CHAPTER THREE

Sugar Islands
The Sugar Economy of Madeira and the Canaries, 1450–1650
Alberto Vieira

Europe was always quick to name its islands according to the products that they supplied to its markets. Thus some were called the islands of pastel (dyestuff), and others the islands of wine. Madeira and some of the Canary Islands, given the role that sugar played in their economies and in the life of their people, became known as sugar islands. These island groups played an essential role in the transfer of sugar from the Mediterranean to the Caribbean along what could be called the “sugar route.”

This chapter traces the parallel evolution of sugar agriculture on the islands of Madeira, Gran Canaria, Tenerife, La Palma, and Gomera from the fifteenth to the seventeenth century. The focus is on the productive and commercial cycles of this product as well as on the essential questions of land, water, and slavery that determined much of the history of sugar in its Atlantic island stage. Madeira is the point of departure for this study for a couple of reasons: sugar agriculture was first introduced in Madeira, from where the industry spread to other areas, including the Canaries; and the surviving documentation from Madeira enables us to better understand the impact of sugar on society and economy in ways that could eventually fill in gaps in the documentary record of the Canary Islands as well.

The System of Landed Property and Water Rights

The process of the occupation and settlement of Madeira and the Canaries was not identical. Between 1439 and 1497 the two islands of the Madeiran archipelago were a dominion (senhoria) of the Order of Christ, which established as its representatives three captains, namely João Gonçalves Zarco at Funchal (1450), Tristão Vaz at Machico (1449), and Bartolomeu Perestrelo at Porto Santo (1446). In the Canaries, there were both royal islands (Gran Canaria, La Palma, and Tenerife) and those under lordly or seigniorial control (Fuerteventura, Lanzarote, La Gomera, and El Hierro). Moreover, in the Canarian archipelago, an indigenous population existed, not only slowing the process of occupation but also confronting the colonists with rival claimants to the distribution of lands among those autochthonous people who accepted Castilian sovereignty.

An understanding of the system of property requires an in-depth study, based on documentary sources, of relations based on the ownership and production of the limited arable land. For Madeira, some tax registers for sugar growers exist, but for the Canaries such information can only be found in land distribution (repartimiento) and notarial records. The system of property in both archipelagos was defined by the distribution of land to the settlers and later by sale, exchange, or redistribution. Although there were many similarities, the process of settlement on each island varied due to their unique features. The Crown granted the captains and governors the power to distribute lands to settlers and conquerors according to their participation in the process and to their social rank. All these donations or grants were made according to norms established by the Crown, based on the model established during the resettlement of the Iberian peninsula. These grants also included information, which was not always accurate, concerning the social status of the recipient, area of cultivation, improvements to be made, and a time table for cultivation.

On the Portuguese islands, the Crown and later the lord of the island, Prince Henry (Infante Dom Henrique), regulated the distribution of lands from the very beginning. At first, the monarch, Dom João I, instructed the captains that the lands should be “conveyed unencumbered and without any rent to those of high quality and others who possess the means to use them well and stripping timber and in breeding livestock.” Later, João Gonçalves Zarco, using the prerogatives bestowed upon him and his descendants, held a significant portion of the land in Funchal and Ribeira Brava. Other grants were made under the Alfonсine regulations to those who had the capacity to develop them; failure to do so resulted in losing their right of possession. In the Canaries too the social distinction between the grantees was apparent. Following the cédula real of 1480, Pedro de Vera made grants to the conquistadors “according to their merits.” It is important to note that not all the Canary Islands had an ecosystem that was ideal for sugar cultivation, unlike Madeira where the chroniclers noted the abundance of water and wood.

In Madeira, from the second half of the fifteenth century, leases of aforamento and meias became common and they evolved in the sixteenth century into...
sharecropping contracts. This was a specific situation in Madeira, which had the characteristic of consuetudinary law. We should note that the various contracts of lease (arrendamento) that have survived are not uniform in the arrangements between the contracting parties. In some, the lord contributed to improvements; in others this was left to the colono or renter, reserving possession at the end with no penalties. The norm was a contract of limited duration obliging the renter to pay an annual fee or one half of the product. In the Canaries, there were several different contract arrangements (leases, sharecropping, mortgages) for the use of the land similar to those of Madeira; it is important to mention the contract of semiproprietary, according to which the proprietor of the land, in order to begin cultivation, ceded the land for a fixed period and only after that period was rent paid.

Given the importance of water for the sugar crop, its possession and distribution were essential elements of the organization of the economy. In Madeira this was not a problem at first because of the abundance of water, but in the Canaries, scarcity immediately generated concern. Thus there were land grants with and without water. Water ran in the streams (ribeiras) abundantly in the north. In the south during the summer, the streams were almost all diverted to the levadas (water-course) or irrigation and aqueduct systems. It was, in fact, in the stream beds and their margins that the history of the island was played out. The principal parishes contained the headwaters of one or more streams. Funchal, the principal settlement of the island, is traversed by three streams. Streams and their sources were considered public domain in the earliest documents about the island. In the areas of greatest population concentration and of intensive land use, such as Funchal, the water of the stream beds was not sufficient to meet the requirements of the residents. Thus in 1485, Duke Dom Manuel recommended that the waters of the Ribeira of Santa Luzia be used only for sugar mills, flour mills, and their associated activities and for no other reason. It was with Dom João II that water rights were definitely defined in a way that lasted until the nineteenth century. In the letters of 7 and 8 May 1492, he established once and for all that waters were common patrimony to be distributed by the captain and officers of the municipal council to all proprietors, since “without the waters the lands cannot be exploited.” From this point water was public property to be used by those who held lands and needed it. Still, from the end of the fifteenth century, water was negotiated in the same way as land. It was with the regulations (regimento) of Dom Sebastião (1562) that the early system was changed. Water could be sold or rented, which then caused a distinction between property and land with water. The tradition of building levadas made the Madeirans their most famous builders, and they took this skill wherever they went, first to the Canaries and then to America. The skill and ingenuity of the Madeirans in this occupation was reflected in the request of Afonso de Albuquerque, who asked that the king send Madeirans to cut the wood to make the levadas with which sugarcane was irrigated, “in order to change the course of the River Nile.”

In the Canaries, except for the islands of Gomera and La Palma, water was less accessible. It was the patrimony of the king or lord who then distributed it to the settlers. The “dulas” were established “according to the measurement of the said lands and the division made,” and above all, according to the agriculture for which they were destined, sugar having a preferential status. In this way, the grants (datas) of land shed light on the cultures to be initiated and the system that controlled the distribution of woodland and water. Thus we have “grants of irrigation” (regadio) and of “dryland” (secano). Those who sought to invest in infrastructure by building an engenho were guaranteed thirty fanegas of irrigated land. In Tenerife, for the first decade of the sixteenth century we have twenty-four cases in which the building of a water or animal powered mill was ordered to be done within two or three years. In the Canaries, the most important element was the rights to water, since they defined the ability to exploit the land, and thus its utility. The lands granted for cane fields were made with the obligation to construct a water-powered mill. In this context, the lands near the stream beds or barrancos were greatly sought and were reserved for the principal settlers.

According to Virginia Rau and Jorge de Macedo, “the production of sugar benefited broad sectors of the population, including among the producers not only small and medium farmers, but also shoemakers, carpenters, barbers, merchants, surgeons, and millers as well as noble functionaries, municipal officers, and others who lived on the margins of this rich production. All these small producers took advantage of the system on the island to make their tiny production profitable.” Historian Vitorino Magalhães Godinho reinforced this characterization of Madeiran social reality by noting the concentration of cane fields in the hands of a small number of islanders. The situation in the first half of the sixteenth century was different in that the limited number of owners indicates that the cane fields were concentrated in the hands of privileged island social groups: the aristocracy, merchants, and artisans, local and royal functionaries. At both times this group of proprietors represented only about 1 percent of the island population. This tendency toward concentration accelerated from the fifteenth to the sixteenth century as the number of proprietors decreased in the regions near the “partes do fundo” (embracing the districts of Ribeira Brava, Ponta do Sol, and Calheta). Moreover, the continuity of ownership was marked,
since changes by sale, dowry, or lease were reduced. The stability of property depended primarily on its entail (vinculadó). Thus, between 1509 and 1537, 18 percent of the cane fields of the zones of the “partes do fundo” were entailed while in Funchal about 17 percent were so encumbered, an amount representing about 38 percent of the production of that captaincy.

For the Canary Islands we lack the documentation to conduct a similar analysis of the ties between the proprietors of the cane fields and the mills. We do know that the mill owners were favored from the outset even though they were guaranteed thirty fanegas of land. We know of eleven grants in Tenerife. Among these were the “haciendas” of the Adelantado in Daute, Icod, and El Realijo; Tomás, Justiniano, Bartolomé Benítez, and the Duke of Medina Sidonia in La Orotava; Cristóbal Ponte and Mateo Vína in Daute; Blasyno Inglese de Florentino and Juan Felipe in Guimar, Tenoya; and Lope Fernández in Taganana. Along with the haciendas of Argual and Tazacorte, Juan Fernández de Lugo Señorino developed one of the most important properties. In 1508 its ownership was taken over by Jácome Dinarte, who in the following year sold it to the Webers, who in turn sold it in 1513 to Jácome de Monteveder.

The size of his property is based on an observation of Gaspar Frutuoso, who stated that the mills could operate from January to July with enough cane to produce 7,000 to 8,000 arrobas of sugar. The information on production is scattered and does not permit a definite conclusion. Thus in La Orotava the mill that belonged to Pedro de Lugo and had been owned by Tomás Justiniano produced 556 arrobas in 1535 and 1,112 in 1536. In Daute, the two sugar mills of Mateo Vína produced 5,000 to 6,000 arrobas. Finally, the hacienda El Realejo of the Adelantado produced in 1537–38 some 9,000 arrobas of sugar. In Gran Canaria, a sugar mill at Telde produced 1,190 arrobas in 1504.

The Production of Sugar

Sugarcane’s first experience outside of Europe demonstrated the possibilities of its rapid development beyond the Mediterranean. Gaspar Frutuoso testified to this: “This plant multiplied in the land in such a way that its sugar is the best that is known in the world and it has enriched many foreign merchants and a good part of the settlers of the land.”6 This reality attracted both foreign and national capital, which explains its rapid increase. Although sugar had been a secondary activity at the beginning of the occupation of the islands, it became for a short time the predominant agricultural product there.

