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The sweet and the bitter: Cuban and Puerto Rican responses to the mid-nineteenth-century sugar challenge

Comparative study of the mid-19th-c. world market sugar pressures in Cuba and Puerto Rico. Both colonies responded differently to these pressures, a reflection of divergent levels of capital resources and adaptability. The Cubans sought to expand sugar production, while planters in Puerto Rico fell victim to stagnation and decline.

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THE SWEET AND THE BITTER: CUBAN AND PUERTO RICAN
RESPONSES TO THE MID-NINETEENTH-CENTURY SUGAR
CHALLENGE

Despite the enormous potential for regional and comparative approaches to the history of Cuba, Puerto Rico, and the Dominican Republic, few students of the Hispanic Caribbean have produced works that transcend the traditional island-by-island approach. Studies put forth in the 1980s by Laird W. Bergad, Andrés Ramos Mattei, Roberto Marte, and the editors of *Between Slavery and Free Labor*, however, have begun to point in the direction of comparative possibilities and a less fractionalized view of the region.¹ This article attempts to contribute to the still very modest body of historiography that seeks to integrate more than one of the components of the Hispanic Caribbean. It focuses on one particular aspect of the region's history: the mid-nineteenth-century world market sugar pressures, and how Cuba and Puerto Rico responded to them.

The 1840s and 1850s were a period in which international market exigencies put enormous pressures on the economies of Cuba and Puerto Rico, in fact, on those of all sugar-exporting regions. Sugar consumption increased tremendously in countries like Great Britain and the United States as new, lower tariffs for the sweetener were put in place. As Sidney W. Mintz (1985:148) aptly put it: "A rarity in 1650, a luxury in 1750, sugar had been transformed into a virtual necessity by 1850." Increased demand for sugar – an apparently favorable development for sugar producers – was, however, only half the story. The supply of cane sugar from a variety of regions and beet sugar from Western and Central Europe also increased exponentially during this period with world beet sugar production jumping from 60,857 metric tons in 1845 to 351,602 metric tons in 1860 (Moreno

Fraginals 1978, III:36).² Sugar prices, thus, fell or at best remained stagnant during the 1840-1856 period, shrinking the profit margins of sugar producers around the world.³ Under such pressing circumstances, sugar planters in the Caribbean had to adjust to the new exigencies of the world market; planters in Cuba and Puerto Rico responded differently to these pressures, a reflection of divergent levels of capital resources and adaptability.

THE CUBAN RESPONSE

Cuban planters as a whole responded to the new realities of the world market by accepting the sugar challenge: in light of diminishing profit rates they sought to expand sugar production. During this critical time, Cuba's economy continued to steer away from diversification and relative self-sufficiency toward sugar monoculture and dependency. By 1855, sugar and its by-products represented 84 percent of Cuba's exports, and by 1862 this category represented 58 percent of the island's entire agricultural production (García de Arboleya 1859:238, Marrero 1984, X:101). Other traditional staples like coffee, tobacco, and cotton suffered serious setbacks as land, labor, and capital previously linked to these crops were siphoned off to the insatiable world of sugar. The number of coffee farms in Cuba, for example, fell from 2,067 in 1827 to 1,670 in 1846, and to 782 in 1862, a 62 percent drop in thirty-five years (Schroeder 1982:239).⁴ By the late 1870s, there remained less than 200 coffee estates in the entire island. In contrast, the number of sugar estates grew considerably during the same period from 1,000 in 1827 to 1,422 in 1846, to 1,650 in 1850. During the 1850s, the number of sugar estates actually declined somewhat to 1,365, a reduction, however, that indicated concentration rather than contraction.⁵ Not only did the Cuban economy accept foreign dictates to produce more sugar, but also specific kinds of sugar. The core nations with refining sectors to protect, the United States and Britain, shut off their markets for Cuban semi-refined sugar and called upon Cuba to produce more, of a lesser quality and for a smaller number of markets.

By the end of the 1850s, Cuba was a full-fledged sugar island. Seventy percent of the island's agricultural production consisted of sugar, close to 50 percent of all its slaves worked in sugar plantations, and more than 25 percent of its cultivated land was destined to sugar cane (Knight 1970:40-41). These transformations were apparent to contemporary observers. "There are no manufactures of any consequence" wrote Richard H. Dana (1859:129), "the mineral exports are not great; and, in fact, sugar is the one

staple. All Cuba has but one neck – the worst wish of the tyrant.” A year later, Ramón de la Sagra (1963) warned against the island’s dependence on a single export crop and coined the phrase “*agricultura de rapiña*” (preying agriculture). The problem of monoculture was aggravated by the fact that sugar went primarily to one market: the United States.

To stay competitive and to meet the quantitative and qualitative international demands, Cuba’s planter class embarked on expansion resting on two simultaneous, although seemingly contradictory, strategies: the mechanization of the sugar industry and the expansion of the servile labor force. New machines had always been a symbol of status among Cuban planters. Their mouthpiece of the late eighteenth and early nineteenth centuries, Francisco de Arango y Parreño, had emphasized the necessity of integrating Europe’s latest technology into the island’s *ingenios*. Steam-powered engines made their debut in Cuba as early as 1796 and the island’s first railroad system was in place by 1837, more than a decade before it would appear in Cuba’s *de jure* metropolis.

The mechanization of Cuba’s sugar industry in the 1840s and 1850s did not, however, touch upon all aspects of sugar production and transportation. Despite some efforts to introduce steam-powered plows, planting and harvesting remained in their primitive forms as labor-intensive, manual tasks. New technology, however, transformed dramatically most of the manufacturing stages of sugar production. Steam engines to power larger and more sophisticated cane grinders became common in the 1840s and 1850s. Whereas in 1827 only 2.5 percent of the island’s sugar mills were run by steam engines, in 1860 close to 70 percent of the island’s sugar mills used this type of energy. Some estimates put this proportion near 91 percent by the end of the 1850s.⁶ This transition from muscular and hydraulic power to steam increased the grinding capacity and speed of the average *ingenio* enormously.

