

# MADEIRA AND THE BEGINNINGS OF NEW WORLD SUGAR CANE CULTIVATION AND PLANTATION SLAVERY: A STUDY IN INSTITUTION BUILDING\*

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Although the tropical New World is generally taken as the context for the comparative and historical study of plantation systems and of slavery, the institutional complex of the slave plantation<sup>1</sup> did not have its origins in the Western Hemisphere. Instead, as Charles Verlinden<sup>2</sup> and others have demonstrated so ably, the culture complex can be traced back to the European colonies established in Palestine following the First Crusade. There sugar was grown by a mixed force of free and slave workers. The sugar then was exported, with some of it reaching the developing markets of Western Europe.

Sugar cane had been known to Europe at least as far back as antiquity, although its distribution was limited. The cultivation of the crop, and its increased availability and wider distribution, came to Mediterranean Europe in the wake of the expansion of Islam. Sugar cane, most probably first domesticated in India, had been grown in Asia Minor and was carried along with the spread of Islam to the coastal regions of North Africa, the islands of the Mediterranean, and eventually to the Moorish kingdoms in the Iberian peninsula.<sup>3</sup>

Given the intensity of the conflict between Christianity and Islam during the Middle Ages, trade between the areas controlled by the rival religions tended to be minimal. Hence sugars produced in areas under Moslem control went, for the most part, to supply markets in the Near East and North Africa, while the markets of Europe had to be supplied from areas under Christian control.

Christian production in the eastern Mediterranean moved to the island of Cyprus at the end of the thirteenth century when the colony in the Holy Land fell to the expanding Turks. Another colony was established in Sicily after the Norman conquest of the island. The Moors had set up sugar estates when they first took the island. The Normans took over the estates and Sicily remained an important producer of sugar into the sixteenth century.

In Cyprus Venetian and Genoese entrepreneurs financed and traded sugar produced on lands owned by French conquerors and Italians that was grown and processed by a labor force composed of Arabs and Syrians taken as slaves, local free workers and emigrants from Palestine.<sup>4</sup> In Sicily free labor was used primarily in sugar,<sup>5</sup> although the taking of slaves was far from unknown.<sup>6</sup>

As Moslem strength in the eastern Mediterranean increased, the European Christians were driven from the subtropical colonies they were using to raise sugar. The major expansion of the Ottoman Turks in the fifteenth century, however, coincided with the expansion of Europe into the Atlantic, and then to Africa and the New World.

The island of Madeira in the Atlantic Ocean off the northwest coast of

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Africa (FIGURE 1) provided the link between sugar production by European Christians in the Mediterranean and the plantations of the New World. In the second and third quarters of the fifteenth century sugar plantations and plantation slavery were established in Madeira. Madeira, however, was settled by colonists from Portugal, a nation that had gained its independence just a few centuries earlier and was in the process of expanding overseas as perhaps the first true nation-state in Western Europe.

The appearance of the nation-state was to change the nature of colonies and of plantations. Madeira is the first place in which sugar-cane plantations were incorporated as part of an expanding national society. Also, in Madeira the exclusive use of slave labor on plantations is established, the pattern that then is to dominate the New World.

In one sense Madeira might be considered the link between Mediterranean sugar production and plantation slavery and the system that was to dominate New World history and society into the nineteenth century. In another sense, however, Madeira may be thought of as marking the transition from the plantation system and slavery of the Middle Ages to the modern system that was the basis of what Curtin has referred to as the South Atlantic system.<sup>7</sup>

The following pages examine what happened in Madeira in the half-century or so following its rediscovery and settlement. My specific concern is with the emergence of the cultural pattern that combined plantations and slavery in an overseas colony within the context of an expanding nation-state.<sup>8</sup>

### THE ISLAND OF MADEIRA

The island group referred to as the Madeira Islands (see inset of FIGURE 1), composed of Madeira, Porto Santo, Deserta and the Selvagens, is located in the Atlantic Ocean off the northwest coast of Africa between parallels  $32^{\circ}7'50''$  and  $33^{\circ}7'50''$  north latitude and between meridians  $16^{\circ}16'30''$  and  $17^{\circ}16'38''$  west longitude. They occupy a deep trough in the ocean between isothermals  $64^{\circ}$  and  $68^{\circ}$ .

Madeira is the largest island in the group, measuring 57.9 kilometers in length and 22.9 kilometers in width, with an area of 728 square kilometers. Since Deserta and the Selvagens proved to be uninhabitable, and Porto Santo never was able to develop plantations and a plantation society, I shall limit the following discussion to the single island of Madeira.

The island is of volcanic origin and extremely rugged. Its soils are generally very fertile, especially along the coast—although, as we shall see below, irrigation is needed to make them productive.

The mountains rise precipitously out of the sea to heights of almost two thousand meters. The landscape is broken and there are but few relatively flat areas, mostly along the coast. The interior of the island is dominated by sharply rising mountains that are difficult to ascend and of limited agricultural value.

Madeira lies in the path of the trade winds emanating from the Azorean anticyclone. This high pressure causes marked regularity in force, direction and temperature of the winds blowing over the north side of the island. Precipitation on the north side as a result is more evenly distributed annually than it is on the south side of the island.

The mountains shelter the south side from the northerly winds; but peripheral winds, moving clockwise away from the Azorean anticyclone, and passing over parts of the western African desert, return to Madeira from the southeast. These

