Miguel Calmon, and Rodrigues de Souza were made available to a limited, but well-connected, public. Not only did those three men present papers to the members of that association, but Calmon’s was published in the association’s journal, while Rodrigues de Souza’s was published in the newspaper and then as a separate booklet under the auspices of the association. Certainly most farmers in Ilhéus would not have been aware of these presentations or publications, but the owners of the large estates were—several of them were members of the association.

Other planters and farmers knew about developments in the cocoa and chocolate industry through personal experience. There were numerous Swiss, German, Austrian, French, Spanish, and English immigrants to southern Bahia during the nineteenth century, and all of them arrived after chocolate makers began to target a working class and middle class market. The first owner of the Engenho Castello Novo, named his plantation after his hometown, Neufchatel Switzerland, one of the early centers of chocolate making in Switzerland. It is perhaps not surprising, therefore, that he should have planted cacao as well as coffee and sugar on the plantation he built. We know less about the origins and habits of other European settlers in southern Bahia at that time, but it seems clear that throughout the nineteenth century new arrivals from Europe brought news of the growing popularity of chocolate and the development of new products in Europe.

Both these European immigrants and the owners of the large estates continued to acquire news from Europe after their arrivals in southern Bahia. Some obtained their news when foreign travelers came to town. That was surprisingly frequent, because southern Bahia was a common stop for French, German, and Austrian travelers in

⁷³ Taft & Hogins, Review of the Cocoa Market during 1884, Annual Cocoa Statistics, January 1888, WBC.

Brazil in the first half of the nineteenth century. Others also obtained news from rare and precious letters received from relatives left behind in Europe.⁷⁴ Some visited Europe themselves and experienced first hand the new products being marketed, while others obtained their information through commercial networks in Salvador and Ilhéus.

Given that some planters actually lived in Salvador rather than in Ilhéus, they had more access to the news about European demand than one might expect a planter living on the edge of the wilderness in southern Bahia to have.

Finally, at least a few southern Bahian planters and farmers like the taste of chocolate themselves. Joaquim Simplicio Nogueira, a man from the Recôncavo who was growing cacao in Ilhéus, Bahia, between about 1870 and 1893, owned his own chocolate pot. He was not the owner of a large estate, nor a European immigrant, rather he appeared to have been the son of a mid-sized farmer in the Recôncavo, who may have gone to southern Bahia specifically to grow cacao. Perhaps it was his liking for chocolate that drew him there.⁷⁵

Cacao Takes Over

In the twentieth century, elites in Bahia believed that cacao had been the natural choice for their parents and grandparents to make, and looked down upon anyone who had not immediately seen cacao as the best crop to plant. Given all of the factors discussed here, however, the excellence of cacao was never necessarily clear to the people faced with the decision of what to plant in the nineteenth century, and for that reason, cacao cultivation in southern Bahia did not grow nearly as rapidly as coffee cultivation did in São Paulo.

In the late eighteenth and early nineteenth century, planters and farmers in Ilhéus harvested timber and planted at least four crops for commercial sale. About two dozen large estates produced timber, sugar, coffee, cacao and food crops, while about 300 farms produced timber, cacao, coffee, and food crops. Initially, planters and farmers had planted the crops that, culturally, they understood to be appropriate. Those with capital planted and produced sugar, Bahia's "noble business," while those without it grew manioc and other food crops for sale in the market of Salvador, even if they only produced what Ferreira da Camara had termed a "mediocre happiness." Observers from

⁷⁴ Translations of a few examples of these letters, enough to indicate that they existed, can be found in the papers of anthropologist Anthony Leeds. Papers of Anthony Leeds, Anthropological Archives, American Museum of Natural History, Smithsonian Institution.

⁷⁵ Autuação de um officio do sub commissario de policia Capitão Pedro Scola Homem del Rei, Joaquim Simplicio Nogueira, (1893), Foro Epaminondas Berbert de Castro, Ilhéus, Primeiro Cartório da Vara Civil (hereafter FEBC/PCVC).

Ferreira da Camara to Rodrigues de Souza complained that southern Bahians were unwilling to invest in cacao, but the problem was that they were not interested in investing rapidly. Instead, initially, they gradually added cacao and coffee to their sugar plantations and manioc farms.