The next major step in sugar production, the crystallization of the *guarapo* (cane juice), also required improved mechanization in order to keep pace with the greater and faster outputs of the grinding phase. In this area the major technological innovation was the vacuum pan, known in the region as *tacho al vacío* or *tren Derosne*. In 1844, Wenceslao de Villaurrutia introduced one such device in his *ingenio*, replacing the open pans system (*trenes jamaquinos*) in which boiling cane juice had to be manually transported through a succession of pans of different sizes (Marrero 1984:250). Because of their exorbitant price tags, however, Derosne and similar crystallizing devices were much slower in their penetration of Cuban sugar-making. Only the largest and most financially sound – or the most daring – of the *ingenios* managed to acquire vacuum pans in this period. By 1863,

only 4 percent of Cuba's *ingenios* had them. Four years later, a total of seventy-five *tachos al vacío* were operating at a staggering average cost of \$120,000 (Ely 1963:539).⁷ The rest of the planters had no option but to multiply the number of open *trenes* in order to keep up with the increased grinding capacity achieved with steam.

The following step, the *purga* or separation of sugar crystals and molasses, was the next phase in the mechanization orgy of the mid-century. Bottlenecks now occurred in this slow and simple procedure. Traditionally, the *purga* was achieved through a long process of filtration (lasting thirty to fifty days), which consisted of pouring the saturated molasses into conical containers with a cloth-covered hole on the bottom. By force of gravity most of the molasses covering the crystals dripped out into special containers, leaving behind sugar crystals of various degrees of purity. This stage was revolutionized by yet another innovation of the industrial age: the centrifuge – a spinning device with a metallic screen which pushed the excess molasses out of its inner drum, leaving the dried sugar crystals in the inner chamber. Cuba's pioneer in the use of the centrifuge was Joaquín de Ayestarán in his *ingenio* La Amistad in 1850 (Marrero 1984:194-95). These devices were popularized to such an extent that 116 of them were purchased in 1862 alone (Marte 1988:296).

Students of Cuban agrarian and social history have underscored the importance of yet another aspect of the industry's mechanization: railroads. According to Manuel Moreno Fraginals (1978, I:272) the establishment of the Güines railroad in 1837 marked "a fundamental mile-stone" in the rapid expansion of sugar in the 1840s and 1850s. In the same vein, Franklin Knight (1970:38) concludes that railroads were instrumental in freeing sugar production from earlier constraints that limited the extension of single *ingenios*. Knight stresses that the introduction of locomotives reduced transportation expenses and liberated a considerable segment of the plantation labor force, which could now be transferred to the production stages. Indicative of the railroad's importance is the use of 1837 as a periodization watershed by Laird W. Bergad (1990:109-14) in his recent book on Matanzas. Twenty-two years after the Güines locomotive puffed its first clouds of smoke, the Cuban railroad network consisted of 378 completed miles and 184 more miles under construction (García de Arboleya 1859:200-1). By 1865 the railroad network stretched along 754 operating miles.⁸

The mechanization of the Cuban sugar industry was not as simple as choosing models from the catalogues of the West Point Foundry or Derosne and Cail. It required enormous amounts of money which planters often did not have. Since the addition of new machines had to be coordinated with the acreage, the number of slaves, and the rest of the machines in the complex,

one addition in any particular phase usually translated into the necessity of further investments in more machines, land, and slaves. To set up a mid-size sugar plantation in the 1850s required an original investment of between \$300,000 and \$350,000 with yearly injections of \$40,000 for upkeep and renovation of the slave force (Ely 1963:446-47; Knight 1970:69). Because of the costs involved only a small segment of the old Cuban planter class managed to reorganize and expand their sugar operations to meet the challenges of the mid-century. Between 1838 and 1851, Francisco Pedroso y Herrera, Nicolás Peñalvar y Cárdenas, Ignacio Peñalvar y Angulo, Gonzalo de Herrera, Nicolás Martínez de Campos, and José Luis Alfonso and his brother José Eusebio Alfonso either set up new mechanized *ingenios* or reorganized the ones they had (García de Arboleya 1859:137-38; Knight 1970:39). Many others could not produce the cash or credit required to buy the expensive machinery and continued to struggle along with what they had for as long as they could. Between 1850 and 1860, 385 *ingenios* ceased operations, a 23 percent decrease.⁹ According to Moreno Fragonals (1978, I:222), the incapacity to purchase vacuum pans ruined the old planter class. One could also argue that it was precisely the disorderly, yet seemingly unavoidable, purchase of sugar-producing equipment that paved the road to their eventual ruin. Meanwhile, new capital from licit and illicit commercial enterprises moved in to accept the sugar challenge and establish fully mechanized sugar operations. The Aldamas, the Diagos, and Julián Zulueta were salient members of the new planter class composed mostly of first and second-generation immigrants.

Another goal of most planters wishing to mechanize was to reduce the industry's dependence on imported slave labor. The growing number of slaves and their majority status, first revealed by the census of 1841, were a constant source of anxiety among the propertied classes, which feared a St. Domingue-style racial war. Moreover, international pressures for the cessation of the slave trade sent clear signals to the Cuban plantocracy that they better start looking for alternative sources of labor. In 1854, Cristóbal Madan estimated that the application of the latest technology could reduce labor demands by seventy-nine men in a medium-sized, 4,000 hogshead *ingenio* (Hacendado 1854:32). He continued to state that it was not possible,

to enumerate the changes fostered by the exclusion of ignorant and barbaric hands, substituting them by a higher intelligence, one manifested in machines and inventions as well as direction and rational structuring of the work process.