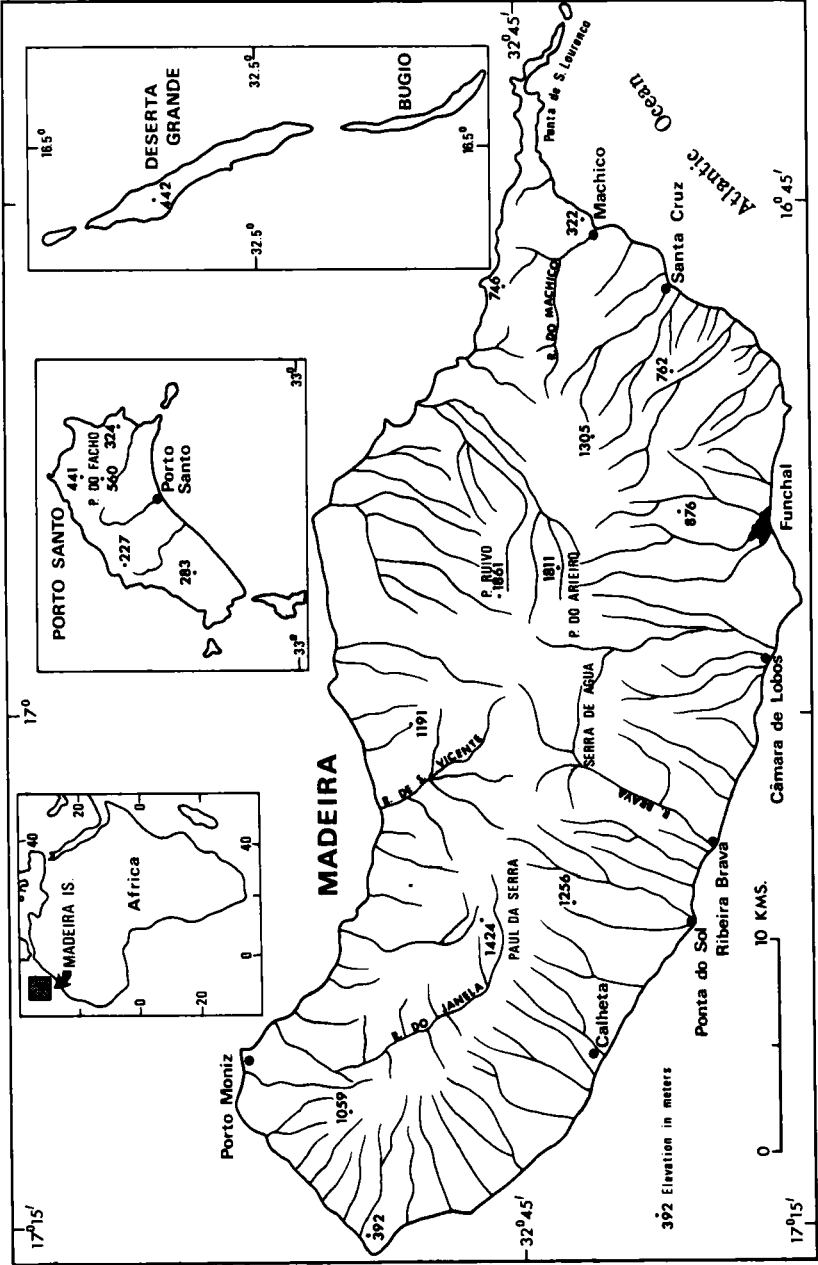


FIGURE 1.

*lestes*, as they are called, are hot and dry and often cause sudden rises in temperature as well as decreases in humidity.

The winds from the south-southwest are humid, but do not condense until they have reached the higher elevations on the south side of the island. Hence precipitation is heaviest above 1,300 meters. Some rain, however, may be falling in Monte, a town at 545 meters, while the sun continues to shine in Funchal on the south coast.

The winds, on the whole, play a very important part in shaping the climate of the island. However, their influence is modified by the Gulf Stream, which descends from the north-northwest, bathing the island on all sides. Its warming effect, though, is limited to a small coastal strip, characterized on the south side of the island by steep bluffs.<sup>9</sup>

### THE DISCOVERY AND COLONIZATION OF MADEIRA

Although certainly known about earlier, Madeira remained uninhabited and unexplored by Europeans until its discovery, or rediscovery by the Portuguese in 1419. In that year, as the chroniclers tell the story, two squires of Prince Henry the Navigator were blown off course by a storm. Good fortune carried them to the island of Porto Santo, which they named in gratitude for being saved. While repairing their ship, they sighted Madeira beneath a dense cloud and also explored it.<sup>10</sup>

On their return home the squires, impressed by what they had seen, are reported to have asked their lord for permission to settle and establish a colony. Permission was granted and in May of 1420 a party led by João Gonçalves Zarco and Tristão Vaz Teixeira (the two squires), along with Bartolomeu Perestrelo, another squire, left to found a settlement.<sup>11</sup>

Ships, supplies and provisions are reported to have been provided by Prince Henry. Zarco, Tristão and Perestrelo, however, had to recruit on their own those who would accompany them. This was to prove no simple matter. Not only were the legitimate fears of sailing off to some unknown island in the dangerous Atlantic to be overcome, but also conditions at the time in Portugal, especially for the lower classes, were not such as to encourage their emigration.

The country as yet had not recovered from the ravaging effects of the Black Death in the previous century.<sup>12</sup> One consequence of the decline in population caused by the plagues and epidemics of the fourteenth century was that the lot of the laboring classes had improved.<sup>13</sup> The nobles, likewise, as Johnson<sup>14</sup> recently has demonstrated, also were not suffering. Economic conditions in Portugal were good and there were opportunities on the mainland for ambitious, enterprising people of all classes and sectors. Who then, we might ask, responded to the appeals of Zarco, Tristão and Perestrelo, and who accompanied them in their colonizing venture?

According to Oliveira Marques, "Less than a hundred people, under the leadership of the three presumed 'discoverers' . . . , landed in the two islands of Madeira and Porto Santo . . . . They were probably recruited," he continues, "in the lands which belonged to Prince Henry and the order of Christ. The majority seem to have come from the Algarve . . . .<sup>15</sup> All three leaders," he then adds, "belonged to the lower ranks of the nobility . . . and the same was true of about fourteen others. The rest were plebeians (including some outcasts), socially and economically dependent upon them. . . ."<sup>16</sup>

Little in fact is known about these early colonists. Some, as Oliveira Marques

reports, are believed to have been from impoverished noble families. But their claims, made in almost all cases decades if not centuries later by descendants after the latter had acquired wealth and position, must be accepted with more than a degree of skepticism. Most of the settlers, probably more than half excluding the convicts, were laborers and artisans.<sup>17</sup> The only reasonable explanation for their volunteering would attribute to them aspirations for social mobility. In the context of the rigid hierarchy of Portuguese society in the early fifteenth century this would mean specifically that they aspired to noble status and its privileges.

Had the colonists who went to settle Madeira been satisfied with the "drudgrous," uneventful life of agricultural laborers and artisans, they could have remained on the continent where land and jobs were more than available and conditions were far from onerous. There would have been no need for them to undertake the hardships and uncertainties of a fifteenth-century voyage into the Atlantic in search of islands where establishing a settlement could be expected to be significantly more difficult than would have been a comparable undertaking in the Minho or the Algarve.

Instead, I would maintain, the most likely motivation for their volunteering is a strong desire for social mobility. In the context of early fifteenth-century Portuguese society this is to say that they aspired to noble status. In turn, this implies that they hoped, either consciously or implicitly, to escape the tilling of the soil and working with their hands and backs, the stigma of the lower classes. By contrast, it may be assumed that from the beginning they dreamed of a life in which their material needs would be provided and they could devote themselves to worthy causes other than mundane physical labor.

As we shall see, they and their descendants, for the most part, were to achieve this goal. But someone had to perform the roles of the lower classes if the settlers were to be able to assume those of the nobility.

From later documents<sup>18</sup> we may reconstruct that the captains had been empowered to distribute land grants in the islands to their followers. The records containing the names of the recipients of these first *sesmarias*, as the grants were called, no longer exist. Likewise we do not know who received what lands. However, the general pattern appears to have been for the captain, starting from the centers of the original settlements—Funchal, Machico and Porto Santo—to move along the sea coast, bestowing lands on the eligible household heads. The properties given out then ran from the coast, extending inland to some unspecified point in the mountains. Natural boundary markers, such as rivers and streams, set the remaining borders of each holding (see FIGURE 1). The recipients of land grants then held parcels that ran from the coast up into the mountains, and from a river or hillock on one side that set the boundaries between his estate and that of his neighbor to a river or stream on the other.