With the support and protection of the lord and the Crown, sugar occupied Madeira, taking over the arable in two areas: a warm southern strip from Ma-
chico to Calheta, sheltered from prevailing winds (alisios), where the cane fields rose up the slopes to 400 meters of altitude; and the captaincy of Funchal, which contained most of the best sugar lands within its borders. Machico had only a small area appropriate for cane. With external investments, state and local protection, and markets in the Mediterranean and in northern Europe, sugar expanded rapidly on the island. By the mid-fifteenth century chroniclers such as Cadamosto and Zurara took note of the situation. There was a period of growth from 1450 to 1506 despite a depression from 1497 to 1499. It was especially rapid from 1454 to 1472, during which production grew at a rate of 13 percent per year, and then from 1472 to 1493, when that rate was 68 percent per year or an increase of 1,430 percent in that period. Recovery after the depression of 1497–99 was rapid. The high point was reached in 1506, after which rapid decline began. In the captaincy of Funchal production fell by 50 percent between 1516 and 1537. In Machico, the fall was slower and resulted from the impoverishment of the soil, but after 1521 the decline was the result of several factors, and by 1525 levels were more or less what they had been in 1470. By the 1530s the sugar economy on the island was in full crisis and the inhabitants were abandoning their cane fields and turning toward the planting of vineyards.

Many explanations for the sugar crisis have been offered, most of them based on external factors. Nevertheless, Fernando Jasmins Pereira in his Açúcar madeirense has offered a different view, arguing that the crisis resulted from ecological and socioeconomic conditions on the island itself: “The decline of Madeiran production is principally due to the impoverishment of soils, which given the limited area available for agriculture, inevitably reduced the productive capacity.” According to this view, the Madeiran crisis was not the result of the competition from the Canaries, Brazil, the Antilles, and São Tomé alone, but was caused by internal factors such as the lack of fertilizers, soil exhaustion, and climatic changes. Competition from other areas, plague in 1526, and labor shortage aggravated the situation. In addition to these factors, there is evidence that a species of insect damaged the cane in 1593 and 1602. Thus the last quarter of the century witnessed a turn to more profitable agricultures such as wine. In 1571 Jorge Vaz from Câmara de Lobos spoke of a property “that had always been in cane and I now order that it be planted in grapes so that it can yield more.”

The Canaries have been seen as an area of competition with Madeira, but it was the Madeirans themselves that promoted sugar there. It was during the crisis on Madeira that technicians linked to the sugar industry went to the Canaries and cane plantings arrived in Gran Canaria, Tenerife, La Palma, and Gomera, but not to the other islands due to their sterility, as Gaspar Frutuoso tells us. The surviving documentation provides scattered information about levels of production. In 1507 Tenerife produced 34,545 arrobas and La Palma 2,727. We know that in 1506 Gomera yielded 1,100 arrobas to its lord, and a reference to Gran Canaria for 1534 mentions 80,000 arrobas.

Traditionally, historians have argued that after the middle of the sixteenth century competition from others producers and the uncontrolled expansion of viticulture caused a crisis in sugar. Manuel Lobo Cabrera does not agree, and has held that there was a certain flourishing in the reign of Philip II. He believes that the crisis resulted mostly from Caribbean competition and, above all, from the closing of the northern market, particularly of Antwerp, due to Philip’s military policies in Europe.

During the seventeenth century the cane fields on the islands gradually declined in importance. Only on Madeira does there appear to have been a slight recovery when Brazilian production slowed, but this seems limited to the area around Funchal. That is substantiated by a tax record of 1600, which listed 108 owners of cane fields, most of them from this area. This is almost the only evidence of sugar production on the island until other tax records of 1680. By the year 1600 on Madeira, the retreat of the industry is obvious. Medium-size properties had been replaced by very small ones. The great majority (89 percent) produced only from 5 to 50 arrobas, indicating an activity aimed at household use for the making of conserves, jams, and sweets. Up to 1640 this decline was made even more apparent by the increasing presence of Brazilian sugar in the port of Funchal, to the extent that measures were taken in 1616 to ensure that...
there would be an equitable sale of sugars from both places. Dutch occupation of sugar producing areas in Brazil caused a rebirth of some sugar production on the island to meet the market demand for jams and preserves. In 1643 there were not enough functioning engenhos to handle production of the cane fields. In accord with a royal provision of 1 July 1642, the Crown sought to promote cane cultivation by exempting mills from paying the quinto tax for five years or half of it for ten years. Various owners took advantage of this benefit, but when Brazilian production recovered in the following decade and Brazilian sugar reappeared in the port of Funchal, the former situation returned. 23 Madeiran sugar once again lost out to the competition. As late as 1658 there was an attempt to stimulate the industry by reducing the tax on production to one-eighth, but the crisis was inevitable. Added to this was the fact that from 1643 to 1675 the quinto do açúcar tax was not properly collected as was noted in the latter year. In an alvará of 15 October 1688 the Crown ordered that taxes on sugar should be limited to an eighth of production as the most effective way of stimulating the industry. 24

The existing historiography of land ownership and distribution in Madeira has focused almost entirely on the judicial conditions of land distribution and ownership and has not been concerned with whom, and under what conditions, the grants of land (sesmarias) were awarded, the nature and changes of the landowning system, and the ways in which differing levels of fertility may have influenced this system. 25 Madeira, because it was unoccupied when discovered, provided a kind of experiment for European colonization beyond the continent, and the techniques and processes of its settlement provided a model for the other Atlantic islands and for Brazil. 26

The system of property on both the Canarian and Madeira archipelagos was defined by the distribution of land to colonists and then by sale, exchange, or later grant. In both cases, with variations depending on local conditions, the process was similar. The Crown gave to captains and governors the power to distribute lands to colonists and conquerors according to their actions in the conquest or settlement and with regard to their social status. All grants were made according to norms established by the Crown and following the models previously defined in the resettlement of the peninsula. In both archipelagos the grants required the improvement or development of the land within a set period of time, which decreased as settlement grew. After 1433, the time period decreased from ten years to five years in Madeira. In the Canaries, the first colonists in Gran Canaria were given a period of six years to develop their lands, while the grants made at Tenerife at the end of the sixteenth century provided only two to three years. That these grants were intended to stimulate colonization is demonstrated by the requirements to construct a house on the property, to reside there within five years, and, in the case of single men, to marry.

The process in the Canaries differed from that on the Madeira archipelago, which from 1429 to 1452 was controlled by the Order of Christ. The Canaries were another matter. In that island chain there were royally controlled (reales) islands (Gran Canaria, La Palma, Tenerife) as well as those under seigniorial control (Fuerteventura, Lanzarote, la Gomera, El Hierro). Moreover, the Canaries had an indigenous population that slowed down the process of occupation and placed the settlers in conflict with islanders who accepted Castilian sovereignty. 28

On the Portuguese islands, the distribution of lands was from the beginning regulated by the Crown and later by the lord of the island, Infante Dom Henrique. The king, Dom João I, ordered the captains to grant the lands "free and without any pension." 29 Later, João Gonçalves Zarco, making use of his prerogatives as captain, reserved for himself and his descendants an important tract of land in Funchal and Ribeira Brava. Other grants were made according to the regulations of Dom Afonso to those who were required to improve them; those who lacked the ability or resources to do so lost their right of possession. This created the basis for social differentiation among the first colonists and opened the door to the growth of large-scale properties. In the Canaries also there was social differentiation among those receiving land grants. In compliance with a royal cédula of 1480, Pedro de Vera was required to make these grants to conquistadors "according to their merits." 30

After 1433, with the donation of the lordship of the islands to Dom Henrique, he had the power to distribute lands but was required to respect the previous concessions, demonstrating that the regulation of land distribution was done by the king. Dom Henrique ceded this power to the captains. 31 The grants of Dom Henrique confirmed the royal regulations and stipulated that the lands could be granted for a period of five years, after which the right of possession ended and the lands could be given out in a new concession, a significant departure from the former royal concessions. With this the social differentiation of the grantees disappeared and the period to initiate cultivation was shortened. Both demographic pressure and the scarcity of lands to distribute caused this change.

In the following decades the granting of lands in sesmarias and the legitimating of occupation generated a number of conflicts that called for the legislative intervention of the lord or the judicial arbitration of his ouvidor (senior judge). For example, conflicts arose over the use of fire to clear forests because of the
prejudicial effects on the neighboring cane fields. Finally, between 1501 and 1508, the concession of lands in *sesmaria* was ended except for the lands that could be developed as cane fields or vineyards.32

On both archipelagos the power of the captains and the governors to distribute lands created innumerable problems. On Madeira, the lord sent Dinis de Goa in 1466 as his representative with full powers to resolve all disputes, including those involving land and water. In the Canaries as well, similar disputes over land grants moved the Crown to send representatives to regulate and legitimate concessions in 1506 and 1509.

*The Sugar Mills*

The processing of sugarcane was done with the technology common in the Mediterranean world. The availability of water power led to a generalized use of water mills. On Madeira, the first mill for which we have evidence is that of Diogo de Teive, registered in 1452. In those areas without access to appropriate water power, animal or human force was used; those mills were called *trapiches* or *almanjarras*. We know little about the technical aspects of those mills. We do know, according to Giulio Landi, that in the third decade of the sixteenth century one of them operated more or less by the same system used for pressing oil from olives: "The places where with great activity and skill sugar is made are in great properties and the process is the following: first, after the cut cane is carried to those places, they are placed underneath a millstone moved by water which presses and squeezes the cane, extracting all the juice."33

A question that has provoked the greatest debate has to do with the evolution of the technology of sugar making, particularly the development of the cylinder mill. The *primitive trapichum* was used in ancient Rome to press olives and sumach and was, according to Pliny, invented by Aristreu, *Cod of Shepherds*. But this became an inefficient method on the large plantations and was succeeded by the mills arranged with an axle and cylinders. It is here that opinions differ. One version holds that this was a Mediterranean discovery. Noél Deerr and F. O. von Lippmann attribute the discovery to Pietro Speciale, a prefect in Sicily; Spanish historiography favors Gonzalo de Velosa, a vecino of the island of La Palma who presented his invention in 1515 on the island of Santo Domingo. David Ferreira Gouveia ascribes this innovation to Diogo de Teive on Madeira in 1452. Others look to the origins of the invention in China. The three-cylinder sugar mill developed later in Brazil, where it was considered a Portuguese invention, always linked to the Madeirans who resided there.34 On Madeira, the first reference to axles for the mill date from the last quarter of the fifteenth century. In 1477 Alvaro Lopes received authorization from the captain of Funchal to "make a sugar mill of mill stone and presses or in another form.... This engenho should be water-powered with its building and a boiling house." In 1505 Valentin Fernandes referred to the white wood used in the making of "axles and screws for sugar mills." To this was also associated the inventory of the mill of António Teixeira at Porto da Cruz, which mentioned "wheels, axles, presses, furnaces, and speeches."35