Since the mechanization of the sugar industry failed to touch the planting and harvesting of sugar cane, the process did not alleviate labor needs; on the contrary, it increased them. The voracious appetite of the new mills had

to be satisfied, thus requiring the expansion of the cultivated area and the addition of new planting and cutting hands to allow the costly new machines to operate at full capacity. Alternative sources to bonded labor, however, were not easily forthcoming. Immigrants from the Peninsula and the Canary Islands tended to avoid plantation labor, and by the 1850s the island's planter class gave up hopes of promoting white colonization after innumerable failures and frustrations during the previous decade. Attempts were also made to reduce the dependence on black slavery by introducing coolie laborers from the Orient. During the second half of the 1850s, some 37,000 Chinese coolies arrived in Cuba as contract laborers.¹⁰ An anonymous member of the Creole elite dramatized the labor crisis when he stated in *La Gaceta de la Habana* that he would welcome not only Asian laborers, but even "orangutans if these were susceptible to domestication."¹¹ Thus, a paradox arose whereby, on the one hand, the planter class was stepping into the future, embracing the latest technology in sugar manufacturing, while on the other, it remained deeply attached to slavery and other forms of servile labor.

The relationship between mechanization and slave labor has long been a central issue of Cuban historiography. In the late 1940s, Raúl Cepero Bonilla (1948) put forth the thesis that the continuation of slavery was incompatible with the modernization of Cuba's sugar industry. He argued, rather dogmatically, that the enormous cost of slavery hindered the accumulation of capital necessary for successful mechanization and that slaves were not capable of operating the new complex machinery. Other Cuban historians have built upon Cepero Bonilla's interpretation, most notably Moreno Fragonals (1978, I:27, 49) and Fe Iglesias García (1985:59). Iglesias García recently asserted that slavery was a barrier to industrialization, and estimated that slaves represented between 38 and 40 percent of a mill's investments. Herbert S. Klein (1973:307-15) challenged the "incompatibility" thesis in the early 1970s. He pointed out that sugar producers in Louisiana had successfully modernized their industry *before* the abolition of slavery. More recently, Rebecca J. Scott (1985:89) concluded that "during the 1860s and 1870s, when the 'contradictions' within Cuban slavery were in theory becoming most apparent, the major sugar areas were nonetheless holding on to most of their slaves..." According to Scott, it was precisely in the most advanced and mechanized sugar regions where slavery persisted. More recent studies by Bergad (1989, 1990) emphasize both the viability and profitability of slavery well into the late 1860s. Actually, the Cuban planter class had no alternative but to mechanize and expand if it was to stay in business; this demanded more labor, and since alternative sources failed to provide it, the only reasonable response was to remain attached to slavery. Neither theoretical incompatibilities, which do not affect the course of

history, nor slave resistance, which is sometimes romanticized, brought about the institution's eventual demise.

During the 1850s, following four years of sharply reduced slave importation after the conspiracy of La Escalera, slave trading boomed once again (Eltis 1987:109-38). Increased demand and the slave population's inability to reproduce itself spurred the growth of the slave trade. According to estimates reported by the British judges of the Havana Mixed Commission, a total of 67,422 slaves were imported between 1849 and 1858. In October 6, 1855, British Consul Joseph Crawford reported: "This Island seems to be beset with slavers; they are swarming and what is worse, they appear to succeed in landing their Slaves eluding the vigilance of the Spanish authorities always." The high watermark of slave importation was reached in 1859-1861, when the Mixed Commission registered 58,705 importations and ninety-four enslaving expeditions (Murray 1980:244, 259).

Growing demand for labor during this period and the increasing legal difficulty faced by slave traders translated into higher slave prices. The average price for a *bozal* (African-born) jumped from between \$300 and \$350 in 1845 to between \$1,000 and \$1,500 in 1860.¹² Another indicator of Cuba's desperate demand for labor were recurrent attempts to siphon slaves from Puerto Rico and Brazil.¹³ According to the late Arturo Morales Carrión (1978: 200-3), a student of Puerto Rico's slave trade, the 1850 epidemic in Cuba with a toll of 30,000 slaves, spurred the flow of slaves from Puerto Rico to Cuba. Speculators were accused of buying up entire estates in Puerto Rico just to gain control over their bonded labor force for export to Cuba. This practice continued even after authorities in Puerto Rico established a \$75 export tax (per slave) in 1853. Harsher labor conditions in Cuba made the threat of being sold there, one of the most effective disciplinary measures that a planter in Puerto Rico could use against his slaves. In fact, Cuba was to the Puerto Rican slave what Mississippi and Alabama were to slaves in the Middle Atlantic region of the United States: hell.¹⁴ In March 1854, Captain-General Fernando de Norzagaray effectively put a stop to this flow of slaves out of Puerto Rico. In his decree's preamble he alluded to constant complaints by Puerto Rico's planter class. Cuba also imported slaves from Brazil, most probably from that country's depressed sugar regions of the Northeast (Díaz Soler 1967:407-8).

If planters' labor needs were the main stimulus behind slave trading, bribes and traders' profits insured the continuation of the trade. Captain-General Leopoldo O'Donnell was said to have left Cuba in 1848 with a fortune of over half a million dollars derived from slave importation bribes (*La Verdad* 1851:4). His successor, Federico Roncali, true to O'Donnell's precedent, charged a bribe of fifty-one pesos per imported slave (Ely 1963:585).