It was possible to do this because few slaves specialized in any one crop. Rather, most slaves worked, as Maria Barbara de Sá put it in 1868, in “the general service of the fazenda.”⁷⁶ It was rather complicated to run a plantation or farm that produced numerous crops, but it was not impossible because timber, sugar, food crops, cacao and coffee put different demands on the labor force, especially in southern Bahia.

Tasks rotated according to the time of the year and the rhythms of agriculture. Work was most intense whenever the rain let up. Harvesting timber and clearing new land best took place then. A good rain helped in the planting of any crops, whether sugar, cassava, or cacao, but the heavy winter rains turned the soil into mud. Sugar had to be planted every year, and manioc required regular replanting as well, but cacao and coffee did not. Consequently, planters and farmers could decide whether or not to plant new cacao or coffee in a given year. Moreover, slaves could plant cacao and manioc at the same time, because the two crops were planted in alternate rows so that the rapidly-growing manioc would shade the delicate young cacao plants in their early years. All four plants, cacao, coffee, manioc, and sugarcane required weeding, but weeds were fewer in newly cleared soil than in that which had been in use for several years, so the task was not as onerous as it might have been in a more developed region. Cacao and coffee trees required pruning as they developed, but with the small amounts that southern Bahian planters and farmers were growing, the same slaves could be assigned the task with little problem.

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Scheduling the harvesting and processing of crops was much more complicated. Again, the summer and fall would have been the most intense period. The sugar harvest would last from February to October, and would overlap with the summer cacao harvest. The second, smaller cacao harvest would have begun almost immediately after the end of the sugar harvest.⁷⁸ Coffee, however, had no distinct harvest season in Bahia, but rather produced throughout the year because of the warm and rainy climate, and it had to be picked whenever it ripened. Manioc, on

⁷⁶ No. 02/785/1252/12, Inventory of Augusto Sá Bittencourt Camara, (1868), APEBa/SJ

⁷⁷ On weather and the growing and harvesting of manioc and sugar see Barickman, *A Bahian counterpoint*, 160-177.

⁷⁸ Calmon, "Memoria sobre a cultura."

the other hand, had no distinct harvest season and could be left in the ground until the slaves were ready to harvest and process it.

Sugar cane was most difficult crop to harvest. Not only was it extremely labor intensive, it was also time and weather sensitive. Once the cane crop matured, planters and slaves had to rush to get the cane cut, transported to the mill, and processed. Not only was the work difficult, but the quality of the cut cane deteriorated rapidly if it was not processed within 48 hours. Planters and slaves were thus in a race against time with the sugar crop, which would have made it difficult for them to harvest other crops at the same time.

It was not easy to meet the demands of all of these crops in a timely fashion, but it was not impossible. Timber could be taken when necessary, and otherwise left in the forest to grow and acquire value. In addition, Indians from Olivença and Ferradas who would not work in agriculture could be relatively easily hired to take out logs, as this was the activity in which they specialized. Moreover, given the demographics of the slave population in Ilhéus, many of the slaves on an Ilhéus plantation, were relatively useless in the harvesting and processing of sugar, which largely depended upon young, male slaves for cutting cane. Women, children, the elderly, and the infirm, while not completely useless to the sugar harvest, were not central to it either. Thus, planters could assign them to harvesting cacao or coffee, which was much less difficult than cutting cane. When they were ripe, the cacao pods were cut off of the trees and piled together on the ground near the trees; the pods were then cut open and the seeds were scooped out into baskets. Thereafter, seeds were transferred to drying platforms where they were left to dry in the sun; when ready the seeds were bagged and transported to the nearest commercial outlet, either by canoe or by mule. Similarly, coffee—the beans of which were much smaller than those of cacao—had to be removed from the tree, cleaned, and dried and then hauled to the nearest sales point. When they had finished with these tasks, the slaves could turn to harvesting cassava, which was neither time nor weather sensitive. The mature roots could be left in the ground until the planter or farmer was ready to deal with them. Thus, a planter could quite effectively grow several crops if he or she organized their activities well.