For the Canaries, Guillermo Camacho y Pérez Galdós describes this *engenho* as being constructed of three cylinders. The author bases this statement on a contract of 1511 between Andrés Baéz and the Portuguese Fernando Alonso and Juan Gonzales to cut three axles, one big and the others smaller for a water wheel and its equipment. Twenty years later, we have the inventory of the mill of Cristóbal de Garcia in Telde, where wheels and axles are mentioned. Nevertheless, J. Pérez Vidal remains of the opinion that the first system used in the Canaries was like an olive press, a Renaissance invention with "little rollers."36

The word *trapiche* later entered the vocabulary of sugar to designate all types of mills composed of cylinders used to grind sugarcane. Around Funchal, near Arucas, there is a place with this name, proving the existence of this type of mill. In the Canaries, land grants (*data de terras*) distinguished between water- and animal-powered mills. On Madeira, the hydrologic conditions were favorable to the general use of water mills, of which the Madeirans became expert builders. Moreover, the conditions were created for the development of this agriculture with the innumerable water courses and the large forests that could provide fuel for the furnaces and lumber for the construction of the axles for the mills. All the social and economic interactions created by sugar were dominated by the mill, but this did not mean that the development of cane fields only took place in their shadow. Here, even more than in Brazil, there were many proprietors without the financial resources to set up the basic industrial operation of a mill and thus remained dependent on the services of others.37 In an estimate of the production of the captaincy of Funchal in 1494, there were only fourteen *engenhos* listed for a total of 209 agriculteurs holding 431 cane fields.

It is not easy to establish the exact number of mills in the islands. The information is in many cases contradictory. Thus for Madeira in 1494 there are references to only fourteen sugar mills, whereas in another document of 1493 eighty sugar masters are mentioned, indicating a higher number of mills. German historian Edmund von Lippmann referred to one hundred fifty sugar mills in Funchal at the beginning of the sixteenth century, a number that does not seem to conform to a reasonable estimate of production given the size of the arable or the number of cane fields. Later, at the close of the sixteenth century,
Gaspar Frutuoso referred to thirty-four sugar mills, nine of which were in the captaincy of Machico and the rest in Funchal. In the seventeenth century the numbers of mills was smaller. Thus Pyrard de Laval referred in 1602 to seven to eight working sugar mills. In the decade after 1649 there is notice of only four sugar mills, two constructed in 1650. This decline called for new incentives such as loans and tax exemptions from the quinto for five years. These were aimed mostly at Funchal and Câmara de Lobos, which implied that there were even harder times for sugar growers in Calheta, Ponta do Sol, and Ribeira Brava who did not receive such favors.

Trying to establish the number of mills in the Canaries presents a similar problem, since information is imprecise and scattered. Perhaps the most exact is that of Thomas Nichols in 1526 and of Gaspar Frutuoso in the last decade of the sixteenth century. Still, while the data provided by the former seems trustworthy, Frutuoso does not seem to merit much confidence. He noted twenty-four mills on Gran Canaria while Tenerife had only three. Also of note is that on Gomera and La Palma, islands under lordly control (señorío), the mills were for the most part property of the lord, who then leased them to Genoese and Catalan merchants.

The price of setting up an industrial operation of this type was beyond the capacity of many agricultors. The evaluation made of a mill for the inventory of António Teixeira de Porto La Cruz in 1535 placed its value at 200 mithreis. Another document of 1547 set a value of 461 mithreis on the cane fields, mill, and the water needed by them. In 1600, in Funchal, João Berte de Almeida sold to Pedro Gonçalves da Câmara an engenho valued at 700 mithreis. In 1644 the mill of Gaspar Bethencourt in Ribeira de Socorridos was valued at 500 mithreis and in the previous year that of Baltesar Varela de Lira was sold for 422 mithreis. For the Canaries, we have similar dispersed estimates for the cost of building a mill. In 1599 the mill of Miguel Fonte in Dáte was evaluated at 4,641,330 maravedíes. There was considerable variation here as well. In 1550 the mill of Valle de Gran Rey was priced at 1,237,417 maravedíes, while in 1567 one in La Orotava was sold for 6,000,000. For Gran Canaria we have the mills of Francisco Riberol in Agaete y Galdar valued at 300,000, that of Francisco Palomar in Agaete at 750,000, and that of Constantino Carrasco in Las Palmas at 450,000. In La Orotava we have more precise construction costs of various aspects of a mill's infrastructure taken from the inventory of Alfonso Hernández de Lugo's mill made in 1584. Its total value was 1,125,125 maravedíes.

Production levels for the Atlantic island mills were different from the sugar mills of the Americas. For Madeira at the end of the fifteenth century we have a listing of only seventeen sugar mills for a total of 233 cane field owners (see Table 3.1). This does not include those who operated in the area of Caniço and Câmara de Lobos.

Taking into account only the "partes do fundo" region, we note that each mill would have a production of almost 5,000 arrobas or about sixty-three tons, a rather high figure given the state of the available technology. Moreover, these mill owners were not among the most important owners of cane fields. Only Fernão Lopes had some 1,600 arrobas. There were cane farmers with a higher production but who did not own mills themselves. In the first half of the sixteenth century these levels fell by two-thirds, to an annual average of 1,479 arrobas per mill (see Table 3.2).

Sugar mill owners constituted a minority of the total number of sugar producers, and in this period of profound changes in the structure of production, the disparity between them was growing. In the early-sixteenth century, there were 269 owners of cane fields and 46 owners of sugar mills.

The difference between cane farmers and mill owners is very clear. A great proprietor of cane fields was not synonymous with a mill owner. In the sixteenth century, some mill owners were among the principal producers, but most grew much less, as for example was the case of João de Ornelas, who in 1550 declared a production of only seventy arrobas on his sugar mill in Funchal. The existence of the two groups, cane farmers and mill owners, created the peculiar dynamic of sugar production on Madeira.

### Table 3.1. Madeiran Engenhos

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of Mills</th>
<th>Arrobas</th>
<th>Average per Mill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funchal</td>
<td>2</td>
<td>16,545</td>
<td>8,273</td>
</tr>
<tr>
<td>Partes do Fundo</td>
<td>15</td>
<td>66,906</td>
<td>4,460</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>80,451</strong></td>
<td><strong>5,563</strong></td>
</tr>
</tbody>
</table>

### Table 3.2. Madeira Sugar Production in the First Half of the Sixteenth Century

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of Mills</th>
<th>Arrobas</th>
<th>Average per Mill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funchal</td>
<td>17</td>
<td>17,863</td>
<td>1,051</td>
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<tr>
<td>Ribeira Brava</td>
<td>6</td>
<td>13,524</td>
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<tr>
<td>Ponta do Sol</td>
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<td>Calheta</td>
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<td>19,204</td>
<td>1,920</td>
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<td>1,176</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46</strong></td>
<td><strong>68,012</strong></td>
<td><strong>1,479</strong></td>
</tr>
</tbody>
</table>
TABLE 3-3. Estimated Canary Islands' Sugar Production in 1520

<table>
<thead>
<tr>
<th>Island</th>
<th>Sugar Mills</th>
<th>Sugar (Arrobas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gran Canaria</td>
<td>38</td>
<td>152,000–190,000</td>
</tr>
<tr>
<td>Tenerife</td>
<td>16</td>
<td>64,000–80,000</td>
</tr>
<tr>
<td>La Palma</td>
<td>4</td>
<td>16,000–20,000</td>
</tr>
<tr>
<td>La Gomera</td>
<td>6</td>
<td>24,000–30,000</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>256,000–320,000</td>
</tr>
</tbody>
</table>

In the Canaries, particularly on Gran Canaria and Tenerife, the situation appears to have been different. Here, great property was synonymous with the existence of a sugar mill, a result of the process of how land had been distributed, and the average production per mill seems to have been higher than those of Madeira. Gaspar Frutuoso referred to two mills of the Ponte family in Adeje (Tenerife) that produced 8,000–9,000 arrobas, while that of Juan de Ponteverde in La Palma was at around 7,000–8,000. For Gran Canaria, he indicated that the twenty-four mills produced on an average of 6,000–7,000 arrobas. From rental contracts of mills we know that Don Pedro Lugo in El Realejo produced in 1557–38 an average of 4,500 arrobas and another mill in La Orotava produced 1,122 arrobas. In the thirteenth century, the tithes paid by the seven mills operating on Gran Canaria, Tenerife, and La Palma provide an idea of annual production for the period after 1634. Maceas presents new information about the sugar in the Canary Islands, with the estimated production in 1520 (see table 3.3).49

Slaves and Sugar

In the encounter between the force of will of the first European settlers and the rugged terrain of the islands, the colonists constructed a Europe in the Atlantic. Madeira, thanks to its geography, became defined by a specific agrarian appearance, quite distinct from the great open spaces of the continent. The excessive division of agricultural lands, the only possible way of making use of the arable, and the distribution of population in both the south and north of the island influenced the system of cultivation and the ownership of the land. The large initial grants of land were divided as the population grew and as agriculture developed. The early extensive use of the land gave way to intensive cultivation based on innumerable terraces constructed by owners, renters, or sharecroppers. Given this situation, it is difficult if not impossible to imagine great sugarcane properties comparable to those of the Americas. There, the cane fields advanced outward from the mills and were always indissolubly linked to them. This was not the pattern in Madeira, where many people owned cane fields but few owned mills. Still another peculiarity of Madeira was the concentration of sugar mills in areas with the easiest access to the external world that is principally around Funchal, even though it was not always the area of greatest importance in cane cultivation. This peculiar arrangement in the production of sugar influenced the use of slaves. In Madeiran agriculture it is necessary to distinguish two groups of proprietors: those who had leased their lands to renters or dependents, and those who were full proprietors. This double form of ownership promoted the development and use of contacts of sharecropping (contrato de colonia) beginning in the sixteenth century. On the other hand, the reduced size of the cane fields meant that a sugar mill was not always nearby nor were numerous slaves always necessary. The use of slaves must be seen in relationship to the structure of landholding on the island. In direct ownership and in leased arrangements the role of slaves was clear enough, but the same cannot be said for the colonia contracts.45