In an 1853 dispatch British Consul Joseph Crawford reported on the extent of official corruption regarding the slave trade.

[T]he Spanish Officers are bribed; the Slave Traders interested commit their offences and repeat them with the most complete impunity; Commissions sent by the Chief Authority of the Island to investigate such offences are baffled, or corrupted, the Masters and Crews are not punished, the Vessels are allowed to escape...¹⁵

In one instance the smugglers of 468 *bozales* to the Southern coast of Cuba had to pay bribes amounting to 468 gold ounces to the port's commanding officer, 234 gold ounces to the captain of the port, and 200 gold ounces, each, to the port's collector and tide-surveyor, a total of 1,102 gold ounces. Rumors circulated that Captain-General José de la Concha received one gold ounce (\$17) for each slave landing on Cuban shores and that in 1859 alone these fees earned him \$680,000.¹⁶ Despite this high rate of "taxation," slave trading brought enormous profits for traders bringing slaves into Cuba. According to an 1860 report by the British consul, slavers could afford to lose four vessels to every successful expedition and still make a profit (Murray 1980:266). In an 1861 report to Judge Truman Smith of the New York Mixed Commission, Robert W. Schufeldt estimated that a five-hundred-slave expedition could net \$236,500. He calculated costs to be \$37,500 for the slaves, \$7,000 for the ship, \$19,000 for wages, and \$100,000 (the largest single category) for bribes. Later estimates stated that slaves costing only \$40 worth of cheap liquor and rusty rifles in Africa could be sold in Cuba for \$600 and more. According to Hiram Fuller of the *New York Mirror*, an individual investor could buy \$500 worth of stock in a slave trading company and expect to return \$10,000 in a year or two.¹⁷

The mechanization and slave trading orgy of the 1840s and 1850s provided a means for social mobility that eventually led to the subordination of one elite by another. New machines and fresh slaves came at no small cost to Cuban planters. As a class, they soon found themselves indebted to the Spanish-born merchants who grew wealthy from speculation in slaves, capital, dry goods, and machines deemed necessary for the expansion of the sugar industry.

The Cuban sugar boom of the late 1700s and early 1800s stands as the deviant case of the Caribbean; it was the only such experience fueled by domestic capital and *native* skill. On this matter Knight (1977:249) has written:

The sugar revolution derived its greatest impetus from the entrepreneurial skills of the oldest families in Cuba. These families, having become rich in land and having access to public offices, found themselves strategically positioned to take every advantage of the early economic development.

Among the most salient names of these old families stood those of Arango, Montalvo, Duarte, Peñalvar, Cárdenas, Herrera, Chacón, O'Reilly, Calvo de la Puerta, O'Farrill, Pedroso, and Nuñez del Castillo.¹⁸ The sugar operations of these and other planters consisted of patriarchal, self-sufficient units, requiring little financing and only a primitive technology. According to Moreno Fragnals (1978, 1:63) the magical numbers of these units were one hundred slaves, producing 115 tons of sugar. Growth beyond that was achieved simply by establishing additional *ingenios*.

Evidence suggests that by the late 1830s, the majority of Cuba's sugar planters lacked the capital needed to expand and reorganize their enterprises. "[T]here are many known cases," wrote one observer, "who while having estates worth 200 or 300,000 pesos, can not dispose of 2,000 without needing them" (Zaragoza 1837:24). Thus, for many Cuban planters willing to accept the expansion challenge, mechanization meant recourse to outside sources of credit. In a society where, with few exceptions, there were no real banks until the 1850s, merchants played the role of money-lenders by advancing cash and imported goods in exchange for the guarantee of the planters' next harvest. The recourse to this mechanism, known as *refacción*, represented the subordination of the planters' interests to those of the mercantile class and eventually the takeover of landed wealth by the latter. Interests stipulated in *refacción* contracts ranged between 18 and 20 percent, a virtually confiscatory rate if compared to the going rate for credit in Europe, 4 to 5 percent (Ely 1963:324-25). Aside from profits derived from interests, merchants were able to extract profits by forcing planters to buy overpriced hogsheads, by charging excessive sales commissions and storage fees, and by speculating with the sugar that they bought at an agreed price before the harvest (Bergad 1990:174).

Many contemporary observers and more recent students of the region's history have blamed these high rates of interest on a specific piece of sixteenth-century Spanish colonial legislation: *el privilegio de ingenios* (privilege of the sugar estates). This law protected sugar producers from having their land, slaves, and equipment seized for debt. Francisco de Arango y Parreño was among the first Cubans to blame the ills of the island's sugar culture on the maligned *privilegio*. In a May 24, 1797 deposition to the Development Board, Arango y Parreño called for its abolition. He argued that the *privilegio* kept good land in bad hands and that it favored not only those suffering misfortune but also the "treacherous swindlers" (Marrero 1984:210). Another critic implied that such laws favored the debtors as he recounted the anecdote of a merchant who was sentenced to forty years in prison for attempting to collect from a delinquent marquis (De Roches 1869:15-17). In the middle of the nineteenth century, colonial administra-

tors in Cuba and Puerto Rico stepped in to remedy some of the problems of the sugar industry by attacking the centuries old *privilegio*. On November 10, 1848, Captain-General Juan de la Pezuela promulgated a decree granting sugar planters in Puerto Rico the dubious right to renounce the *privilegio*. Four years later, a royal decree provided that *ingenios* established hence would no longer enjoy the *privilegio*, and that all others would lose it by 1865.¹⁹ Although no actual documentation supports this contention, it is likely that in light of their pressing needs for credit, planters were willing to forfeit their *privilegio* as a precondition for credit.²⁰

In summation, by accepting the expansion challenge, Cuban planters prepared the scenario for their downfall. Having little capital to finance their industry's modernization, the most daring resorted to expensive sources of credit. Others simply backed away from expansion. By the end of the 1850s the planter class had lost financial control over the sugar industry. With the *privilegio* gone or about to expire, the actual loss of its property became a matter of time. The economic and financial crisis of 1857 further aided this process. In that year alone 250 bankruptcies were registered in Havana (Pérez 1988:113). Francisco López Segrera (1979:114) has concluded in his study of the Cuban economy that by 1860 Spanish commercial capital had gained almost complete control of the sugar business. According to Moreno Fragnals (1985:16), two-thirds of the Cuban sugar industry were mortgaged, and consequently in the hands of the mostly foreign merchant class by 1863. At that point 95 percent of the *ingenios* were mortgaged to some degree.