We have no idea as to how large the actual grants were. We do know, however, that each recipient came to hold a variety of ecological niches within his grant, only some of which were considered to be of value to him.

Prince Henry, as we have seen, had provided supplies for the colony. Included were seeds for crops such as wheat, plus domestic animals. But before anything could be planted, the thickly forested island first had to be cleared. This was done with the aid of fire,<sup>19</sup> which appears to have gotten out of hand. Gaspar Frutuoso, for example, reports that at one point the flames burned so fiercely that the settlers were driven into the sea.<sup>20</sup> The ash resulting, however, when added to the virgin soil, produced a land of considerable agricultural potential. But before it could be put in crops, one additional problem had to be resolved.

Although water was more abundant on the island, rainfall was irregular,

especially in the lower warmer and relatively flatter areas where agriculture could be assumed to have been first undertaken. In their natural state the lands potentially best suited for planting did not obtain sufficient moisture for agriculture. The remedy was to be technically simple, but difficult to implement.

Irrigation had long been practiced in continental Portugal. And as Dias and Galhano<sup>21</sup> tell us, the irrigation system established in Madeira required no new technology. The long-known principle of redirecting the flow of water carried by gravitational force to another point at a lower elevation was applied. But the topography of the island was more extreme than anything the Portuguese had known on the continent; and when combined with the absence of a laboring class to construct the system, a problem was created whose resolution was to contribute directly to the creation of the slave plantation and plantation slavery.

As Lamas succinctly has summarized the problem:

When the settlers arrived (in Madeira) they soon realized that the land would be difficult to conquer. The island was marvelous, . . . But it was densely forested and mountainous.

With the aid of fire and their muscles the trees were felled and the lands put in crops. But without water the enterprise would be in vain. And the water came from inaccessible summits and ran where it could not be put to use.

Consequently the settlers had to devise a way of irrigating their crops. It is difficult to imagine, especially when one is not familiar with the unlikely relief of the island, the obstacles that had to be surmounted to accomplish this gigantic undertaking. Suffice it to say that the water had to be diverted, almost always at distant points of difficult access. The task therefore not only was exhausting but dangerous, taking many lives and was not completed for many years. . . .<sup>22</sup>

From later sources we know that not long after the initial settlement the rivers and streams in the mountains were being diverted and irrigation canals called *levadas* were being constructed.<sup>23</sup>

The first document referring specifically to irrigation in the island is dated 1461.<sup>24</sup> In it the Infante D. Fernando, Prince Henry's heir and the new lord proprietor, charged two men to be responsible for the fair allocation of water for irrigation.<sup>25</sup>

The second reference is found in a letter by King D. João II dated 1493.<sup>26</sup> But in it he refers to a document by his great grandfather, D. João I, regulating the use of water in the island. The king had declared it illegal for anyone to cut off and stop the flow of water from above to lands at lower elevations. The obvious implication is that already during the reign of D. João I (1385-1433) irrigation works had been constructed in Madeira and regulations had been laid out for their use. But it is to the construction of the irrigation works that we must now return.

The thesis I wish to propose is that the European colonists in Madeira did not themselves build the irrigation works. Instead, as the result of events unrelated to the internal problems of the island and its development, they participated in the capture of pagan natives in the Canary Islands. It was the Canarians, as slaves captured in a "just war," who built the *levadas*; and in this way slave labor was introduced to perform the onerous and difficult physical activities that on the continent had been performed by the lower, but free classes. Later, with the introduction of sugar cane and its commercial success, we shall see that Canary Islanders and Moors—followed by Africans—as slaves, performed the necessary physical labor that enabled the upwardly mobile settlers of Madeira to develop a life style, derived from the tradition of the continental nobility but based upon the physical efforts of slaves producing commercial crops for sale on the markets

of the continent, that characterized the emerging social institution of the slave plantation.

### THE CANARY ISLANDS

The Canary Islands probably had been known to Europe since the time of the Roman empire and most probably had been visited on occasion during the Middle Ages. At the end of the thirteenth century Genoese mariners are reported to have landed on one of the islands and to have built a fort.<sup>27</sup> Between 1326 and 1334 Norman ships landed and shortly thereafter a Castilian nobleman, D. Luis de la Cerda, "procured a grant . . . , with the title of King, from Pope Clement VI, upon condition that he would cause the Gospel to be preached to the natives."<sup>28</sup>

Two points of importance must be stressed. First, title to the Canary Islands had been given to a Castilian. Second, the legitimacy for the grant came from the Pope on the condition that the natives (and in contrast with Madeira the Canaries were inhabited) be converted to Christianity.

By the first quarter of the fifteenth century, however, these conditions had not been satisfied. Therefore, after Portugal conquered Ceuta and settled a colony in Madeira, she tried to claim jurisdiction to the Canaries by meeting the conditions Castile had been unable to satisfy.<sup>29</sup>

The natives of the Canary Islands had resisted the efforts of the European Christians to subjugate and convert them. To make matters worse they fought off the European intruders who, in their eyes, were attacking their homeland. But to the Europeans, resistance to the advance of the "true faith" was the equivalent of a declaration of war against all of Christendom. Consequently, all future relationships between Europeans and Canary Islanders, in the eyes of the Europeans, were placed in the legal framework of parties engaged in war. Furthermore, for the Europeans the war was of a special kind referred to as a "just war."<sup>30</sup> Roman law (the law of the Roman church that is) had laid down that persons captured in a just war became the slaves of their captor and their goods the property of the victor.<sup>31</sup>

The immediate consequence of this was that all Canary Islanders taken as captive by Europeans, no matter how they were captured, became the legal slaves of the Europeans.

The periodic raids that had been made by the various Europeans in the fourteenth and fifteenth centuries included sacking, pillaging and the taking of slaves, with most of the latter sold.<sup>32</sup>

Although this is not the place to discuss the Canary Islands and their aboriginal population, several points are essential to our story. First, the islands themselves are similar in formation and appearance to Madeira, only more so. They are volcanic and rise precipitously out of the sea to heights that in the case of Tenerife, for example, exceed 4,000 meters. Also, like Madeira, the landscape is ruggedly mountainous and dominated by peaks with narrow and difficult passes and deep gorges and ravines, with relatively little flat land away from the coast.

The native population was remarkably well adapted to this mountainous habitat. Father Galindo, for example, describes them as being well built, strong and very nimble, and as taking "great delight in leaping and jumping, which is their principal diversion. . . ." <sup>33</sup> They were well adapted in strength and physical dexterity to conditions very much like the ones in which the Portuguese settlers

in Madeira had to build irrigation works as a prerequisite to the development of the island.

Portugal, as we have seen, however, had designs on the Canary Islands. The initiative in the implementation of the Portuguese pretensions had been taken by Prince Henry, whose role in Madeira and its colonization has been discussed.

In 1415 an unsuccessful Portuguese attack had been launched on Grand Canary. In 1424 a fleet of 2,500 infantry men and 120 horses under the command of Fernando de Castro embarked in the hopes of taking the as yet unconquered islands of Grand Canary, Palma and Tenerife. This was just four years after the colony had been established in Madeira.