In the Canaries as well, on the islands of Gran Canaria, Tenerife, La Palma, and Gomera, one must take the geographical and agricultural environment into account in establishing a link between the slave and the sugar economy and the extent of the cane fields. The conquest itself produced the first slaves, taken as prizes of war from among the original inhabitants or Guanches. Later, the proximity to Africa favored access to the market for black slaves, who eventually assumed a role of importance in the society. Moreover, unlike Madeira, the evolution of landholding depended on the initial process of conquest. Large estates developed, although they were broken up after death, dowries, and sale. The available information drawn from notarial records reveals this process and the perpetuation of some important large estates (fazendas) associated with sugar mills. This process can also be noted on Tenerife and on La Palma.46

The presence of slaves in the formation of the island societies from the fifteenth century onward was not a phenomenon isolated from the social and cultural context of the Atlantic. The lack of laborers for new cultivation, the need for workers in sugarcane agriculture, the active role of the Madeirans in the opening of the Atlantic world, and the proximity of Africa all played a role in shaping slavery. Madeira, because of its location near the African continent and because it was much involved in the exploration, occupation, and defense of Portuguese areas there, was wide open to this advantageous trade in slaves. The Madeirans marked the first centuries by their efforts to acquire and trade in this powerful and promising commodity. The first slaves who arrived in Madeira and
Note that on Madeira the highest number contributed to its economic takeoff were Europeans, Moroccans, and Africans. On the one hand, the sugar harvest called for access to laborers, which implied slaves in the absence of free workers. On the other hand, the proximity of the market for slaves in West Africa and the involvement of islanders in this commerce made the islands one of the first destinations for these slaves, and they remained so until the growth of other regions. Note, for example, the relationship between the curve of sugar production and the manumission of slaves in which the numbers of freed slaves evolved according to the state of the sugar economy. As sugar production declined in the last quarter of the sixteenth century, the number of manumissions rose. An opposite movement took place in the first quarter of the seventeenth century, probably associated with a rise in sugar production stimulated by the Dutch occupation of Pernambuco. But this island recuperation was brief and the number of manumissions increased again in the second half of the century. The number of manumissions was not the highest in the principal cane-growing areas, but rather in Funchal, Câmara de Lobos, and Caniço. In the Canaries this relationship was also apparent. Lobo Cabrera notes that on Gran Canaria after the mid-sixteenth century there was a decline in the number of slaves, perhaps the result of the competition from American sugar. Proprietors determined the role and concentration of slaves. On Madeira, Funchal had 86 percent of the owners and 87 percent of the slaves, reaching its highest levels in the sixteenth century. Within the captaincy of Funchal, the district of the city had 74 percent of the owners, of which the two urban parishes—Sé and São Pedro—held 64 percent, the rest being distributed among the captaincy of Funchal (23 percent), Machico (11 percent) and Porto Santo (2 percent).

When we compare the distribution of the slaves in the sugar mills, we can see some distinct differences with the patterns in the Americas. In the Antilles and South America the numbers of slaves per mill was frequently over 100 and there were cases of mills with far more. On Madeira they usually did not exceed 50 per mill over all, the largest mean distribution being 77 per mill in Funchal and 24 in Ribeira Brava.78 In a total of 502 sugar producers, only 78 (16 percent) owned slaves. For the seventeenth century, the number of owners with slaves was higher (39 percent), but there seems to be a direct relationship between the levels of production and the number of slaves. Thus, for example, Maria Gonçalves, the widow of António de Almeida, had the largest number of slaves reported but she produced very little sugar.

On the Canaries a parallel situation existed. On Gran Canaria, documents reveal properties with 30 to 35 slaves. The average size on Tenerife and La Palma was about half that on Gran Canaria, but on Tenerife there may have been a few slave properties with up to 100.48 Note that on Madeira the highest number reported by João Esmeraldo was 14 slaves on the fazenda of Lombarda at Ponta do Sol. The majority of producers (63 percent) had about 5 slaves. Taking into consideration the labor necessary for sugar making, we must assume that the majority of workers on the fazendas were free, not slaves. The largest number we have been able to establish were the 20 slaves on the property of Ayres de Ornelas e Vasconcelos, but this was for both father and son.

On Madeira, the tendency was for a low average number of slaves per owner. Over half (58 percent) of the owners held only 1 or 2 slaves and no more than 11 percent of the owners held more than 5 captives. Those with more than 10 slaves were less than 2 percent of the owners, and once again these were found in the area of Funchal. In general we can say that this was small-scale slaveholding and 80 percent of the owners held from 1 to 5 slaves. Moreover, the link between slavery and sugar was weak. Of 104 persons who owned both slaves and land, only nine had cane fields. The majority of the rest owned wheat fields and vineyards.

For the Canaries, analysis of the existing data reveals a different arrangement. On Gran Canaria in the city of Telde, the majority of the slaves was held by cane farmers and mill owners and was thus directly employed in sugar. Here the family of Cristóbal García de Moguer stands out. Owner of a mill, he had 60 slaves in his service, 37 of them at the mill, including a kettleman (calderero) and a cane-field specialist (canavieiro). This situation was also found in Galázar, Guia, Arucas, Agüimes, and Agaete, all regions of cane cultivation. Around Tenerife we know only that Alonso Fernández Lugo had 28 slaves in 1525. In Dáute there were two important slave owners—Cristóbal de Fonse and Gonzalo Yanes. In 1506 the sugar mill of Icod had 25 slaves. In the seventeenth century the situation changed, at least in Las Palmas, where the slave owners were found mostly in the service sector, a fact that suggests that slavery was a more patriarchal or household-related institution there.49 On the island of La Palma, strongly associated with sugar is where the highest concentration of slaves was found, reaching 29.9 percent of the population.50 There were also slaves on La Gomera, but at present it is impossible to determine the exact number.

Slaves were always linked to sugar cultivation on these islands, but never in the same proportion as was found on São Tomé and Brazil. The scattered evidence drawn from the documentation of Madeira and the Canaries attests to this. In 1496 the Crown noted this relationship on Madeira by prohibiting the sale for debts of real estate, slave men or women, animals or mill equipment, allowing only the charges to be made on production (novidades arrendadas). In another document of 1502 concerning irrigation, the king noted that it was the
custom of proprietors to send the slaves and the salaried men in their service to irrigate their fields. The link between slaves and the work of cultivating and preparing the cane fields can also be seen in the existing documentation. That slaves did other jobs at the mills is also evident. The regulations of the alealdadores (those who checked the quality of sugar) of 1501 that mentions masters and alealdadores who made "broken sugar" ( açúcar quebrado) would be subject to strict penalties; for slaves who were caught, their masters paid the fines. Slaves sometimes served as assistants to the skilled workers or sometimes were themselves the skilled specialists. In 1482, in a suit over "tempered sugar," two sugar masters, Masters Vaz and André Afonso, testified. The first stated that while he had been away in the Canary Islands, his slave had tempered the sugar; the second said that in his absence this job had been done by a youth who worked on salary. In other words, slaves not only made sugar but also served as "officials" at the mills, that is, as skilled technicians. First, the Canarian slaves who served there as sugar masters are notable because there were limitations placed on their leaving the island in 1490 and 1505. From this period we have only two references to two "master" slaves on Madeira, and we cannot tell if they were Guanches. In 1486, Rodrigo Anes, "O Coxo," from Ponta do Sol freed his slave Fernando, a mestre de engenho, that is, probably a builder of mills. In the testament of João Vaz, he refers to his slave, Gomes Jesus, as a "sugar master." Later in 1603 a certain Jorge Rodrigues, a freedman, sought compensation of three mutes for the service he had performed at the engenho of Pedro Agrela de Ornelas. The French traveler Jean Moquet reported in 1601 that the slaves had an important role on the engenhos and that he had seen "a great number of black slaves who worked in sugar near the town." The only peculiarity of slave service on the Madeiran mills was the fact that they worked alongside free men and freedmen, especially salaried employees. In 1578 António Rodrigues, a worker, declared in his will that he had worked, presumably for wages, under the direction of Manuel Rodrigues, the overseer of the engenho of Dona Maria.

For the Canaries, recent studies, especially those of Manuel Lobo Cabrera, have revealed similar evidence for the sixteenth and seventeenth centuries. In the sixteenth century, the links between slavery and work in the field and at the mill is clear. There is reference to the house of blacks ( casa de negros) as part of the infrastructure of the mills, implying their presence. Slaves did the most varied tasks at the mill: moledeiros (cane millers), preseiros (pressmen), bagaceiros (bagasse removers), and caldeiros (kettlemen). They might be owned by the mill owner or rented from other owners. Such rental contracts for mill service are common in the Canaries. There was also a strong presence of freedmen as skilled specialists and as workers. We should also note that in the Canaries field cultivation was often done by cane farmers ( esburgadores de cana) and by renters, so it was possible for a proprietor to hold extensive cane fields without directly needing to own the slave laborers. This system was common on the island of Tenerife and it must have had some effect on the weight of a slave presence on the society. Still, many owners had slaves to perform these tasks. A free man who leased property during the sugar harvest almost always had a few slaves who acted as his assistants. Thus, slaves might be lacking as integral part of the property of those who owned fields and mills, but that does not mean that they were absent from the process. On the other hand, slaves were sometimes attached to the land. In 1522, in La Orotava ( Tenerife), a city councilman rented out a cane field for five years and along with it three slaves who had to be clothed and fed by the renter. This took place frequently on La Palma and Gran Canaria.

In sum, on Madeira, as happened in the Canaries, the labor force used at the mills was mixed, made up of slaves, freed, and free persons who did a variety of tasks and, when compensated, were paid in money or sugar. Some slaves belonged to the proprietor of the mill, but others worked for wages under rental contracts. In Brazil there was also a mixed labor force, but slaves predominated. They were considered to be property of mill owners, cane growers, or those who rented them out. The difference in the proportion between slave and free workers is the primary difference in the industry from one side of the Atlantic to the other.

The Price of Sugar

It is difficult to establish the evolution of sugar prices in the island markets because the existing documents needed to reconstruct a price series are few and scattered. For Madeira it is possible to bring together sufficient data for the third decade of the sixteenth century, and the same can be done in the Canaries for the island of Tenerife. Moreover, there are other factors that influenced the price of sugar, such as the chronic lack of specie on the islands, and the use of sugar therefore as a means of exchange. In the fifteenth and sixteenth centuries this led to its constant devaluation. Sugar was used as a means of exchange in both island groups, but more commonly in the Canaries.