The mechanization of the Cuban sugar industry and the consequent rise of slave importations, the two processes that sealed the fatal destiny of Cuban planters, were precisely the circumstances favoring the ascendancy of Spanish commercial capital. During the 1840s and the 1850s, the Peninsular element gradually moved into territory heretofore monopolized by the Creole elite. Spaniards seeking a fortune in Cuba usually found it in one or more of three ways: first, government service through high salaries and access to even higher bribes²¹; second, usury and speculative trading-lending; and finally, contraband, particularly in slaves.

Spaniards migrating to Cuba usually carved their niches in either the colonial bureaucracy, Church, military, or commercial sector. Only on rare occasions would Spanish immigrants engage directly in agricultural ventures of their own; Julián Zulueta being a notable exception to this. Zulueta, a poor and illiterate Basque immigrant, started out as a *dependiente* (shop clerk) gradually moving up to become an independent merchant, and later (1844) a plantation owner as well. By 1857, Zulueta, who was active in slave trading, was Havana's largest slave-owner, with 1,475 slaves.²² "I have not

seen during the time I have been in this Island,” wrote a visiting traveler, “a single Spaniard cultivating the soil.”²³ Most Spaniards started out as *dependientes* in commercial establishments, perhaps working for a so-called *tío* (distant relative, called uncle) or a *paisano* (fellow-countryman). Through thrift, cunning, or deceit, or a combination of all three, some *dependientes* managed to amass small fortunes which eventually allowed them to set up their own commercial enterprises.

Comprised mostly of Peninsulars, the commercial sector exploited and subordinated the planter class through a multitude of mechanisms. First, it advanced overpriced goods and cash at the exorbitant rate of 18 to 20 percent. Second, it set the price at which sugar was received as payment. Third, it collected fees, commissions and other charges for transporting, storing, and selling the sugar. As if this was not enough, some merchants refused to accept sugar not packed in the containers that they sold. Their hogsheads and barrels were, thus, forced upon indebted planters at prices far above their market value. An extreme practice by some merchants consisted of collecting the molasses that dripped from sugar hogsheads during their storage. These dripping molasses were not credited to the planters at the time of shipping, rather they were retained by greedy merchants as an additional source of profit. For them, it was obvious, every drop counted (Ely 1963:306-7; 1964:470-72).

Rather than wait for the drops of molasses to accumulate slowly, some merchants opted for quicker ways to make their fortunes. None was quicker than trading in slaves. Roland T. Ely (1963:330-31), a student of Cuba's commercial sector in the nineteenth century, concluded that a great many of the island's commercial fortunes were made by importing and selling slaves. Another student of Cuban society in the nineteenth century, Robert L. Paquette (1988:46-47), asserts that slave trading was one of two ways in which newcomers became members of the elite – marrying into it being the other. The previously mentioned Julián Zulueta was one of the *nouveaux riches* and to cite just another example, José Suárez Argudín arrived penniless from Asturias and within a few years became one of the island's wealthiest men, elected deputy to Madrid in 1867.²⁴ Interestingly, contrary to the trend during the eighteenth and early nineteenth centuries whereby the new Spanish immigrants soon became “Cubanized” through absorption into older Cuban clans, the newer waves now tended to retain their Spanish identity and acted and saw themselves as superior non-permanent residents of the island. Spanish cultural clubs, such as *el Casino Español*, and participation in the infamous Volunteer Corps increasingly served to reinforce this sense of separateness during the later decades of the nineteenth century. The origins of this divide can, perhaps, be found in the anti-Creole policies

of Captain-General Miguel Tacón and in the mid-century ideological split over the issue of the slave trade. This issue clearly drew the line separating the mostly Creole planter segment, opposed to the continuation of the slave trade, and the mostly foreign commercial sector, intimately linked to slave trading activities.

Finally, simultaneously with the process of economic subordination outlined above, the colonial state through banishment and confiscation aided in the displacement of the Cuban elite; the *coup de grace* would come with the Ten Years' War (1868-78).²⁵

PUERTO RICO'S RESPONSE

Puerto Rico responded quite differently to mid-nineteenth-century world market demands for tropical staples. Whereas Cuban planters attempted to remain competitive by increasing output through expansion and mechanization, in Puerto Rico planters fell victim to a sustained crisis marked by stagnation and decline. Between 1850 and 1859, Puerto Rico's sugar exports declined at an average yearly change rate of 26,317 *quintales*; the decade started with exports of 1,121,294 quintals and ended with exports of 884,443 *quintales*.²⁶ In the light of the crisis some of the capital backing sugar production was diverted to other agricultural ventures or commerce or simply faded away in the face of a prolonged crisis that reached its nadir in the 1870s.