Although there is no direct documentation in support of the assertion, it is more than probable that from the beginnings of its settlement, and perhaps one of the reasons justifying the investment of resources in the island, Madeira was a port of call for ships outward bound on voyages from Portugal. There repairs were made, while fresh water and supplies were taken on.<sup>34</sup>

Also, although again there are no documents to confirm it, it is more than likely that at least some of the former heroes of the Ceuta campaign to have settled in Madeira<sup>35</sup> joined with de Castro's forces in the attack on the Canaries.

The attempt failed, but as was common practice by the beginning of the fifteenth century, when unable to conquer the islanders, captives were taken, usually to be sold in the slave markets of the Mediterranean.<sup>36</sup>

The Canary Islanders, however, were ideally suited to the task of cutting irrigation ditches across the rugged mountains of Madeira. I would venture to suggest that the warrior-adventurers to have settled Madeira aspiring to noble status and who participated in the attack on the Canary Islands were aware of this. And as a result, some of the captives enslaved in the unsuccessful effort at conquest were taken back to Madeira, where they were impressed into service in the construction of *levadas*.<sup>37</sup>

Between 1420 and 1446 there were at least four major and several minor assaults by Portuguese forces on the Canary Islands. All stopped first in Madeira where they were joined by some of the settlers, many of whom had served with Prince Henry in the conquest of Ceuta. All were unsuccessful, but captives were taken, some of whom were brought back to Madeira.

The unrecorded details of what most probably happened in Madeira can be summarized in Ramsey's statement, made several centuries later, on the construction of irrigation ditches in Madeira. He writes:

Slaves and convicts alike were all forced to labour, and the first and most important work on which they were employed was the construction of the *levadas*. As before stated, these water-courses were carved out of the solid face of the rock by means of primitive implements and tools. The slaves were lowered over the mountain precipices by ropes from above; and when the gigantic nature of the undertaking is considered, it is not surprising to learn that hundreds of them perished by crashing onto the rocks below.<sup>38</sup>

Upon completion of the first irrigation works, Madeira was transformed into a veritable agricultural paradise.

### CEREAL PRODUCTION IN MADEIRA

The first crops to be sown on the island were those brought by the settlers from the European mainland. Within a short time then the island was producing



cereals in abundance of the needs of the settlers. The harvests were such that surpluses soon were being exported and sold commercially on the continent.<sup>39</sup> Portuguese agriculture at the time had still not recovered from the decline of the previous century and shortages of wheat and other grains were serious.<sup>40</sup> The cereals from Madeira, needless to say, were more than welcome on the continent.

To both reward and further encourage the islanders in grain production, privileges were granted them under the regency of the Infante D. Pedro,<sup>41</sup> and by mid-century the chroniclers were reporting the production and export of large quantities of cereals, with shipments from the island going to Africa to supply the Portuguese forces there.

We now have two of the three basic elements of the slave plantation present and operational in the developing social system of Madeira: (1) slaves from the Canary Islands (and later North Africa); and (2) large properties with subtropical soils given to aspiring elites as land grants. Still missing is a commercial crop for which there is a demand in the emerging European world market which cannot be produced on the continent. The crop to be introduced into Madeira that was to complete the transformation of the island, and establish on a firm footing the institutions of the plantation and plantation slavery on a societal level, was sugar cane.

#### INTRODUCTION OF SUGAR CANE INTO MADEIRA

Sugar cane most probably was introduced into Madeira from Sicily under the initiative and direction of Prince Henry.<sup>42</sup> Some authorities, however, doubt this since at the time the crop already was being grown in Portugal and in the Moorish Kingdoms in southern Spain. Alternatively, Duarte Leite believes that Italian merchants brought the crop to Madeira on their own from the eastern Mediterranean.<sup>43</sup>

According to Gaspar Frutuoso, although he does not provide us with the dates, the first sugar sold in Madeira came from the *vila* (town) of Machico on the northern side of the island.<sup>44</sup> But legend has it that when Prince Henry had the plant introduced, it first was grown on lands in what today is the city of Funchal on the south side of the island. Those lands are referred to as the "Campo do Duque," perhaps in commemoration, as Lúcio de Azevedo<sup>45</sup> notes, of the role played by Henry, who held the title of Duke of Viséu.<sup>46</sup>

The juice was first squeezed from the plants in hand-operated presses of limited efficiency called *alçapremas*. The producers were required to pay the lord proprietor one and one-half *arrobas*<sup>47</sup> of sugar per year for each *alçaprema*. The extant documents refer to the canes being ground and processed into sugar in the *lagar* of the Infante (Henry). Since the word *lagar* also was used to refer to an olive press, some authorities have inferred the presence of a press, perhaps like the ones used to squeeze olives, and possibly moved by animal power, as a second step in the development of the processing of the cane.

By the middle of the fifteenth century enough cane was being grown in Madeira to justify the construction of a water-driven mill, or *engenho*. In 1452, therefore, Henry contracted with Diogo de Tieve, another squire and loyal servant, to build the mill. According to the contract, Henry assigned to his servant the monopoly for the grinding of cane in the island.<sup>48</sup> In return, those to use the mill were to pay to Henry one-third of the sugar ground from their plants. Those who preferred to continue with the less efficient hand mills were permitted to do so, paying the same rate as before.

The *Cartas de Doação* (grants) given to Zarco, Tristão and Perestrelo make no reference to sugar cane, although taxes are specified for other crops. Since the formal documents are dated after the actual establishment of the colony, we may conclude that sugar-cane cultivation in Madeira first came to be important in the early 1450s. Then the tax on the hand presses was established, followed by the one-third tax levied at the mill. These seemingly stiff charges, however, did not deter the colonists from rapidly expanding the production of the crop.

Zurara, the first of the chroniclers, who wrote in 1452, said almost nothing about the value of the sugar being produced. By 1455, however, Cadamosto reported an annual production in excess of 6,000 *arrobas*.<sup>49</sup> The following year the first Madeiran sugars were exported to Bristol.<sup>50</sup> A document of 1468 referred to by Oliveira Marques indicates that by then there already was a regular sugar trade between Madeira and Flanders.<sup>51</sup> By 1472 more than 15,000 *arrobas* were being produced, and two decades later the figure surpassed 80,000 *arrobas*.<sup>52</sup>

The population of the island meanwhile also is increasing. Zurara reports 150 settlers whose numbers have been increased by merchants and later immigrants: single men and women and servants (*mancebos*) of both sexes.<sup>53</sup> Three decades after the founding of the colony Cadamosto speaks of 800 men, of whom 100 have horses—which is to say that they have qualified as *cavalheiros* in the social hierarchy.<sup>54</sup> Shortly thereafter the numbers increase significantly so that by the end of the century there are more than 15,000 people, including several thousand slaves.