We must also keep in mind that the law of supply and demand conditioned sugar prices over the course of the year. There were monthly fluctuations depending on the stage of the sugar cycle and the presence of ships in the port. Thus we find the highest prices in the months of June and July, when the year's first sugar became available and when merchants had the most funds at hand.
White sugar had two prices, depending on whether it had been “cooked” once or twice. On Madeira, in 1496, one price was almost double the other. Of 15,000 arrobas from the first processing, only 10,000 would remain after the second, which had a strong effect on the final price. Moreover, it reduced the volume of product and thus tended to maintain the value of sugar when there was an excess on the market.

In the decade of the 1470s the price of sugar declined. This is confirmed by the actions of the lord (senhor), who, after 1469, sought to impose a monopoly on commerce. The Madeirans’ opposition to a similar solution led the duke, Dom Manuel, to try something new. Thus in 1469 he fixed the price at 350 réis for “once-cooked” sugar and 600 for sugar that had been processed a second time. Two years later, he established a maximum quota for export at 20,000 arrobas. This was at a time of sugar’s decline. The first sugars sold at Machico were priced at 2000 réis per arroba. By 1499 the price was at 500 réis for “once-cooked” sugar and 750 for twice-processed sugar. In 1472, the price rose again to 1000 réis per arroba, but this increase was short-lived and the result of currency devaluation. In 1478 matters returned to normal. Prices continued to fall until the beginning of the sixteenth century, and only with the price revolution did the situation change on both archipelagos. On both Madeira and the Canaries it is clear that, after the 1530s, the competition of American sugars began to have an effect. The situation in the Canaries, however, reversed itself once again in the 1540s, probably due to inflation.

Various subproducts and lower grades, as well as preserves and sugared fruits, were also produced. These were important on both archipelagos. At Tenerife, for example, lower grades (escumas and rescumas) were sold for half the price of white sugar, while on Madeira and Gran Canaria that was only true of rescumas, since the escumas were more highly valued. On Gran Canaria in the sixteenth century, 20 percent of 2,500 arrobas of sugar was refined, 60 percent white, 12 percent escumas, and 8 percent rescumas. A similar distribution existed on Madeira, from 1520 to 1537.

Sugar and Atlantic Commerce

The social and economic developments in the Atlantic islands were directly related to the demands of the Euro-Atlantic world. This was true for the islands: first, as a peripheral region of European business, adjusting their economic growth to the needs of the European market and the European shortages of foodstuffs; later as consumers of continental production, trading at a disadvantage with Europe; and finally as an intermediary between the Old World and the New. By the beginning of the sixteenth century, the “Mediterranean Atlantic” was defining itself as the point of contact and aid for commerce with Africa, the Indian Ocean, and America. All this created a network of interests between the bourgeoisie and the aristocracy in power in the peninsula during the process of occupation and the economic development of the new societies. This peninsular component was reinforced by the participation of a Mediterranean bourgeoisie attracted by new markets and by the rapid and easy expansion of their operations. A group of Italians, with links to great Mediterranean commercial groups, actively participated in the exploration, conquest, and occupation of the new Atlantic space. Thus they were interested in the conquest of the Canaries archipelago, the Portuguese expeditions of geographic exploration, and commerce along the West African coast. Their penetration in the island world gained them a position in the society and economy established there. The investment of merchant capital, whether national or foreign, was essential to the new economy and generated new wealth for these commercial endeavors. Commerce was thus the common denominator for the products introduced, and that most valuable product in the new economy was sugar.

Madeira was the most important entrepot. Exploration became linked to commerce, and from the mid-fifteenth century an active trade with Portugal was maintained, at first in woods, urzela (cudbear, a dyestuff), and wheat, and later in sugar and wine. This trade eventually spread to North European and Mediterranean cities with the appearance of foreigners interested in the sugar trade. Spaniards and Italians in the Canaries established an active trade with the Iberian peninsula after the mid-sixteenth century. After the conquest, Italians, Portuguese, and Castilians controlled the island trade. English and Flemish merchants laid out the routes of the Nordic trade in a second stage of this commercial development. By the end of the sixteenth century, Tenerife and Gran Canaria emerged as the primary producers.

The insular sugar trade, concentrated on Gran Canaria, Tenerife, Gomera, La Palma, and Madeira, was the principal link to the European market. On Madeira, this trade became dominant between 1450 and 1550, but on the other islands it grew at the beginning of the sixteenth century and became dominant only by the 1530s.

According to Vitorino Magalhães Godinho, the Madeiran sugar trade “oscillated between liberty strongly restricted either by the Crown or by powerful capitalist interest groups on one hand and overall monopoly.” Thus commerce remained free only until 1469 when a fall in prices led to the intervention of the senhor and the exclusive control by the Lisbon merchants. Madeirans used to trading with foreigners did not appreciate this change. Nevertheless, in 1471
Infante Dom Fernando decided to establish a monopoly company, a move that resulted in a bitter conflict on the island between the contractors and the local government, which represented the sugar producers. Twenty-one years later, the island still faced a difficult situation in the sugar market and led the Crown in 1488 and 1495 to reestablish its monopoly control, establishing rules for the planting, harvesting, and marketing of sugar in 1490 and 1496. But this policy, designed to protect the income generated by sugar, ended in a disaster, and in 1498 a new policy was instituted by which a production limit (esquetas) of 120,000 arrobas was set among various European purchasers. With some changes this system remained in place until 1508, when the system of free trade was restored. The charter of the capitania of Funchal stipulated in 1515 that sugar "can be carried to the east and the west or to any other place that merchants and shippers desire without any impediment." The situation in the Canaries was quite different. There the sugar trade had been opened to all agents and markets, the only restrictions being imposed by political and religious considerations, especially in regards to Flanders and England at the end of the sixteenth century. The intervention of local municipal councils and the Crown was felt only in quality control, not in the marketing and production as was the case in Madeira.

The Sugar Merchants

The early development of the sugar economy attracted the first wave of foreign merchants to Madeira, a process that was only limited by ordinances against their residence on the island. Still, by the mid-fifteenth century the Crown was extending special privileges to Italians, Flemish, French, and Breton merchants, allowing them to remain on the island in order to gain access to European markets. This was considered destructive to the interests of Portuguese merchants and the Crown and led the lord to prohibit the permanent residence of foreigners. The question was raised at the Cortes of Coimbra in 1472–73 and that of Evora in 1481, when the Portuguese bourgeoisie complained against the effective monopoly of the sugar trade held by Genoese and Jewish merchants. The king, compromised by the advantageous position held by the foreigners, reacted ambiguously and tried to safeguard the existing concessions, but responded favorably to the petitions of his subjects to limit the residence of foreign merchants by making them secure licenses. On Madeira, residence was impossible without these, and resale in the local market was prohibited to foreign merchants. The câmara of Funchal sought to expel the foreigners in 1480 but were prevented by the lord. In 1480 Dom João II recognized the function of foreign merchants and ordered that foreigners be considered "natives and residents (vezinhos) of our kingdoms." By the 1490s, difficulties in the sugar market once again stimulated a xenophobic policy. Foreigners were given three or four months between April and September to do their business and were not allowed to have shops or agents in the city, but by 1493 Dom Manuel recognized the negative effects of such restrictions on the Madeiran economy and removed them all, allowing the foreigners eventually to become involved not only in commerce, but in administration and landholding on the island.

The "white gold" of sugar attracted Italians, Flemish, and French merchants to Funchal. The Italians, chief among them Florentines and Genoese, were on the island from the mid-fifteenth century as the principal sugar merchants; their activities also extended into landholding, a situation made possible by purchase and marriage. In the decade of the 1470s through a contract established with the island's lordship, they had already established a predominant majority position. They were represented by Baptista Lomellini, Francisco Calvo, and Micer Leao. In the last quarter of the century, Christopher Columbus, João Antonio Cesare, Bartholomew Marchioni, Jerónimo Semigi, and Luís Doria joined together. This group was followed by a more numerous one in the beginning of the sixteenth century and linked the resident Italian community together in the sugar trade. Foreigners came to depend on a group of agents or representatives to maintain the scope of their commercial operations in the islands; men like Gabriel Affaitadi, Luca Antonio, Cristóvão Bocollo, Matia Minardi, João Dias, João Gonçalves, and Mafei Rogell. While the first group was primarily made up of Italians, the second included representatives of some of the island's principal families.

The merchant-bankers of Florence were particularly important in making the commercial and financial arrangements for Madeiran sugar in European markets. From Lisbon, where they enjoyed royal confidence, they created an extensive network of ties that linked Madeira to the principal European ports. They obtained almost exclusive control from the Royal Treasury through their contract to collect royal duties. Figures such as Bartolomeu Marchioni, Lucas Giraldi, and Benedeto Morelli had a direct effect on the sugar trade in the beginning of the sixteenth century. These merchants and their agents kept the network functioning. For example, Benedeto Morelli, in 1509–10, maintained on the island agents such as Simão Acciaiuoli, João de Augusta, Benoco Amador, Cristóvão Bocollo, and António Leonardo. Marchioni, in 1507–9, was represented by Feducho Laromoto. João Francisco Affaitadi, from Cremona, the Lisbon agent of one of the most important commercial families, actively par-
ticipated in this trade between 1502 and 1526, by means of contracts of purchase and sale of the sugar collected by the Crown as duties (1516–18, 1520–21, and 1529) and in payments in sugar in exchange for pepper. He also did this in partnership with other merchants through agents on the island. This group of merchants penetrated insular society where their royal privileges favored their linkages to the land and office-holding elites. Their appearance among the municipal councilors and treasury officials indicates their position in the sugar economy. Men like Rafael Cattano, Luís Doria, João and Jorge Lomelino, and João Rodrigues Castelhanos, among others, acquired some of the best and most productive lands and were counted among the most important owners of cane fields.

The French and the Flemish, following the Italian example, were attracted to the island as well by the sugar trade, but their interest remained only in the commerce of sugar and not in its production; thus they did not set down roots in local society as the Italians did. João Esmeraldo was the exception. The French played an active role in the sugar trade while the Flemish played a secondary role. The French acquired large amounts of sugar in Funchal, Ponta do Sol, Ribeira Brava, and Calheta, shipping it in French ships to a number of French ports. Some of these merchants incorporated Madeira into a network that linked the Canaries to Nordic and Andalusian ports.