A series of basic differences separated Cuba and Puerto Rico in terms of their economic history and their capacity to meet the challenges of the mid-century. Above all, Puerto Rico's sugar boom, which started some fifty years later than Cuba's, was fueled, financed, and managed by foreign capital and immigrant entrepreneurs. Interestingly, while the origins of the Cuban sugar revolution are usually traced back to the British occupation of Havana 1762-63 (an eleven-month period during which the port city received an influx of ten thousand slaves), the boom in Puerto Rico is attributed to the measures of the 1815 *Cédula de Gracias*, which, among other things, promoted the immigration of foreign capitalists. In short, while Cuba imported its labor force, Puerto Rico began by importing its bourgeoisie.

A prosopographic analysis of Ponce's planter class by Francisco A. Sca-rano (1981) has demonstrated that only 28 to 30 percent of the municipality's sugar planters were Puerto Rican (1827-45). As he points out, even these percentages do not give a full picture because the estates owned by Creoles were among the smallest of the holdings.

By the middle of the century, the privileged strata of Ponce's society were primarily composed of first or second generation immigrant families, while only a minority of the sugar estate owners could trace their origins to the old elite of *hateros* and *estancieros*, the patriarchal rural elite of the eighteenth century. (Scarano 1981:23)

One of the drawbacks of having a foreign-born bourgeoisie leading Puerto Rico's transition to an export economy was that the capital behind the process was uncommitted and highly mobile. French, Spanish, or German planters in Puerto Rico could easily sell their land, slaves, and equipment and retire back to Europe if pressed too hard, or they could shift their capital resources into commerce, where most of the plantation capital had originated. In contrast, the Cuban planter class had an additional incentive to face the sugar challenge. For them, holding on to their land meant keeping an ancestral symbol of status and prestige; their lands, many times linked to titles of nobility, had passed from generation to generation, deemed the most important legacy they could hand to their heirs. Besides, Cuban sugar estates were larger and could resist times of crisis better than their smaller counterparts in Puerto Rico.²⁷

If Cuba's sugar boom was a revolution, Puerto Rico's was a revolt. Puerto Rican expansion was shorter (through the 1820s and 1830s), localized, and not as far reaching. As pointed out earlier, during the 1840s the island's sugar industry began to show signs of debilitation. The number of sugar estates dropped by two-thirds from 1,552 in 1830 to 550 in 1860, while sugar output remained stagnant (Ramos Mattei 1981:126; Bergad 1983:68). Puerto Rico's newer planters did not exhibit the same staying power as their Cuban colleagues. Moreover, mechanization in Puerto Rico lagged decades behind, which meant that modernization to competitive levels required larger sums of money. For example, as late as 1867 vacuum pans had not been adopted in Puerto Rico; that year there were seventy-five such units operating in Cuba. Three years later, only 120, or 20 percent of the island's sugar estates used steam to run their mills.²⁸ Significantly, while Cuban planters were downgrading their sugar production to meet the quality standards of the United States market, Puerto Rico's sugar, with a high content of molasses, was not deemed appropriate for the needs of the United States and other North Atlantic markets. Moreover, Puerto Rico was geographically farther than Cuba from the United States, which made Puerto Rico's sugar less competitive when transportation expenses were added to the costs. Finally, chronic droughts and declining soil fertility affected the southern coast of Puerto Rico beginning in the 1840s.

Another significant contrast between Puerto Rico and Cuba was that large proportions of the arable land and labor force in the smaller island remained on the fringes of the plantation economy. Sugar plantations had

sprung up only in select pockets of Puerto Rico like Ponce, Guayama, and Mayagüez, while most of the work force and tillable land remained allocated to minor crops and subsistence agriculture. In fact, it could be argued that Puerto Rico was not a plantation society. In the same sense, Cuba's Eastern Department was not a plantation society although it harbored pockets of plantations in Santiago and Guantánamo. According to 1862 estimates, the amount of land for minor crops (i.e., plantains, tubers, and corn) in Puerto Rico was about equivalent to that destined to the island's chief staples: sugar and coffee (Scarano 1984:5). Moreover, Puerto Rico had a massive population of independent or subordinate peasants who remained on the fringes of the plantation economy. In 1844, the British Consul at San Juan described this element of the island's population as follows:

[T]he natives who are free surpass by far the slaves, many of them possess small plots in which they live, and since their needs are minimal, they only cultivate that which they find necessary to sustain themselves, they care little about improving their crops or their condition... (quoted in Morales Carrión 1978:134-35)

The availability of land had made this kind of life-style possible for centuries. According to the historian Laird W. Bergad (1983), unoccupied lands were still plentiful in the first half of the nineteenth century, a circumstance that made labor-control difficult. The dual expansion of the state and staple agriculture, however, soon pushed this autonomous population into the frontier interior of the island.

During the late 1830s and the 1840s, efforts were made to regiment the island's independent work force through antivagrancy laws and other coercive means. In June 1838, Captain-General Miguel López de Baños passed his notorious "Bando contra la Vagancia" (vagrancy law). Antivagrancy tribunals, called "Juntas de Vagos y Amancebados," were set up to punish those who preferred to subsist off officially vacant plots rather than become servile peons in export-oriented units. The crown jewel of Puerto Rico's coercive labor legislation was Juan de la Pezuela's "Ley de la Libreta" of 1849. It stipulated that those without land or a profession either had to become tenants or had to search for employment under a landholder and carry with them their *libreta de jornalero* (journeyman's passbook) at all times. The *libretas* were used to make annotations about each *jornalero's* work, wages, debts, and conduct. *Jornaleros* were also forced to remain in one particular municipality and to continue working for the same estate until their debts were cleared. To further control the mobility of the labor force, land owners commonly advanced overpriced goods to their workers from their own estate shops. British Consul Augustus Cowper praised the

results of the *libreta*. "It has been in practice for fifteen years," he wrote in 1866, "and the results have been that every man, without distinction of color, has been forced to work; the productions of the soil have annually increased; and vagrancy, and the higher crimes are almost unknown."²⁹ The dual expansion of the state and the export economy eventually caught up with the people and the land of Puerto Rico's interior. As Fernando Picó (1979) has demonstrated in his studies of the Utuado municipality, the rolls of the *jornalero* class became filled with the names of descendants of the town's founding families and its former local elite.