The production and processing of sugar for export is the primary stimulus to the growth and development of the island, both economically and demographically. However, external political and economic factors provide the conditions that make the development possible.<sup>55</sup> As already noted, by the middle years of the fifteenth century the Ottoman Turks had succeeded in cutting off European access to commerce in the eastern Mediterranean, the Near East and in Asia. As a result the markets of western Europe were without commodities like sugar, formerly supplied by Genoese and Venetian middlemen-traders. As the supply dwindled, prices rose. Madeiran sugars appeared in the markets of western Europe just at the time prices were high and the demand was unsatisfied. The profits earned stimulated further production.

With the trees felled, the lands distributed in *sesmarias*, and water now available for irrigation thanks to the construction of the *levadas*, the single factor remaining to determine the amount of sugar that could be produced on the island was labor. But from where was the labor to plant and process the canes in Madeira to come? As Cadamosto has noted, one-eighth of the male household heads already had qualified as *fidalgos* (nobles) by 1455.<sup>56</sup> Furthermore, with Madeira as a stopping off point on the way to Africa, where fame, fortune and recognition were to be won, the residents of Madeira were not about to spend their time dirtying their hands in the back-breaking job of raising, harvesting and processing sugar cane. Instead, as Sarmiento concludes, they participated in the conquests and discoveries, further increasing the fame of the island and its settlers.<sup>57</sup> But without someone to work the cane fields and *engenhos*, neither sugar nor the fortunes to be made from it would have been possible. Who then was planting, harvesting and processing the cane while the recipients of *sesmarias* and their descendants were off distinguishing themselves as warriors, conquerors, merchants, statesmen and heroes of the expansions and discoveries?

Although the early documents are conspicuously silent, later evidence makes it more than clear that the labor force used in the growing and processing of

sugar was composed in more than considerable part of the Canary Islanders, Moors and later blacks taken as slaves. In the *Regimento do Infante D. Fernando*, Henry's nephew and heir, dated 1466, mention finally is made of the Canarian, Moorish and Negro slaves brought to the island to work in the sugar industry.<sup>58</sup> Then, between 1470 and 1490, the references to slaves in the documents increase, while after 1490, when the slave population began to create problems, full recognition was given to the presence of slaves in the island.

#### SUGAR PRODUCTION IN MADEIRA IN THE FIFTEENTH CENTURY

For a picture of the sugar industry and sugar production in the last quarter of the fifteenth century we can turn to the reconstruction and analysis by Rau and Macedo based upon the text of the *Livro do Almoxarifado dos Açúcarres do Funchal*, dated 1494.<sup>59</sup>

To collect their share of the revenues (at first one-third and later reduced to one-fourth and eventually one-fifth), the lord proprietors quite early established the practice of appointing individuals in the island to estimate the size of the crop growing on the lands of each producer prior to the harvest.<sup>60</sup> Then, when the canes were cut and processed, the amount of sugar accruing to the lord of the island would be taken. Unfortunately, the document on which the reconstruction is based is the work of a tax collector interested in the sugar cane growing in the fields. As a result, much information of interest to the social scientist and historian is not included. No data are available on land tenure, for example, and we do not learn of the actual size of the parcels of land owned by proprietors. Instead, all that we have is a record of the amount of cane on which each producer is to be taxed.

The list of producers recorded in the book included names identified as nobles and merchants, but also contained carpenters, shoemakers, bakers, tax collectors, scribes and other public employees, plus widows and servants of the elite. The conclusion to be drawn is that persons from all walks of life were among the producers of sugar cane by the end of the fifteenth century.

Although we lack data on the ownership of the land, we may conclude that a free population of artisans and laborers had been established and that at least some of these nonelites had gained access to the land. Whether this represents the purchase of plots from the recipients of *sesmarias*—and there were some—or a practice of renting or sharecropping we are not sure. Since all were present in the Portuguese agrarian tradition, we may conjecture that a system not unlike that found in Brazil the following century may have been operating.<sup>61</sup>

There were 16 *engenhos* in Funchal in 1494, half the number reported by Gaspar Frutuoso for the end of the sixteenth century<sup>62</sup> and significantly fewer than the 150 *engenhos* reported by Lippmann for the beginning of the sixteenth century.<sup>63</sup> Together they processed a little over 5,700 *arrobas* of sugar belonging to their owners. The remainder of their production, almost 75,000 *arrobas*, was for other cane producers who may well have been like the *lavradores de cana* described by Schwartz.<sup>65</sup>

The overall picture is not one of large *fazendas* with thousands of slaves known in Brazil in the seventeenth and eighteenth centuries. Instead, it is one of managerial separation and subdivision, with the *engenho* as one operation and the land as another. The land, although perhaps owned by a small number of elites, was administered and worked by renters and/or sharecroppers who raised the canes ground by the mills.<sup>66</sup>

What is significant about the development of Madeiran sugar production is that it soon came to be a source of great profit and wealth. At first, as has been noted, sugar from the island was shipped to markets in northwestern Europe—to replace supplies no longer available from areas controlled by the Ottoman Turks. However, as relations between Christian Europe and Islam deteriorated further, Madeira was soon supplying most of the continent with sugar. The 120,000 *arrobas* produced in 1498, for example, were exported not only to England, Flanders, France and Brittany, but also to Rome, Genoa, Venice, and as far east as Constantinople.<sup>67</sup> In short, sugar production in Madeira had become a big business able to return huge profits to those engaged in its production and distribution.

The turning point had long been reached. As the second half of the fifteenth century drew to a close, Madeira had become a major commercial producer and exporter of sugar with an economy earning great wealth.<sup>68</sup>

### THE SUGAR CANE PLANTATION AND PLANTATION SLAVERY

The distinctiveness of Madeira in the development of the world economy was that the uninhabited island was settled by what I have referred to as aspiring Portuguese nobles who found themselves without the lower classes to perform the manual labor that made possible society in the stratified way it was known on the European continent at the time. One might hypothesize that the settlers of Madeira could have cleared the land and irrigated it so as to have made subsistence agriculture possible. If perhaps the island had been discovered and settled by farmers of English, Scots, Irish or Scandinavian background, such as those who later settled in parts of North America, this might have been the case. But the early colonists in Madeira were not of these cultural backgrounds; hence they did not behave in this way. Instead, consistent with the tradition to which they, as upwardly mobile Portuguese, aspired, they created the conditions that would enable them to live the life of an Iberian noble. Consequently, they participated as fully as possible in the campaigns that constituted what we refer to now as the expansion and discovery. And when labor was needed to develop their island society, as in the building of irrigation works, rather than staying home and using their hands and backs, as a northern European farmer might have, they took Canary Islanders and Moors in the conduct of a just war, and put them to work.

The slaves then were incorporated into the labor force, first in the difficult and dangerous activity of building irrigation works, and then most probably in preparing and planting the land in cereals; then when sugar cane was introduced, they were used to plant and to harvest it and to mill it into sugar. Their use then freed the colonists to participate in the socially valued and rewarding activities of discovering new lands and conquering the heathen in the name of king and church. But as the years went by and profits to be earned from sugar increased, the place of slavery in the developing society was rapidly transformed. From a primarily religiously justified status associated with the fighting of a just war against the infidel, slavery soon was to become an essentially economic activity.