As time passed, it became increasingly difficult to maintain these polycultural plantations and farms. As more and more timber was harvested to feed the sawmills, more land was opened, and planters and farmers were increasingly faced with question of which crop to plant. At the same time, the slave trade was closing, and the province of Bahia was having little success bringing European immigrants in to replace slaves. Moreover, poor

prices for Brazilian sugar and the loss of numerous Bahian slave ships to the British Navy meant that many of Bahia's—and Ilhéus's—wealthiest families did not have much excess capital for investment.

Coffee at first seemed to offer many advantages. Demand for it was strong and growing; it was a tree crop, and so did not have to be continually replanted as sugar did; and it was relatively easy to harvest and process. It did not require extensive investment in mills and processing, nor did it necessitate locating any highly skilled laborers. Anyone could be taught to harvest coffee relatively easily. In southern Bahia, however, planters and farmers who wanted to grow coffee faced two impediments: first, coffee required sun, and therefore the land had to be fully cleared before it could be planted—something that would force those who planted it extensively to take out more hardwoods than they might be able to sell or that the government might permit. As serious, coffee ripened throughout the year in southern Bahia because of the warm and rainy climate, and did not have a distinct harvest season as it did in São Paulo, so production costs were higher there than in the south.

Moreover, over time, planters understood that, in southern Bahia, cacao offered advantages over any other crop at that time. *Theobroma cacao*, whether of the *criollo* or *forastero* variety, is an understory tree crop that grows best below an intact or nearly intact tropical forest canopy. It has rarely been cultivated in this way, but almost all cacao plantations retain a part of the forest canopy to protect the cacao trees from direct exposure to wind, rain and sun. Unlike sugar and coffee, it did not require fully cleared land to grow, and so it allowed planters and farmers to use the land commercially while retaining some trees for future exploitation. Moreover, young cacao plants require shade and southern Bahian planters and farmers soon learned that they could plant manioc and other food crops in the rows between new cacao trees. There is no necessary contradiction, therefore, between maintaining hardwood species and growing cacao for the market or between growing food crops and growing cacao.

Moreover, cacao required very little labor. Once planted, cacao trees produced for upwards of fifty years, required little maintenance, and the fruit required little processing to be ready for sale. Beginning in the eighteenth century, various observers, including Manuel Ferreira da Camara, Miguel Calmon, and Joaquim Rodrigues de Souza, called attention to cacao's limited demands on labor, especially in comparison to those of sugar. Calmon and Rodrigues de Souza were particularly impressed that enslaved women and children, as well as elderly and ill slaves

could all be beneficially employed in cacao.⁷⁹ Both gave extremely optimistic estimates about the number of slaves that would be required to run a cacao farm. In 1838 Calmon argued that only ten people, including the aged, the ill or the very young, or six adult men, were necessary to maintain and harvest a cacao grove of 6,400 trees;⁸⁰ fourteen years later Joaquim Rodrigues de Souza suggested that twenty male slaves could handle a farm of 20,000 cacao trees, although slightly more slaves would be required if women and children were employed. He even idealistically suggested that growing cacao might one day allow Bahian planters to give up slavery altogether.⁸¹ Sugar, on the other hand, required large labor forces and a number of highly skilled craftsmen, while in coffee slaves were needed to harvest the crop all year round in southern Bahia and could not be put to other tasks.

Very little capital was required to become a cacao planter. Planters and farmers did not have to purchase many expensive young, male slaves or expensive processing equipment. They could purchase women and children, who were less expensive, and put them to work alongside men. Moreover, they did not need the money to purchase expensive grinding and boiling equipment from abroad, or to build water wheels and sugar mills. Moreover, the highly skilled craftsmen who were essential to the sugar industry were not required in cacao. Once the land was cleared all a planter or farmer needed to plant, grow, and harvest cacao was a few hoes, some tree pruning equipment, machetes and a few baskets. To process it, he or she optimally constructed some wooden crates for the fermenting process and platforms open to the sun for drying the cacao. It was possible, however, to dry the cacao on banana leaves and ignore the fermenting process altogether. Anyone could do this. How much they could grow depended solely upon the amount of labor and capital available to them.