The esculapulas or sugar quotas up to 1504 and the sugar collected as royal duties were funneled to European markets either by direct delivery, by free trade, or in exchange for pepper. This sugar was handled by merchants or by the commercial consortia in Lisbon in which Italians, such as João Francisco Affaitadi and Lucas Salvago, played a central role. The Italian-controlled network based in Lisbon dominated the sugar trade in the first three decades of the sixteenth century, but by the 1530s it was somewhat in decline as foreign merchants, faced with the instability of the Madeiran sugar market, began to seek other trades. After the Italians, the Portuguese and Spanish traders were the most important, while the northern merchants did not play much of a role. This is additional evidence that the Flemish sugar route remained under the control of the Portuguese factory in Antwerp. During the period between 1490 and 1550, exclusive Italian control in the first decade and predominance in the next two was replaced by Portuguese, Castilian, and French traders. Among the foreign merchants the trade was concentrated in a few hands. The five leading merchants in the period handled over 70 percent of the sugar shipped, or over 10,000 arrobas each, while among Portuguese merchants only one shipped over 1,000 arrobas. The Cremonese noble João Francisco Affaitadi, who headed the Lisbon operations of his family business, became the principal merchant in the Madeiran sugar trade from 1502 to 1529, handling more than seven times the amount of all the Portuguese merchants together.

The network of the sugar trade at Funchal was created and motivated by foreigners, Germans or Italians, who arrived after an advantageous stop in Lisbon. They controlled the major consortia in the sugar trade even though their fixed residence was often Lisbon, Flanders, or Genoa. Their operations depended on representatives and agents on the island whom they chose first from among their relatives, next from their compatriots with roots on the island, and last from locals or Portuguese. The number of local agents was a gauge to the importance of the firm. The Welsers and Claees operated in the Funchal market through agents in Lisbon like Lucas Rem and Erasmus Esquet, who then had representatives in Funchal to deal with day-to-day operations. These men in turn had little to do with local society and often dealt with more than one foreign merchant firm, just as the firms often used multiple agents.

By the second half of the seventeenth century, Madeiran sugar was replaced by the Brazilian product. Madeirans and Azorians played a part in this commerce, supplying wine and vinegar in return for sugar, tobacco, and Brazil wood and eventually even entering into the slave trade. For this the Madeirans created their own network of trade through Madeirans stationed in Angola and Brazil. Diogo Fernandes Branco was a perfect example of this new situation. He specialized in the export of wine to Angola in exchange for slaves that he then sold in Brazil for tobacco and sugar. A household industry, employing many women in the city and surrounding areas, developed on the island in which these products were transformed into conserves and other sugar by-products, all of which were organized by merchants, such as Fernandes Branco, according to requests they received. The principal ports for these goods were the north of Europe: London, St. Malo, Hamburg, La Rochelle, and Bordeaux. Fernandes Branco served as the direct representative for merchants in a number of these ports, sending wines and sugar products in return for manufactured goods since money and bills of exchange were rarely sent to Madeira. His correspondence reveals his own network of contacts in Lisbon and in Brazilian ports. He seems to have specialized in supplying wine to Angola and Brazil and sugar to the dining tables of Europe. His activities reveal the structural position of Madeira in the second half of the seventeenth century as an entrepot between the interests of the commercial bourgeoisie of the Old and New Worlds. Funchal was a key piece in this puzzle, a place where small merchants awaited an opportunity to enter into these trades. Angola and Brazil were two other locales for this activity, as was Barbados from time to time, until it eventually assumed a dominant position with the rise of English commercial hegemony in the Atlantic world.
The Canaries also witnessed the active participation of foreign merchants through the fifteenth and sixteenth centuries. Portuguese, Genoese, and later Flemish and French merchants were involved in the conquest and occupation of the islands, in the creation of their social and economic base, and in the development of commercial networks. The Genoese, well-established in Andalusia, participated actively in the trade of ceiba and slaves in the archipelago. Blocked in their Mediterranean trade by the Muslims and by Italian rivals, they sought in the “Atlantic Mediterranean” a new site for their activities. Madeira, Gran Canaria, and Tenerife in the fifteenth and sixteenth centuries thus became their Atlantic homeland where they settled as residents (vecinos), becoming in the process powerful landowners, merchants, and moneylenders. We can identify three types of foreigners: (1) conquerors who took part in the winning of the Canaries as warriors or financiers of expeditions; (2) settlers who developed after the conquest benefiting from the process of occupation; and (3) merchants who handled local exchanges and then the commerce in sugar and manufactured items, aided to some extent by their resident compatriots.

Conquerors and settlers became important in the new societies of Tenerife and Gran Canaria as hacendados. Such was the case of Cristóbal Ponte and Tomás Justinián, who, next to the Lugos, were the richest men on the island. F. Clavijó Hernández considers Tenerife the center of Genoese mercantile operations. They financed the conquest, the planting, and the harvesting of the sugar cane. A similar role was played on Gran Canaria by Francisco Riberol, Antonio Manuel Mayuelo, Bautista Riberol, and Jácome Sopranis, whose importance was symbolized by their patronage of the principal chapel of the Franciscan convent and by the designation of one of the streets as the “street of the Genoese.” As in Madeira, their influence spread into local administrative life as tax collectors or as the holders of government tax contracts, as in the case of Juan Leandro and Luís de Couto, who in 1522 collected the royal third. To this group of legal residents (vecinos) we must add the more numerous merchants who were simply passing a period on the island. According to the count by Guilherme Camacho y Pérez Galdós, they considerably outnumbered the resident merchants. On Tenerife, the situation was inverted. There, the vecinos made up 57 percent of the resident merchants. The majority of vecinos dedicated their activity to sending sugar to Europe and importing manufactures to the islands. Most had shops on the Andalusian coast and operated through a network of agents and representatives. Francisco Riberol, one of the principal Genoese, for example, sometimes resided in Seville and sometimes on Gran Canaria, where he had considerable interests in the sugar industry. While the Genoese were the principal representatives of the Italian merchant community on the islands, there were also Lombard’s like Jácome de Carminatís and Florentines like Juano Berudo, one of the conquerors of La Palma.

The Flemish community had equal importance in Canarian society and economy. Despite their occasional presence in the fifteenth century as merchants or conquerors, it was really in the early sixteenth century that they began to arrive in the archipelago in force. Attracted by the commerce in sugar and dyestuff, they established an important export trade, and their activities extended into all aspects from sales to loans of capital and goods to export trade. In this way, they created a net of relations throughout the islands from their bases on Gran Canaria, Tenerife, and La Palma. Tenerife attracted the largest number of merchants from the Low Countries, most of whom were visitors rather than residents on the island. Like the Genoese, the Flemish also penetrated island society and achieved the status of residents (vecinos), becoming tied to the principal local families and directing trade circuits with Bruges or Antwerp, their cities of origin. Only on La Palma did a small community develop, which played a major role in local matters.

In the Canaries, companies (partnerships) developed not only in the commercial sector, but in transport and production as well. For example, in 1513 the Welsers acquired cane field in Tazacorte (La Palma), which were later passed on to their agents Juan Bissan and Jácome de Monteverde. On Gran Canaria partnership contracts were common between cane farmers and merchants or between cane farmers and canavieiros (those who weeded the cane fields). In Las Palmas, Santa Cruz, and Garachico partnerships were formed by local and foreign merchants to do business with three primary markets; the northern and Mediterranean ports, the African coast, and the Americas. This was generally done through Seville or Cádiz using the offices of resident agents. Three Barcelona merchants formed a company in 1536 to trade in Canarian sugar and slaves using Cádiz as redistribution point. Another Barcelona-based group was established in 1574. In these relations between the Canaries and Andalusia, family ties predominated, with relatives often serving as agents in the islands. By the first quarter of the seventeenth century, the picture was changing because of political considerations, the English were gone, and there were fewer Flemish and Genoese.

Commerce in White Gold

Sugar provided the major element in the trade between Madeira and Europe in the fifteenth and sixteenth centuries, and it played a similar role in the Canaries beginning in the sixteenth century. On Madeira and some of the Canary Islands
it was the basis of wealth and the commodity that could be used to acquire food and manufactured goods. But during this period the sale and value of sugar oscillated because of conditions in the markets where it was consumed and because of competition from other producing regions. The producers' expenses were varied. Direct sales, sometimes pledged before the harvest, were often used to pay existing debts or were made in exchange for goods and services. On Madeira, registers of taxes, the "books of the fourth and the fifth," reveal how producers disposed of their sugar. In the Canaries, different types of contracts are registered in notarial records. These reveal the principal buyers as well as the use of sugar to pay for services. For Madeira in the first half of the seventeenth century we can see how the sugar was distributed by mill owners and cane farmers. There, 81,280 arrobas was sold to 2,492 buyers; an indication of a distribution to small buyers and a situation quite different from the monopoly control that had characterized the high point of sugar's growth in the previous century.

Engenho owners and cane farmers usually used the product of their harvests to pay for the salaried laborers they employed. From 1509 to 1537 there are references to the payment in sugar for a variety of services and purchases. The accumulation of profits by the sugar producers and their redistribution into the local economy had an effect on the life of the island and on the development of its artistic and architectural context. In the Canaries, there was also an advance of goods and services against the expected harvest, a system that tended to subordinate the producers. Here too, despite regulations to the contrary, the payment of workers in the harvest was made in sugar, which led to its circulation as a means of exchange.

For over a century, sugar was Madeira's principal item of trade with the outside world. The difficulties of penetrating the European market led the Crown to control this trade, which after 1469 was done under the permanent supervision of the lord proprietor and the Crown. This situation remained in place until 1508, when the contract system was abolished. The northern ports, especially Flanders, dominated the sugar trade, receiving half of the established quotas (escapulas). Similarly, the Italian ports dominated the Mediterranean trade. If we compare the quotas of 1498 with the sugar shipped from 1490-1550 (see table 3.4), we can see the major difference lies in the share taken by the Italian cities, perhaps because of their role in redistributing this sugar to France and the Levant.