By the late fifteenth century the natives of the Canary Islands were just about extinct and Moors had become more difficult to obtain as slaves, especially since the Iberians had come to expend their major energy discovering and conquering the world rather than concentrating on the Islamic foe. By the end of the fifteenth century, therefore, Africa came to be the primary source of supply

for slaves. But by then, rather than the slavery of the late Middle Ages, commercial-industrial slavery had been born, thanks specifically to the events that had taken place the century before in the island of Madeira.

But Madeira was not for long to be the sole beneficiary of the prosperity derived from sugar and slavery. By the 1470s sugar cane, and the institutionalized arrangements for the organization of its production, had been introduced and was being experimented with in the Azores and in the Cape Verde Islands. By the 1490s the crop had been introduced into the Canaries, where Africans were brought as slaves to raise sugar in the former home of the first peoples to be used by the Europeans in the Atlantic Islands in the commercial production of tropical crops. And in the same decade the crop was introduced into São Tomé in the Gulf of Guinea. Then, before the turn of the century, it was carried to the New World by its discoverer, who had spent more than a decade in Madeira and had married the daughter of Bartolomeu Perestrelo, captain of Porto Santo. And within a few more decades the Portuguese, stimulated at least in part by residents of Madeira, were introducing the crop into Brazil. And then from Brazil, where the system brought from Madeira was modified and elaborated, the sugar-producing slave plantation was carried to the Dutch, English, and French West Indies from where it diffuses, producing other crops, to parts of lowland Central America and to the southern United States.

Although the system of the slave plantation is modified and expanded over the course of the next four centuries by each of the European nations to establish colonies and to participate in the slave trade, the activities of the fifteenth-century Portuguese settlers of Madeira and the social system they established are critical to understanding the origins of the institution and to comprehending the range and diversity it was to develop in later years.

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#### NOTES AND REFERENCES

1. For our present purposes the slave plantation may be defined as a territorial unit producing a commercial crop for sale on the markets of Europe, owned by Europeans, but located in tropical or subtropical regions outside Europe, and worked primarily by slave labor of non-European origin. The first crop to be raised on plantations and which was to become the standard for all later slave plantations was sugar cane.
2. VERLINDEN, CHARLES. 1970. *The Beginnings of Modern Colonization*. Cornell University Press. Ithaca and London; VERLINDEN, CHARLES. 1966. *Les origines de la civilisation atlantique*. Paris and Neuchâtel; VERLINDEN, CHARLES. 1954. *Précédents médiévaux de la colonie en Amérique*. Mexico City; VERLINDEN, CHARLES. 1953. Les origines coloniales de la civilisation atlantique: Antécédents et types de structure. *Journal of World History* I: 378-398.
3. For a survey of the history of sugar see: AMORIM PARREIRA, HENRIQUE GOMES DE. 1952. *História do Açúcar em Portugal. Estudos de História da Geografia da Expansão Portuguesa*. Anais, Vol. VII, Tomo I. Junta das Missões-Geográficas e de Investigações do Ultramar. Lisbon; DEERR, NOEL. 1949-50. *The History of Sugar* (2 vols). Chapman and Hall. London; LEITE, DUARTE. 1941. *Os primeiros açúcares portugueses. Coisas de Varia História*. Lisbon; and LIPPMANN, EDMUND VON. 1941-2. *História do Açúcar* (2 vols). Instituto do Açúcar e do Alcool. Rio de Janeiro.
4. VERLINDEN, CHARLES. 1970. *op. cit.* :19.

5. REBORA, GIOVANNI. 1968. *Un'impresa zuccheriera del cinquecento*. :11. Universita' Degli Studi di Napoli. Napoli.
  6. VERLINDEN, CHARLES. 1958. Esclaves alains en Italie et dans les colonies italiennes au XIV<sup>e</sup> siècle. *Revue belge de philologie et d'histoire* XXXVI: 451-57; VERLINDEN, CHARLES. 1963. L'esclavage en Sicile au bas moyen age. *Bulletin de l'Institut Historique Belge de Rome* XXXV: 13-113; VERLINDEN, CHARLES. 1965. L'esclavage en Sicile sous Frédéric II d'Aragon (1296-1337). *Homenaje a Jaime Vicens Vives*. Vol I: 675-90. Barcelona.
  7. CURTIN, PHILIP D. 1969. *The Atlantic Slave Trade*. The University of Wisconsin Press. Madison, Wisc.
  8. The theoretical framework I have adopted for the presentation is that of the evolutionist, but with the focus on specific rather than general evolution (see SAHLINS, MARSHALL & ELMAN SERVICE, Eds. 1960. *Evolution and Culture*. University of Michigan Press. Ann Arbor). Consequently, I shall treat culture as an adaptive system with an emphasis on ecology. Critical variables will be the cultural heritage of the settlers of the island and the habitat to which they were adapting. The presentation shall be couched implicitly in terms of the decisions and choices of the actors in terms of the broadest arena in which they were operating. In this way I propose to make explicit some of the values and motives that led a small group of settlers from mainland Portugal to combine elements in their culture while adapting to a new setting so as to establish the institution of the slave plantation.
  9. FERREIRA. 1955. *O Clima do Portugal*. Lisbon; NORRL, ELOF A OSTMAN. n.d. On Irrigation in Madeira. Manuscript in the Arquivo da Câmara Municipal do Funchal. Funchal, Madeira.
  10. ZURARA, GOMES EANES DA. 1973. *Crónica de Guiné*. Segundo o ms. de Paris, Chapt. LXXXIII. Livraria Civilização-Editora. Lisbon; BARROS, JOÃO DE. 1932. *Asia. Primeira Decada*, Livro 1, chaps. 2 and 3. Imprensa da Universidade. Coimbra; GOES, DAMIÃO DE. 1724. *Crónica do Príncipe D. João*, chapt. VIII. Lisbon.
  11. Royal authority with respect to the islands, and delegation of jurisdiction to them in the form of a charter, or *foral*, was not granted to Prince Henry until September of 1433, after the death of his father, King D. João I (see MAGALHÃES GODINHO, VITORINO. 1943. *Documentos Sobre a Expansão Portuguesa*. Vol 1. Edições Cosmos. Lisbon). Then, after assuming the throne, D. Duarte, Henry's brother, granted him *senhorio* (overlordship) as *donatário* (lord proprietor) of the Madeira Islands (*ibid.*). According to the chroniclers, who wrote a quarter of a century or more after the fact, Prince Henry divided the island of Madeira in half, giving the southern part, called Funchal, to João Gonçalves Zarco as captain, and the northern half, called Machico, to Tristão Vaz Teixeira. The captaincy of Porto Santo was given to Bartolomeu Perestrelo. The dates of the official grants (*doações*) containing the rights and responsibilities of the parties were 1440 for Texeira's captaincy, 1446 for Perestrelo's and 1450 for Zarco's (*ibid.*). All are after the death of D. Duarte.
  12. OLIVEIRA MARQUES, ANTONIO H. DE. 1968. *Introdução a História da Agricultura em Portugal. A Questão Cerealífera durante a Idade Média*, 2nd ed. :50-60. Edições Cosmos. Lisbon.
  13. See RAU VIRGINIA. 1946. *Sesmarias Medievais Portuguesas*. Lisbon; and CORTESÃO, JAIME. 1964. *Os Factores Democráticos na Formação de Portugal*. Lisbon.
  14. JOHNSON, HAROLD B. 1973. A Portuguese estate in the late fourteenth century. *Luso-Brazilian Review* X(2): 149-62.
  15. Historians are generally agreed that the early settlers of Madeira came from the Algarve in southern Portugal. However, basing his conclusions on ethnographic data and analysis, Jorge Dias believes that they probably came from the north of the country, most probably the Minho (DIAS, JORGE. 1952. *Notulas de etnografia Madeirense—Contribuição para o estudo das origens étnico-culturais da população da Ilha da Madeira*. *Biblos* 28: 179-201).
  16. OLIVEIRA MARQUES, ANTONIO H. DE. 1972. *History of Portugal*. Vol. 1: *From Lusitania to Empire*. :152. Columbia University Press. New York, N.Y.
  17. Zarco, Tristão and Perestrelo were granted royal permission to take with them condemned prisoners, which they are reported to have done. We have no idea as to how many they took and what percentage of the total group they were. It is interesting to observe that the chroniclers, again writing at least three decades after the fact, after the colony is contributing to the wealth and prestige of the expanding kingdom, state that the captains took only criminals who had committed minor offenses and who had not been accused of religious crimes.
- Portuguese society at the time was hierarchical and rigidly stratified. Three broad categories, or estates could be distinguished, each performing a distinctive role in the division of societal labor and each receiving differing rewards.