As early as 1789 observers were estimating that cacao gave phenomenal profits with almost no investment. One even went so far as to argue that two-thirds of the income earned in cacao would be profit.⁸² Although their estimates may have been too high, they seem to have been correct that profits were good or at least better than in other sectors. Ilhéus sugar and *cachaça*, earned only 2\$2 per alqueire and 1\$ respectively, although prices for staple crops, such as manioc, *inhames*, and rice, were high. Coffee probably earned higher prices than any other crop locally. Although there are few statistics for coffee specifically from the cacao-producing communities, those few

⁷⁹ Câmara, "Ensaio de descrição," 304-350.

⁸⁰ Miguel Calmon du Pin e Almeida, "Memoria sobre a cultura de cacao" *Boletim da Sociedade d'Agricultura da Bahia*. 1946, reprinted in the *Gazeta de Ilhéos*, October 16-30, 1904.

⁸¹ Rodrigues de Souza, *Memoria sobre a lavoura de cacáo*, pp. 1, 4, 7.

that do exist show coffee earning as much as 2\$ per arroba more than cacao in the 1860s when southern Bahian planters and farmers were turning the land over to cacao rather than coffee.⁸³ Unless southern Bahia farmers were completely unresponsive to prices—which seems unlikely—they must have been doing so because they earned more from cacao despite the better prices for coffee. When we take into consideration the amount of investment or labor required for producing cacao in Bahia, as compared with coffee or any other crop, it seems clear that the return on cacao must have been greater than that on the other crops.⁸⁴

With advantages like these, it is surprising that all southern Bahian planters and farmers did not jump immediately into growing extensive amounts of cacao in the nineteenth century, but they did not. The problem was, that many of them lacked the labor and capital to plant all of the land that they owned. The small group of large estate owners had the where-with-all to turn their sugar and timber estates into cacao and timber estates in the second half of the nineteenth century, but most of the farmers did not.

Thus, in the second half of the nineteenth century there continued to be extraordinary differences in wealth among landowners in Ilhéus. By the 1850s almost all of the sugar mill owners in Ilhéus were turning their properties into cacao plantations. Eventually, most of them let the fires in their sugarmills go out.⁸⁵ Among them were the Cerqueira Limas, a branch of Bahia's famous slave trading family, as we have already seen, but Fortunato Pereira Gallo of the Engenho Santo Antonio das Pedras, the Paivas of the Engenho Pirata, and the Sá Bittencourt Camaras, nephews of the late colonial economist, Manuel Ferreira da Camara. Slave labor was key to the rapid transformation of their estates: All of them owned upwards of 25 slaves, and some owned between 60 and 100.⁸⁶

The farmers did not have the resources to plant so much cacao so rapidly. Planters with between 10 and 25 slaves were able to plant between 10,000 and 15,000 trees and sometimes cultivate a bit of coffee as well. Tenente Colonel Manoel Marques Cardoso, for example, owned 14 slaves and 8,000 cacao trees in 1866; while the French

⁸² Calmon, "Memoria sobre a cultura." On returns in sugar investments see Schwartz, *Sugar Plantations*, 226-29.

⁸³ *Relatorio*, 1866, Anexo 8 and APB, SH, Juizes, maço 2400, Antonio Gomes Villaça, Lista etc.

⁸⁴ *Relatório*, 1866, Anexo 8.

⁸⁵ No. 02/754/1220/11, Inventory of Capitão Egydio Luis de Sá, (1880); No. 02/786/1253/06, Inventory of Maria José Scola del Rei and Josefina Carolina Scola del Rei, (1861); Livros de Notas, Ilhéus, No. 12, 12/4/1851 - 04/25/1854, Escrivão: Hostílio Tulo Albuquerque Melo, APEBa/SJ; Maximilian, *Recollections*, III:360; AD: Fernando Steiger e outros v. Albino Francisco Martins, (1911), FEBC/PCVC.