Madeiran sugar was being carried primarily to the Flemish and Italian markets. Portugal itself, the ports of Lisbon and Viana do Castelo, was only in third place, receiving about 10 percent of the total. From about 1511, Viana do Castelo became important, redistributing sugar to Spain and northern Europe. From 1535 to 1550, of the fifty-six ships entering Antwerp with Madeiran sugar, sixteen had sailed from Viana. From 1581 to 1587, Viana was the only Portuguese port receiving Madeiran sugar. For the Mediterranean, Cádiz and Barcelona played a similar role as the major ports for the trade with Genoa, Constantinople, Chios, and Agues Mortes.

Export statistics for the period 1490-1550 demonstrate that about 20 percent of the trade went to Flanders and 52 percent to Italy, but Italian merchants actually shipped about 78 percent of all Madeiran sugar. The early difficulties for foreign traders were surmounted by the 1480s as some became residents involved with both production and commerce of sugar. Data for the late sixteenth century is more difficult to locate, but from 1581 to 1587 the island exported just under 200,000 arrobas.

In the early sixteenth century the sugar market was expanding. Madeira in the previous century had been almost alone as a producer, but now the Canaries, the Barbary coast, São Tomé, and later Brazil and the Antilles were also making sugar. This competition affected the sugar market. Madeira, however, maintained its preferential status and in the markets of Florence, Antwerp, and Rouen its sugar still commanded the highest prices. Perhaps this situation explains the frequent references to stops in Madeira of ships trading with São Tomé, the Canaries, and North Africa. It may also explain why there is a reference to the sale of Madeiran sugar in Tenerife in 1505. Normand shipping also favored Madeira, although after 1535 São Tomé began to overtake it as a supplier to northern markets.

As competitors arose, the routes of trade shifted away from Madeira. Cane fields were abandoned, the industry of sweets and conserves was endangered,
served as “a trampoline for Brazil and the Rio de la Plata” in the period 1609–21. He also made clear that this relation might be direct or indirect through Angola, São Tomé, Cape Verde, or the Guinea coast. From the close of the sixteenth century, the trade in Brazilian sugar used the ports of Funchal and Angra dos Reis for legal and contraband exports to Europe. Pressures on the Crown and appeals from Madeirans led to its limitation. Thus in 1591 unloading Brazilian sugar in Funchal was banned, an action that seemed to have little effect since the minutes of the town council of Funchal for 17 October 1596 asked for the full application of this law. After 1596 there is evidence of an active role in defense of local sugar production by local authorities. Violations of these restrictions were punished by a fine of 200 cruzados and a year of penal exile.

Constant pressure from businessmen in Funchal involved in this commerce led to a consensual solution. In 1612 a contract was established between the merchants and the town in which the merchants were allowed to sell a third of this Brazilian sugar, which after 1603 had been completely restricted from sale; violators were punished by loss of the cargo and a 200 cruzado fine. After 1616 this changed and sale of Brazilian sugar was allowed after local sugar had all been sold. Thus slaves and boatmen were threatened that any movement of sugar without expressed authorization by the municipal council would be punished by a fine of fifty cruzados and two years of penal exile.

After the Portuguese restoration of independence in 1640, commerce with Brazil faced further regulations. First, there was the creation of monopoly through the Brazil Company in 1649 and its creation of a convoy system. Madeira and the Azores after 1650 were allowed to send two ships a year with a capacity of 300 pipas to trade for tobacco, sugar, and wood. Later a limit was set at 500 crates of sugar. Two ships were sent every year with licenses from the Conselho da Fazenda and were supposed to benefit all the island’s merchants. Some ships claiming to be victims of shipwreck or corsair attacks landed crates of sugar, perhaps attempting to avoid the prohibitions. Infractions were punished with prison terms. For the seventeenth-century Canaries we only have export figures for Gran Canaria in the first quarter of the century. By that time, the relative importance of Seville and the French ports had become inverted.

Place of Madeira in the World of Sugar

Madeira, archipelago and island, played a singular role in European expansion. Various factors in the fifteenth century made it a kind of Atlantic “lighthouse” to orient and guide further maritime activity. This role as a base of communications and the development of its agriculture of sugar and wine allowed Madeira
to overcome the isolation of its location. It also served as a point of reference for the Atlantic in terms of its social organization and in the role of slavery within it. As Sidney Greenfield has observed, Madeira served as a trampoline between "Mediterranean sugar production" and American "plantation slavery." In this, Greenfield was simply following the arguments developed by Charles Verlinden in the 1960s, arguments that now must be modified due to recent work on slavery on the island. In truth, Madeira was the social, political, and economic starting point for the Portuguese Atlantic and for "the world the Portuguese created" in the tropics.

It was Columbus who opened the New World and traced the route for sugar’s expansion to it. He was no stranger to this product, having been involved in its commerce on Madeira. Prior to his personal relationship on the island, he had been, like many of the Genoese merchants, dealing in Madeiran sugar. Tradition has it that the first cane plantings he brought to America came from La Gomera in the Canaries, which at that moment was involved with sugar's expansion while the industry was already well established on Madeira.

Madeira’s soils made sugarcane cultivation through intensive agriculture profitable. Madeira made production on a large scale possible as prices began to reflect by the late fifteenth century. In 1483 Governor Don Pedro de Vera, wishing to make the conquered areas of the Canaries productive, sought to bring sugar plantings from Madeira. Portuguese took an active part in that conquest and brought this new area into the world economy by acquiring lands as settlers, by working for wages as specialists in sugar making, or by constructing sugar mills and setting them in motion. On La Palma, for example, we can refer to Lionel Rodrigues, mestre de engenhos, who earned that title after twelve years of work on Madeira. The Canaries would later play a similar role for the Spanish Indies. Thus, in 1519 Charles V recommended to the governor Lope de Sosa that he facilitate the departure of sugar masters and specialists for the Indies.

Sugar had moved southward to Cape Verde and São Tomé, but it was only São Tomé’s water, forest, and land that were suitable for its expansion. In 1485 the Crown recommended that João de Paiva proceed with the planting of sugarcane. For the making of sugar there are references to "many masters from the island of Madeira." It was on São Tomé that the sugar structure, which eventually passed to the other side of the Atlantic, developed. From the sixteenth century, the competition from the Canaries and especially São Tomé naturally led to a reaction from Madeiran producers who complained to the Crown in 1527. The Crown promised to respond in the following year, but no decision seems to have been made.

Meanwhile across the Atlantic, the first steps in the distribution of land in Brazil were being made. Once again, the presence of Madeiran cane and Madeiran sugar specialists can be noted. The Crown drew on them to create the industry’s infrastructure. In 1515 the Crown had asked for the good offices of anyone who might build a mill, and in 1555 João Velosa, called by many a Madeiran, built one at royal expense. To develop the industry in Brazil, specialized laborers would be needed and Madeira was the principal source. Thus in 1537 engenhos carpenters on the island were prohibited from traveling to the lands of the Moors.

With such restrictions and facing the slow decrease in island sugar production, many Madeirans headed for the Brazilian cane fields, where they served as specialists and proprietors in Pernambuco and Bahia. Some Madeirans such as Mem de Sá and João Fernandes Vieira, the liberator of Pernambuco in the mid-seventeenth century, became important mill owners. The ties between Brazil and the island and sometimes through it to European markets continued. In 1599, for example, Cristóvão Roiz of Câmara de Lobos on Madeira declared having close to 100 milreis invested in three sugar masters in Pernambuco in partnership with two other investors.

As the Atlantic sugar market revealed the existence of areas of better conditions and larger capacity, the island sugar industry was irretrievably lost. Cane fields slowly disappeared and were replaced by vineyards. Only the economic conjuncture in the second half of the nineteenth century would permit their return. But this situation proved ephemeral and even then was only possible with a protectionist policy. The cane fields lost their ability to produce sugar, the "white gold" of the islands, but in its place they made cane brandy and liquor. The rum and aguardente produced today are the heirs of the sugarcane culture of Madeira and the Canaries.

NOTES

Abbreviations

AEA Anuario de Estudos Americanos
AHM Arquivo Histórico da Madeira
ANTT Arquivo Nacional da Torre do Tombo
ARM Arquivo Regional da Madeira
CHCA Colóquio de Historia Canario Americana
CMF Câmara Municipal do Funchal
DAHM Das Artes e da História da Madeira
PJRFF Provedoria e Junta da Real Fazenda do Funchal
RCCMF Registro Geral da Câmara Municipal do Funchal

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2. This documentation results from the accounting organized by each mill as can be inferred from a document of 1550 (*Provião e regimenamento* for the taxing of sugar, 12 June 1550, *Archivo histórico da Madeira*, no. 135; *Cámara do Porto do Sol*, no. 181; *Câmara do Porto Santo*, no. 46, 124; *Biblioteca Nacional de Lisboa*, cod. 8591. In an alvará of D. Henrique of 18 August 1553, cited in E. C. Almeida, *Archivo da Marinha e Ultramar* (*Madeira e Porto Santo* [Lisbon, 1927]), 238, the position of evaluator was created to determine the price of water; see J. José de Sousa, "As levadas," *Atlântico* 17 (1984).


5. See Pedro Cullen del Castillo, ed., *Libro rojo de Gran Canaria, gran libro de provisiones y reales cédulas* (Las Palmas: Cabildo Insular de Gran Canaria, 1993); Elías Serra Rafols and Leopoldo de la Rosa Oliveira, eds., *Reformación del repartimiento de Tenerife en 1506 y colección de documentos sobre el adelantado y su gobierno* (*Santa Cruz de Tenerife*, 1973); Francisca Moreno Fuentes, *Las datos de Tenerife, libro V de datos originales* (La Laguna: Universidad de La Laguna, 1978); Francisca Moreno Fuentes, *Las datos de Tenerife (libro primero de datos por testimonio)* (La Laguna: Universidad de La Laguna, 1992); and Eduardo Aznar Vallejo, *Documentos canarios en el registro del sello* (1476-1517) (La Laguna: Instituto de Estudios Canarios, 1981). In recent years, some books of the provincial notary’s records of Las Palmas and Santa Cruz de Tenerife have been published.


8. See also Archivo Histórico ultramarino, *Madeira e Porto Santo*, no. 3281 (5 November 1813), published by E. C. Almeida, *Archivo da Marinha e Ultramar: Madeira e Porto Santo* (Lisbon, 1907), 223–25. 238. Register books of the distribution of water exist only from the


22. This comes from the recollection do oitavo. See Arquivo Nacional da Torre do Tombo, Provedoria e Junta da Real Fazenda do Funchal, no. 980, 525–39.