The numerically largest category performed agricultural labor in a society that was primarily agrarian. The nobility, by contrast, defended the land, performed administrative tasks, and protected the laborers and the clergy, whose spiritual functions rounded out the three primary activities of late medieval society.

Although surpluses were minimal, the nobility (including the royal family), along with the clergy, received more proportionately for performing their roles than did the laborers for performing theirs, enabling them to live better than those involved in the tilling of the land. The latter, for what usually was bare subsistence, performed the difficult, dirty and "drudgerous" activities on the land. The nobility, by contrast, did not labor on the land. Instead, as often exaggerated in song and story, and as perceived and perhaps fantasized by the laborers reacting to the drudgery of their own lives, participated in adventures, fought for noble causes, and performed administrative tasks; they did not dirty their hands nor break their backs with such mundane matters as plowing, planting and harvesting crops.

18. JASMINOS PEREIRA, FERNANDO. 1961. *Índices dos Documentos do Século XV Transcritos do Tombo Primeiro do Registo Geral da Câmara do Funchal*. Casa Figueira. Funchal, Madeira.
19. BARROS, JOÃO DE, *op. cit.*, Livro I, Chapt. 3.
20. *Op. cit.* :64.
21. DIAS, JORGE & FERNANDO GALHANO. 1953. *Aparelhos de Elevar a Agua de Rega. Contribuição para o Estudo de Regadio em Portugal*. :26. Junta da Provincia de Douro-Litoral. Porto, Portugal.
22. LAMAS, MARIA. 1956. *Arquipelago da Madeira*. :104. Editora Eco. Funchal, Madeira.
23. SILVA, PADRE FERNANDO AUGUSTO DA. 1965. *Levadas. Elucidario Madeirense.*, 3rd ed. Vol. II. Padre Fernando Augusto da Silva and Carlos Azevedo de Menezes, Eds. Tipografia Esperança. Funchal, Madeira; FRUTUOSO, GASPARD, *op. cit.*
24. *Ibid.* :677.
25. ARQUIVO DA CÂMARA MUNICIPAL DO FUNCHAL. Tomo I: 207. Funchal, Madeira.
26. FRUTUOSO, GASPARD, *op. cit.* :673-4.
27. SERRA Y RAFOLS, ELIAS. 1941. *Los Portugueses en Canarias*. :215-6. Imprenta y Librería "Curbelo." La Laguna, Canary Islands.
28. GALINDO, JUAN DE ABREU DE. 1764. *The History of the Discovery of the Canary Islands*. :1-2. London.
29. SILVA MARQUES, JOÃO MARTINS DA. 1944. *Descobrimientos Portugueses-Documentos para a Sua História*. Vol. 1:291-346. Instituto para a Alta Cultura. Lisbon.
30. KEEN, MAURICE. 1965. *The Laws of War in the Late Middle Ages*. Routledge and Kegan Paul. London. "Given their sins," writes Keen (p. 13) referring to the acts of those who opposed and resisted the spread of the faith and God's order, "it was reasonable and legitimate to reduce those taken in war against the infidel to slavery, and, provided it had the Church's sanction, a war of conquest waged against them might even be said to be naturally just."
- Zavala observes that "this attitude may be noted in the *Leyes de Partidas*" (of thirteenth-century Castile) "which lists among the just cause of war: 'the first, in order that the peoples shall increase their faith and that those who would combat it shall be destroyed. . .'" (ZAVALA, SILVIO. 1964. *The Defence of Human Rights in Latin America*. '15. UNESCO. Paris.)
31. KEEN, MAURICE, *op. cit.* :137, 156.
32. GALINDO, J., *op. cit.*, Introduction :1-3; VERLINDEN, CHARLES. 1955. *L'esclavage dans L'Europe Medievale*. Tome I. Peninsule Iberique-France. University of Ghent. Bruges.
33. GALINDO, J. *op. cit.* :6.
34. In support of this position is a document in the *Arquivo da Câmara Municipal do Funchal* dated 1425 (cited in SARMENTO, ALBERTO ARTHUR. 1935. *Madeira e Canarias. Fásquias da Madeira*. Diaria de Noticias. Funchal, Madeira) in which King D. João I thanks the settlers of the island for the help they have given to the Portuguese forces. The date is significant in that there was no other undertaking by Portuguese forces at the time other than the attack on the Canary Islands that could have been aided by the settlers in Madeira that could have earned them the formal gratitude of their sovereign.
35. BARROS, J. *op. cit.*, Livro 1, Chap 3; SARMENTO, ALBERTO ARTUR. 1932. *Madeira e as Praças de Africa*. Funchal, Madeira.
36. WÖLFEL, D.J. 1930. La Curia Romana e la Corona de España en la defensa de los aborígenes Canarios. *Anthropos* 25: 1011-1083.
37. What I am suggesting as the probable beginnings of the use of slave labor in Madeira is

consistent with the division of labor and the reward and value structures implicit in the highly stratified social system of the period. I have referred to the settlers of Madeira as would-be nobles not possessed of the means requisite for the status they desired. I also have suggested that the most adequate explanation for their undertaking the settlement of the island related to the opportunities it offered for social mobility.

Zarco, Tristão and Perestrelo had served in the households of members of the Portuguese royal family. Other settlers also had served, and amongst other things had participated in the attack on Ceuta in 1415. From this we may conclude that they had received training in seamanship and in the waging of war, and had learned that acts of daring and bravery in support of the causes of their lord brought rewards.