⁸⁶ Livros de Notas, Ilhéus, No. 14, 27/04/1854 a 10/11/1859, Hostilio Tulo de Albuquerque Melo; No. 05/2177/2646/04, Testament of Pedro Cerqueira Lima, (1881), APEBa/SJ; Inventory of Pedro Antonio Cerqueira Lima, (1894); Registro de Testamentos, FEBC/PCVC; Aguiar, *Província da Bahia*, 266.

immigrant Lavigne family owned 15 slaves, 15,100 cacao trees and 3,000 coffee trees in 1878; and José Lopes da Silva had 11 slaves, 8,030 cacao trees and 1,000 coffee trees on his farm in 1888.⁸⁷ Farmers with fewer than ten slaves were usually only able to plant between 1,000 and 5,000 trees. Acrísio Januário Cardoso, for example, owned just over 1,000 cacao trees and seven slaves when he died in 1887; Joaquim Alves da Silva had nine slaves and 3,687 trees; João Pedro Bonim had four slaves and 1,200 cacao trees; and Felícia Maria Abreu e Castro owned four slaves and 1,579 cacao trees. Farmers with only one slave could have almost as many trees as their neighbors with a few more, sometimes because they were elderly farmers who had previously owned more slaves. Maria Juliana Wense, for example, owned one slave and 1,936 trees when she died, while Agostino Antonio da Silva owned one agricultural slave and 1,000 cacao trees at his death. Farmers with no slaves at all rarely owned more than 1,000 cacao trees unless they were members of a large family with grown children.⁸⁸

The small number of cacao trees on the plantations of these farmers did not necessarily reflect the amount of land available to them. Many of them owned extensive amounts of forested land in one or more parts of the territory, but none of them had direct access to the market in Salvador, none of them could acquire enough slaves to plant all of the land that they owned, and there was very little labor of any other sort available. Thus, they were forced to sit by and watch their wealthy neighbors getting wealthier. It was a source of frustration, and ultimately, anger. Those wealthy families, after all, controlled access to credit and they were not sharing.

Conclusion: Internal and External Factors in the Emergence of Bahia's Cacao Sector

This paper has argued that several factors contributed to the emergence of Bahia's cacao sector in the nineteenth century, including timber policy, climate and soil, the availability of labor and capital, and the creation of

⁸⁷ No. 02/750/1216/09, Inventory of Maria Bonim Lavigne, (1878); No. 03/1298/1767/08, Inventory of Acrísio Januário Cardoso, (1887); o. 02/760/1226/04, Inventory of José Lopes da Silva, 1888; No. 02/762/1228/12, Inventory of João Carlos Hohlenwerger, (1886); No. 02/759/1225/3, Inventory of Domingos Lopes da Silva, (1883), APEBa/SJ; Inventory of Domingos José de Lemos, (1888); Registro de Testamentos, FEBC/PCVC. *Baptismos, II*; Registro dos nascimentos.

⁸⁸ No. 03/1298/1767/08, Inventory of Acrísio Januário da Silva, (1887); No. 03/742/1207/02, Inventory of João Pedro Bonim, (1868); No. 02/761/1227/13, Inventory of Joaquim Alves da Silva, (1885); No. 02/759/1225/6, Inventory of Felícia Maria Abreu e Castro, (1883); No. 02/795/1220/14, Inventory of João Segismundo Cordier, (1849); No. 02/761/1227/13, Inventory of Joaquim Alves da Silva, (1885); No. 03/742/1207/02, Inventory of João Pedro Bonim, (1868); No. 03/1298/1767/08, Inventory of Acrísio Januário Cardoso, (1887); No. 02/759/1225/6, Inventory of Felícia Maria Abreu e Castro, (1883); No. 03/742/1207/03, Inventory of Sofia Claudentina Batista, (1882); No. 03/762/1228/03, Inventory of Maria Juliana Wense, (1885); No. 03/742/1207/03, Inventory of Agostino

demand for industrialized cocoa and chocolate, but that, over all, cacao became Bahia's most important crop due to choices that Bahian planters and farmers made, on the basis of the information available to them. Understanding the emergence of cacao in southern Bahia requires, therefore, understanding that it was a process in which international demand played an important—but not necessarily the only—role.

¹On the manioc trade and manioc farming see B. J. Barickman, *A Bahian Counterpoint* (Stanford University Press, 1999). The history of the cacao area is drawn from Mary Ann Mahony, "The World Cacao Made: Society, Politics, and History in Southern Bahia, Brazil, 1822-1919," Ph.D. diss., Yale University, 1996.