Perhaps the sharpest contrasts to be drawn between Cuba and Puerto Rico in this period are those relating to slavery and racial patterns. In Puerto Rico slavery never played the crucial role it did in Cuba. According to Philip D. Curtin's estimates, a total of about 702,000 slaves arrived in Cuba, but only 77,000, close to a mere tenth of that, were imported into the smaller island. Moreover, in Cuba the slave population reached its peak in 1841, with 436,500 or 43 percent of the population; in Puerto Rico it peaked around 1846, with 51,300 or less than 12 percent of the population. Patterns of change in the importation of slaves into Cuba and Puerto Rico further reveal divergent developments since the crisis of the sugar industry in Puerto Rico had a considerable impact on the demand for slave labor. While an estimated 1,410 slaves entered Puerto Rico yearly between 1830 and 1845, during the following fifteen years only an average of 700 slaves arrived each year, a decrease upwards of 50 percent. In contrast, in Cuba, where the sugar industry continued to expand, yearly average imports of slaves increased from 10,014 during 1827-1847 to 10,546 during 1848-1860, a modest 5 percent increase (Curtin 1969:31-44, 88).

A series of factors explain the crisis of slavery in Puerto Rico. First, as suggested before, the island's economic reorientation away from sugar and toward coffee reduced the demand for slave labor. Second, those who continued to produce sugar were not always in the best position to invest in new slaves. Third, as demonstrated by the studies of José A. Curet (1982:84-85), the low technological level of most sugar estates meant that the addition of more slaves in estates with fifty or more slaves produced only marginal returns. These factors also help explain the loose attachment of planters in Puerto Rico to the continuation of the slave trade. In 1860, when slave imports were breaking records in Cuba, Consul Charles De Ronceray described the prevailing attitude in Puerto Rico in the following terms:

[T]he sentiments of the natives, including the planters are opposed to the transportation of slaves from Africa and very little encouragement is therefore given to the slave trade either by the people or Government of the island notwithstanding the want of labor.³⁰

The lesser importance of slavery was also reflected in Puerto Rico's racial patterns. The existence of large sectors of society outside the grip of the state and the export economy during three centuries favored the population's miscegenation. Enlightened European visitors to Puerto Rico noted a high degree of race mixture among the population, a characteristic attributed to activities lying outside the sphere of the state and the official economy: piracy, smuggling, illegal immigrations, desertion, and marronage (Morales Carrión 1978:11-14). Census data for San Juan's districts between 1823 and 1833 show that the proportion of free people of color in the different *barrios* ranged between 38 to 59 percent of the entire population (Kinsbruner 1990:445). By 1860, according to census figures, Puerto Rico's non-white free population was 241,015 out of a total of 583,308 inhabitants, that is 41 percent. According to one abolitionist active in Puerto Rican politics, "there is no radical separation of the races in this country, and mulattoes constitute more than 50 percent of the population" (De Labra 1871:25). Contrastingly, in Cuba, particularly in the western districts where plantations played such a central role, there was a far more defined separation of the races and a much stronger correlation between color and status. The Cuban census of 1841, for example, reflected a population consisting of 418,291 whites (41.5 percent), 490,305 blacks (48.7 percent), and 99,028 mulattoes (9.8 percent) (Knight 1970:86, 93). Regarding Matanzas, specifically, the 1862 census reflected that 40 percent of the population was white, 46 percent was black slave, and only 6 percent was either free or *emancipado* of color, while the remaining 896 was Asian (Bergad 1990:99). Racism, the ideology which sought to preserve this kind of stratification and a close association between color and status was also considerably stronger in Cuba than in Puerto Rico.

In summation, the world market demands put enormous pressures on the economies of the Spanish colonies of the Caribbean during the middle decades of the nineteenth century. Sugar planters were forced either to accept the sugar challenge, by modernizing the industry and expanding slavery or to withdraw from the industry altogether. Despite belonging to the same geographical region, sharing similar climatic and geological conditions, and being subjected under the same empire, Cuba and Puerto Rico took different economic paths during the mid-nineteenth century. Conditions in Cuba were favorable to the acceptance of the sugar challenge. Planters there resorted to expensive credit in order to modernize and expand sugar production. The result of this was that by 1863 two-thirds of the industry were in the hands of Spanish merchant-bankers, who held mortgages to the amount of \$200,000,000. Meanwhile, in Puerto Rico the mostly foreign planter class had no choice but to continue operating at a reduced level or to back away

and diversify into other crops, coffee in particular. Both societies faced similar challenges from the outside world; both responded to them as best they could, but in the end both floundered, each in its own particular way.