24. Taxes on sugar production are a key to evaluating the state of the industry. On Madeira there was first the quarto (one-fourth) and then the quinto (one-fifth), which was collected from each producer. In the Canaries, the most important tax was the tithe (diezmo), which was collected by the church. The register books for the tithe have disappeared and all that remains is the information gathered by A. Millares Torres for the period 1634–1813. During this period there were seven sugar mills listed on the islands of Tenerife, Gran Canaria, and La Palma. See Paulino Castañeda Delgado, “Pliegos sobre Diezmos del Azucar en Santo Domingo y Canarias,” II CHCA (1979), 2: 247–72; and Rivero Suárez, El Azúcar en Tenerife, 179–86. The tithe was not collected as one-tenth of the cane produced, but rather as one out of every twenty arrobas of white sugar. This led to conflicts that were resolved in 1543 by a brief of Pope Paul III, who established the tithe as one-tenth of all sugar produced before the division made between mill owners and dependent cane farmers.

25. For Madeira documentation of productivity is available for each sugar mill. See regiment to the recollection of the sugar (12 June 1550), AHM 19, no. 98 (1990): 115–24; and Costa and Pereira, Livros de contas da ilha da Madeira. For the Canaries, the documentation is limited to questions of land distribution. See, for example, del Castillo, ed., Libro rojo de Gran Canaria; Serra Ráfols and Rosa Olivera, eds., Reformación del repartimiento de Tenerife; Moreno Fuentes, Las datas de Tenerife, libro V de datos originales; Moreno Fuentes, Las datas de Tenerife (Libro primero de datos por testimonio); and Aznar Vallejo, Documentos canarios en el registro.

26. On the evolution of landed property, there are few studies for Madeira and the ones that exist are limited to questions of land grants. See Fernando Jasmins Pereira, Elementos para a história económica de Madeira (Funchal: Centro de Estudos de História do Atlântico, 1991), 22–23, 88–95; María de Lourdes Freitas Ferraz, A ilha da Madeira sob o domínio da casa senhorial do infante D. Henrique e as suas descobertas (Funchal: Secretaria Regional do Turismo e Cultura, 1986); Manuel Pita Ferreira, O arquipélago da Madeira. Terra do senhor infante (Funchal: Junta Geral do Funchal, 1999); and Joel Serrão, "Na Alvorada do mundo atlântico," Das artes e da história da Madeira 64, no. 31 (1961). On the Canaries the question of land distribution is better documented. See, for example, Vicente Suárez Grimón, La propiedad pública, vinculada y eclesiástica en Gran Canaria en el crisis del antiguo regimen, 2 vols. (Las Palmas: Cabildo Insular de Gran Canaria, 1987), vol. 1; and Fernández-Armesto, Canary Islands.


30. Del Castillo, ed., Libro rojo de Gran Canaria, 1–2; ANTT, Santa Clara, maço 1, no. 47 (1454).

31. ANTT, Livro das ilhas, f. 530v.


33. António Aragão, A Madeira vista por estrangeiros, 87.

35. ANTT, Convento de Santa Clara, maço 13, no. 1 (4 July 1477); António Baiao, O manuscrito de Valentin Fernandes (Lisbon, 1949); A. Artur, "Apontamentos históricos de Machico," DAHM 1 (1949): 8–9. Historians are not certain about the date of Teixeira’s inventory; should it be based on the date of his testament on 7 September 1535, or should it be calculated from the date of his wife’s testament on 13 September 1495?


37. On 20 March 1499, AHM 17, no. 227 (1973): 486–87, this situation was noted and the possible negative implications for the collection of the quinto tax.


41. A. Artur, “Apontamentos históricos de Machico,” DAHM 1 (1949): 1: 8–9; ARM, Capelas, caixa 8 (19 January 1547); ARM, Misericórdia do Funchal, no. 40, f. 49–58 (11 September 1600); ANTT, Convento de Santa Clara, caixa 4, no. 11 (20 December 1644); ARM, Misericórdia do Funchal, no. 42, f. 249–51 (23 May 1645).

42. Díaz Padilla and Rodríguez Yanes, El señorío, 320; Aznar and Viña Brito, “El azúcar en Canarias,” 185; Archivo Histórico y Provincial de Tenerife, Protocolos: Juan de Anchieta, no. 455, f. 82f., in Fernando Gabriel Martín Rodríguez, Arquitectura domestica canaria (Santa Cruz de Tenerife: Aula de Cultura, 1978), 298–304.

43. Editor’s note: The Madeira arroba was equivalent to 28 arrotás (lbs.) until 1504, when it was changed to 32 arrotás.

44. A. Macías, “Canarias, 1480–1550.”

45. These contracts have merited a number of studies. See, for example, Fernando Augusto da Silva and Carlos Azevedo Menezes, “Colônia, contrato de,” Elucidário madeirense, 1290–92; Jorge de Freitas Branco, Campeões da Madeira (Funchal: Publicações D. Quinote, 1987), 153–87; and João José Abreu de Sousa, “O convento de Santa Clara do Funchal: Contratos agrícolas (século XV a XIX),” Atlântica 16 (1988).

46. Manuel Lobo Cabrera, La esclavitud en las Canarias Orientales en el siglo XVI: Negros, moros y moriscos (Santa Cruz de Tenerife: Cabildo Insular de Gran Canaria, 1982), 165; Manuel Lobo Cabrera and Ramón Diaz Hernández, “La población esclava de Las Palmas durante el siglo XVII,” AEA 30 (1984): 4. See also Rivero Suárez, El azúcar, 43–81; and Osvaldo Brito, Augusto de Franquis una mujer de negocios (Santa Cruz de Tenerife: Cabildo Insular de Tenerife, 1979).

47. Lobo Cabrera, Esclavitud en las Canarias Orientales, 211–12.


50. M. Garrido Abolafia, Los esclavos bautizados en Santa Cruz de La Palma (1564–1600) (Santa Cruz de la Palma: S.E., 1994); Manuel Lobo Cabrera e Pedro Quintana Andrés, Población marginal en Santa Cruz de La Palma, 1564–1700 (Madrid: Ediciones La Palma, 1997).


52. ARM, RGCMF, vol. 1, fs. 262v–62v; Regimento in AHM 17 (1973), 1: 203, 356; vol. 1, f. 98–98v; carta régia, no. 258, 429–31. The term “azúcar quebrado” sometimes refers to what was called in the Caribbean muscovado sugar.


56. Rivero Suárez, El azúcar, 43–49.


58. Alberto Vieira, O comércio inter-insular nos séculos XV e XVI (Funchal: Centro de Estudos de História do Atlântico, 1987), 57.


60. Fernando Jaminis Pereira, Estudos sobre historia de Madeira (Funchal: Centro de Estudos de História do Atlântico, 1991), 232–34.


64. Magalhães Godinho, Os descobrimentos, 87; ARM, Cámara municipal do Funchal, registo geral 1, fs. 1-1v, letter on the sugar trade (Alcochete, 14 July 1469); AHM 15 (1972): 45-49.


66. See Lobo Cabrera, El comercio canario-europeo, 7.


70. My comments here are based on a broad range of archival sources. See also Lojo Serrão, Nota sobre o comércio do açúcar entre Viana do Castelo e o Funchal, Revista de Economia 3 (1950): 209-12; Virginia Rau, A exploração e o comércio do sal em Setúbal: Estudo de historia económica (Lisbon: n.p., 1951); ARM, RGCMF, t. 1, fs. 301v-301v, published in AHM 17 (1973): 435-54; Eddy Stols, "Les Canarien et l’expansion coloniales des Pays-Bas Méridionaux," IV CHCA (20-22), 1908; and Manuel Lobo Cabrera, "El comercio entre Gran Canaria," 32-33.

71. G. Camacho y Pérez Galdós, La hacienda de los principes (La Laguna: Imprenta Curbelo, 1943), 524. This author notes eighty-eight Genoese merchants of whom eighty-one (82 percent) were vecinos. In my review of printed sources, I only found fifty-four Genoese, of which twenty-nine percent were vecinos.


73. Giles Hana, a Flemish merchant and vecino of Tenerife, married Francisca de Carminatis, daughter of the Lucindar merchant Juan Jácome de Carminatis, who himself was married to the daughter of Jaime Joven, a Catalan merchant and vecino of the island. Flemish merchant Juan de Xembrens married Ana de Betancor, daughter of Guillén de Betancor. See Marrero Rodrigues, Los mercaderes, 611-14.


78. Lobo Cabrera, El Comercio canario-europeo, 113-14; Rivero Suárez, El açúcar en Tenerife, 147-48.


81. The island received manufactured products, especially textiles from Antwerp, Ghent, Holland, and Rouen, and these were traded for money and sugar by Genoese and Flemish merchants, as well as Symonario Anshezi, Jeronimo Lera, Lamberto Broque, Sebastian Bono, and Jerónimo Fránquez. See Eddy Stols, "Les Canarier et l’expansion coloniales des Pays-Bas Méridionaux," IV CHCA (20-22), 1908; and Manuel Lobo Cabrera, "El comercio entre Gran Canaria," 32-33.

82. Magalhães Godinho, Os descobrimentos, 4-98.


84. For example, in January 1596, the town councilors prohibited António Mendes from unloading the sugar of Balthazar Dias. Three years later, he was obliged to reship a cargo of Bahian sugar without unloading any of it. See ARM, RGCMF, t. 3, f. 44v; ARM, RGCMF, documentos avulsos, caixa 4, no. 504, fs. 12v-13v refers to the prohibitions of 1599, 1597, 1601; ARM, CMF, no. 1312, fs. 7-8v; no. 1313, fs. 20-23.

85. CMF, no. 396, fs. 75v-76; ARM, RGCMF, t. 9, fs. 29v-30v (10 June 1664).

86. Torres Santana, El comercio de las Canarias Orientales, 300.

88. Gloria Díaz Padilla y José Miguel Rodríguez Yanes, El señorío en las Canarias Occidentales (Santa Cruz de Tenerife: Cabildo de Insular de El Hierro, 1990), 316.


90. ARM, CMF, verearoes 1527, f. 23v.

91. ARM, DA, no. 66 (5 February 1528).

92. ARM, RCMF, f. 372v.

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Tropical Babylons
Sugar and the Making of the Atlantic World, 1450–1680

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FOR MANUEL MORENO FRAGINALS (1922–2001) and JOSÉ ANTÔNIO CONÇALVES DE MELLO (1916–2002) historians of sugar whose enthusiasm for their craft, generosity to fellow scholars, and love of their homelands serve as examples to those who follow