38. RAMSEY, L. F. 1920. *Levada Walking in Madeira*. :408-416. National Review. London.
39. SERRÃO, JOEL. 1950. Sobre o Trigo das Ilhas nos Séculos XV e XVI. *Das Artes e da História da Madeira* 1(2): 1-6; FREITAS FERRAZ, MARIA DE LOURDES DE. 1971. A Ilha da Madeira e o Problema de Trigo no Século XV. *Geographica* 28: 46-52.
40. MAGALHÃES CODINHO, VITORINO. 1971. *Os descobrimentos e a Economia Mundial*. Vol. 2, Part III, chapt. 1. Editorial Arcadia. Lisbon; OLIVEIRA MARQUES., A. op. cit.; SERRÃO, J., op. cit.
41. SILVA MARQUES, J. op. cit. :400.
42. CADAMOSTO, LUIS DE. 1944. Le Navigazioni Atlantiche de Luis de Cadamosto. In Silva Marques, J., op. cit. :173; DIAS LEITE, JERONIMO. 1947. *Descobrimto da Ilha da Madeira e Discurso da Vida e Feitos Dos Capitães da dita Ilha*. :19. Coimbra; FRUTUOSO, G. op. cit. :431.
43. LEITE, DUARTE. 1941. Os primeiros açucars portugueses. *Coisas de Varia História*. Lisbon. This interpretation is consistent with the general picture presented by Verlinde above (see Reference 2).
44. FRUTUSO, G. op. cit. :113.
45. AZEVEDO, J. LÚCIO DE. 1947. *Épocas de Portugal Económico: Esboços de História*., Livraria Classica Editora. Lisbon.
46. DIAS LEITE, J. op. cit. :27.
47. One arroba equals 14.686 kilograms or 32.37 pounds.
48. FRUTUOSO, G. op. cit. :665-6; SILVA MARQUES, J. op. cit. Supplement to Vol. I: 343.
49. Cadamosto actually writes of 400 *cântaros*. Lúcio de Azevedo (op. cit. :221 footnote 1), basing his findings on Sombart, says that a *cantaro* equals 228 or 250 kilograms. Hence we may calculate Cadamosto's figure as either 6,080 or 6,666 *arrobas*.
50. FREITAS FERRAZ, MARIA DE LOURDES DE. 1971. O Açucar e a sua Importância na Economia Madeirense. *Geographica* 25: 30-38, 78-88.
51. OLIVEIRA MARQUES, ANTÓNIO H. DE. 1965. Notas para a História da Feitoria Portuguesa na Flandres no século XV. *Ensaios de História Medieval*. :240. Portugalia Editora. Lisbon.
52. FRUTUOSO, G. op. cit. :637-8; RAU, VIRGINIA & JORGE DE MACEDO. 1962. *O Açucar da Madeira Nos Fins do Século XV: Problemas de Produção e Comercio*. :130. Junta Geral do Distrito Autónimo de Funchal. Funchal, Madeira.
53. ZURARA, G., op. cit. :348.
54. CADAMOSTO, L. op. cit. :172.
55. As Rogers summarizes the situation, by the later fourteenth century, "A series of events terminated Western travel to the Orient via the Eastern Mediterranean. The conversion of the Il-Khans of Persia to Islam, the waxing might of the Ottoman Turks, and the xenophobic Ming dynasty in China brought about an isolation of India and Cathay at precisely the moment the dynasty of Avis acceded to power in Portugal. Increasing Mamluk fear, both of belated Christian crusades and Moslem Ottoman challenge, blocked access to Ethiopia via Egypt or the Red Sea area at the time when sporadic embassies from Ethiopia were exciting the curiosity of the West." (ROGERS, FRANCIS M. 1961. *The Travels of the Infante Dom Pedro of Portugal*. :107. Harvard University Press. Cambridge, Mass.)
56. CADAMOSTO, L. op. cit.
57. SARMENTO, A. 1932. op. cit.
58. FREITAS FERRAZ, M. *O Açucar e a Sua Importância na Economia Madeirense*. op. cit. :79.
59. RAU, V. & J. MACEDO., op. cit.; see also RAU, VIRGINIA. 1964. *The Settlement of Madeira and the Sugar Cane Plantations*. Afdeling Agrarische Geschiedens. A.A.G. Bijdragen. No. 11, Wageningen.
60. JASMIN PEREIRA RODRIGUES, FERNANDO A. 1959. Alguns Elementos Para o Estudo da História Económica da Madeira (Capitania de Funchal-Século XV). Dis-



- sertação de Licenciatura em Ciências Histórico-Filosóficas, apresentada a Faculdade de Letras da Universidade de Coimbra. Coimbra, Portugal.
61. In describing the *lavradores de cana* (cane growers) in Bahia in the following century, Schwartz outlines a variety of tenure situations, all derived from the relationship between the cane grower and the *engenho*. The mill owners, for example, leased lands received by them in *sesmaria*. Other lands owned by them were awarded to dependents on a sharecropping basis. In addition, the mills ground the canes of freeholders who had purchased their plots, but were unable to afford their own mill. Each *engenho* ground the canes it planted on its own, plus those of its renters and sharecroppers, along with those of freeholders with fields nearby. The records of the Engenho Sergipe do Conde in Bahia reveal that the mill took 50 percent of the sugar made from "free cane," that is, the plants raised on freeholds. It took an additional third or quarter from the renters and the sharecroppers (SCHWARTZ, STUART B. 1973. Free labor in a slave economy: The *lavradores de cana* of colonial Bahia. *Colonial Roots of Modern Brazil*. Dauril Alden, Ed. The University of California Press. Berkeley, Calif.)
  62. FRUTUOSO, G. *op. cit.*
  63. LIPPMANN, E. *op. cit.*
  64. RAU, V. & J. MACEDO, *op. cit.*
  65. SCHWARTZ, S. *op. cit.* Rodrigues de Azevedo, for example, speaks of free colonos who supervised slaves on land, "*sob a inspeção delles*" (FRUTUOSO, G. *op. cit.* :680).
  66. A possible exception was the famous Lombada dos Esmeraldos, a *fazenda* reportedly rented by João Esmeraldo, a Genoese—and friend of Christopher Columbus—from Rui Gonçalves da Câmara, son of João Gonçalves Zarco. Rui, who was to gain fame as a warrior in Morocco and on the African coast, was the second captain of Funchal. In the late fifteenth century the Lombada is reported to have produced 20,000 *arrobas* of sugar annually and to have been worked by 80 slaves—Moors, Canary islanders, mulattoes and Negroes. (FRUTUOSO, G. *op. cit.*; see also SILVA, PADRE FERNANDO AUGUSTO DE. 1933. *A Lombada dos Esmeraldos na Ilha de Madeira*. Funchal, Madeira).
  68. RAU, V. & J. MACEDO, *op. cit.* :14-15.
  69. DEERR, N. *op. cit.*, Vol. I: 100, for example, writes: "The large quantity of sugar made in Madeira was sufficient to influence the course of European trade, and to cause the distribution of sugar more freely over the whole of Europe than had ever happened when the Mediterranean was the only supplier. . . ."