NOTES

1. See, for example, Moreno Fragonals, Moya Pons & Engerman (1985), Ramos Mattei (1987), Bergad (1988), Marte (1988), and Oostindie (1992). See also Martínez-Fernández (1990). This article is a revised version of Chapter Four of this dissertation. Research for the broader project from which this article stems was made possible by the generous support of the following institutions: Duke University; the Tinker Foundation; the Program in Atlantic History, Culture, and Society of The Johns Hopkins University; Bowdoin College; the National Hispanic Scholarship Fund; the American Historical Association; and the National Endowment for the Humanities.
2. The percentage of beet sugar among British sugar imports increased consistently during the second half of the nineteenth century, from 14% in 1853 to 23% in 1863, and further to 38% in 1873 (Williams 1984:383).
3. According to Mintz (1985:144), sugar prices fell by 30 percent between 1840 and 1850, and by a further 25 percent between 1851 and 1870. Bergad's (1990:162) figures show that in Mantanzas sugar prices remained fairly stable during 1840-56 and then shot up in 1857-58.
4. A series of ravishing hurricanes hit the Cuban coffee regions in the mid-1840s, causing enormous destruction.
5. A variety of sources provide data on the number of estates, among them: Wilson (1850:7), Corwin (1967:295), Knight (1970:39), and Marrero (1984:176).
6. For information on numbers and proportions of steam-run mills see Wilson (1850:7), Knight (1970:39), Denslow (1974:77), and Marrero (1984:176).
7. See also the testimony of José Julián Acosta in the *Junta de Información*, February 6, 1867 (España, Ministerio de Ultramar 1873:72).
8. For an assessment on the origins, development, and impact of the Cuban railroads, see Oostindie 1984 and 1988.
9. See Wilson (1850:7), Corwin (1967:295), Knight (1970:39), and Marrero (1984:176).
10. For data on coolie and Yucatecan labor imports, see Crawford to Lord Clarendon, August 7 and 16, 1855, Great Britain, Parliament, *British Parliamentary Papers* (hereafter cited as *BPP*), vol. 42, Class B: 397-401; see also Bergad (1990:250-1).
11. Ely (1963:616); "Report of Coolie Importations to Cuba, June 14, 1858," National Archives, Washington, D.C. (hereafter cited as NAWDC), Records of the Department of State, Record Group 59, Despatches from U.S. Consuls in Havana, roll 39; *La Gaceta de La Habana*, January 30, 1856.
12. Commenting on the scarcity and expense of labor and referring to Chinese contract workers, Dana wrote in 1859: "such is the value of labor in Cuba, that a citizen will give \$400, in cash, for the chance of enforcing eight years' labor, at \$4 per month, from a man speaking a strange language, worshipping strange gods or none, thinking suicide a virtue..." See also Schroeder (1982:107); Knight (1970:181); Dana (1966:45).

13. According to an 1850 report by the British judge of the Havana Mixed Commission, three or four cargoes of Brazilian slaves arrived yearly to the island, *BPP*, vol. 7, 173-77.
14. Morales Carrión (1978:195, 203) recounts dramatic instances of slaves jumping off ships to avoid being sent to Cuba.
15. Crawford to Lord Clarendon, Aug. 29, 1853, quoted in Murray (1980:247-48).
16. U.S. Congress, "Stephen R. Mallory of Florida on the Acquisition of Cuba," 35th Congress, 2nd session, *Congressional Globe* (February 25, 1859) vol. 28, pt. 2, 1328; Gibbes (1860:39).
17. Schufeldt (1970:218-35); quotation of Hiram Fuller of the *New York Mirror*, in Marrero (1984:269); Corwin (1967:118). Similar estimates were produced by the British consul at Havana, who calculated that a 450-slave expedition could net a \$389,850 profit, and that twice as much was spent in bribes ("blood money") than in purchasing the slaves; Crawford to Lord Russell, February 5, 1861, Great Britain, Foreign Office, General Correspondence before 1906, Slave Trade (microfilm), vol. 5, Class B, 16-19.
18. Knight (1970:231-53); Paquette (1988:45). For a discussion of native wealth expanding to Matanzas, see Bergad (1990:14-15, 22-23).
19. *La Gaceta de Puerto Rico*, vol. 17, no. 137, quoted in Cruz Monclova (1952:292).
20. Between 1850 and 1853 planter Fernando Diago paid a total of \$333,815 in interest for his debts to *refaccionistas* while his colleague Joaquín de Ayestarán paid \$284,691 (Pérez 1988:94).
21. Cancio Villa-Amil (1875:44) lists a variety of popular sayings describing the extent of official corruption in Cuba: "To leave one's shame in Cádiz," "Nobody comes to Cuba for the fresh air," "To kill leaves" (to destroy incriminating government documents).
22. See Corwin (1967:136-37) and Marrero (1984:269-71). Bergad (1990:51-52) contends that Zulueta's humble origins were fictional. He, however, fails to present supporting evidence for this contention.
23. See Philaethes (1856:64-65). Similar information is provided in Dana (1966:111-12), Thrasher (1859:77), and Rawson (1847:12).
24. Marte (1988:178-79) mentions other examples such as Antonio Tellería, Ramón Herrera, and Rafael Toca.
25. By 1895, only 17% of the island's planter class could trace its origins to the "old plantation owning families" (Moreno Friginals 1985:5).
26. Data from *Balanzas mercantiles*, housed in the Centro de Investigaciones Históricas de la Universidad de Puerto Rico. The average yearly change rate is calculated by determining all the yearly fluctuations between 1850 and 1859, and then calculating the average.
27. Scarano (1984:66-67) writes that Cuban *ingenios* produced a mean of 391 tons (1860) while the Puerto Rican average remained at around 87 tons (1845).
28. Indicative of the stagnation of Puerto Rico's sugar industry is the fact that in 1899 one half of the sugar mills were still driven by oxen. The railroad too arrived in Puerto Rico some forty years later than in Cuba; Ramos Mattei (1981:22-23) and Bergad (1978:65-66).
29. H. Augustus Cowper to Lord Clarendon, February 11, 1866 (Centro de Investigaciones Históricas 1974:53).
30. De Ronceray to Cass, Aug. 22, 1860; NAWDC, Records of Foreign Service Posts, San Juan, Record Group 84, vol. 7228.

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