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ORIGINAL ARTICLE

Capitalism and the Shift to Sugar and Slavery in Mid-Seventeenth-Century Barbados

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Abstract The origins of capitalism in the British West Indies began as part of the revolutionary shift to sugar and slavery in Barbados in the second quarter of the 17th-century. This study examines the origins of capitalism in Barbados through the exploration of the historical record and archaeological findings from Trents Plantation and other early colonial estates in Barbados. The expansion of agro-industrial sugar production into the English colony of Barbados set in motion a dramatic shift in social and economic structures. Social and economic change resulted from the intersection of access to investor capital, dramatic profits rapidly amassed through the production of a commoditized cash crop, sugar, and a related shift in the labor force to a reliance on large numbers of enslaved laborers from Africa. The change took place rapidly during a period of political turmoil in England that resulted in laissez-faire governance and a void in administrative oversight in the West Indies. The social and economic changes seen in the archaeological record at Trents, and actuated across Barbados, had a dramatic impact on the broader Atlantic World, inclusive of the Americas, Europe, Africa, and their trading partners across the globe.

Extracto Los orígenes del capitalismo en las Indias Occidentales Británicas comenzaron como parte del cambio revolucionario hacia el azúcar y la esclavitud en Barbados en el segundo cuarto del siglo XVII. Este estudio examina los orígenes del capitalismo en Barbados a través de la exploración del registro histórico y los hallazgos arqueológicos en Trents Plantation y otros estados coloniales tempranos en Barbados. La expansión de la producción de azúcar agroindustrial a la colonia inglesa de Barbados puso en marcha un cambio dramático en las estructuras sociales y económicas. Los cambios sociales y económicos resultaron de la interacción del acceso al capital de inversión, las ganancias dramáticas que se acumularon rápidamente a través de la producción de un cultivo comercial mercantilizado, el azúcar, y un cambio relacionado en la fuerza laboral a la dependencia de un gran número de trabajadores esclavos de África. El cambio se produjo rápidamente durante un período de agitación política en Inglaterra que resultó en un gobierno laissez-faire y un vacío de supervisión administrativa en las Indias Occidentales. Los cambios sociales y económicos que se observaron en el registro arqueológico de Trents y que se activaron en todo Barbados, tuvieron un impacto dramático en el mundo atlántico más amplio, incluidas las Américas, Europa, África y sus socios comerciales en todo el mundo.

Résumé Les origines du capitalisme dans les Antilles Britanniques ont leur source dans l'évolution révolutionnaire en faveur du sucre et de l'esclavage à la Barbade au cours de la seconde moitié du 17ème siècle. Cette étude examine les origines du capitalisme à la Barbade par l'exploration des archives historiques et des découvertes archéologiques issues de la Plantation

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Trents et d'autres domaines coloniaux anciens à la Barbade. L'expansion de la production de sucre agro-industrielle dans la colonie anglaise de la Barbade a provoqué une rupture dramatique des structures sociales et économiques. Un changement social et économique a résulté du croisement entre l'accès au capital d'investissement, les profits dramatiques rapidement amassés par le biais de la production d'une culture de rente banalisée, le sucre et une modification connexe quant à la main d'œuvre par un recours à un grand nombre de travailleurs esclaves originaires d'Afrique. Le changement a eu lieu rapidement pendant une période de troubles politiques en Angleterre ayant résulté en une gouvernance du laissez-faire et une carence quant au contrôle administratif des Antilles. Les modifications sociales et économiques observées dans les archives archéologiques à Trents et mises en œuvre à travers la Barbade, ont eu un impact dramatique sur le monde atlantique plus vaste, y compris les Amériques, l'Europe, l'Afrique et leurs partenaires commerciaux à travers le monde.

Keywords capitalism · indenture · enslavement · plantation · sugar

Introduction

The origins of capitalism in the British West Indies began as part of the revolutionary change in agricultural and labor systems in Barbados in the second quarter of the 17th century. The archaeological record at Trents Plantation projects dramatic social and economic change brought about by access to investor capital and profits amassed through the production of a commoditized cash crop, sugar, and a related shift in the labor force to a reliance on large numbers of enslaved laborers from Africa.[1] The rise of sugar and slavery in Barbados, beginning in the 1640s, was a key catalyst in the development of capitalist enterprise in the British West Indies.

The revolutionary shift was tied to the rise of private trading companies stimulated by financial success of the Dutch United East India Company (Vereenigde Oostindische Compagnie, or VOC) in the Far East (beginning in 1602) and the entrepreneurial trade of the Dutch Chartered West India Company (Geoctroyeerde Westindische Compagnie, or WIC) in 1621. Corporate investors from these, and an array of newly established trading companies, funded Dutch, English, and later French, Danish, and Swedish settlements and plantation enterprise in the Caribbean, an archipelago that had been controlled by Spain in the 16th century.

In Barbados, the capitalist mode of production drew upon the combination of a lucrative cash crop (sugar), technological innovations in agro-industrial processing of sugar (changes in the *engenho*, or factory, mills, and boiling process), and expanding global trade that was facilitated by private corporate backing. These factors included access to labor (enslaved laborers from Africa) and supplies (from the Far East, Europe, and the Americas). This change took place rapidly during a period of political turmoil in England that resulted in laissez-faire governance and a void in administrative oversight in the West Indies (C. Bridenbaugh and R. Bridenbaugh 1972:2). In a void of governance, land was cleared and sugar was produced using slave labor. Substantial profits were then reinvested in more enslaved laborers, planting, and factories. The rising planter class in Barbados then drew on its rapidly accumulated capital to reinvest profits, and associated social capital, to formalize and legalize a system that became dependent upon enslaved laborers. This capitalistic plantation system quickly spread among many polities, which competed to established lucrative colonies in the Caribbean.

This article reviews perceptions of capitalism that have inhibited its attribution to the period of dramatic social and economic change in the early 17th century and argues the important role that capitalism played in the emergence of largescale plantations and the system that emerged in Barbados beginning in the 1640s. Drawing from archival records, maps, and archaeological findings, it shows how historical and archaeological data from Trents Plantation and other early colonial estates in Barbados underwent dramatic change that fits squarely within the definition of capitalism. The social and economic changes seen in the archaeological record at Trents Plantation, and actuated across Barbados, had a dramatic impact on the broader Atlantic World, inclusive of the Americas, Europe, Africa, and their trading partners across the globe (Armstrong and Reilly 2014; Armstrong 2015a, 2015b).

[1] Much of the funding of this economic transformation came from Dutch investors working with English financiers in London. These Dutch investors had profited significantly from sugar production, trade, and the development of refining industries and were seeking a wider base of influence as their political foothold in Pernambuco, Brazil, began to be challenged.

Perceptions of Capitalism

Michel-Rolph Trouillot's (1995) exploration of the "power and production of history" in *Silencing the Past* speaks directly to the ways in which underlying power structures shape the understanding of history and the understanding of social relationships. He notes that "the ultimate mark of power may be its invisibility, the ultimate challenge, the exposition of its roots" (Trouillot 1995:xix). In reviewing the argument for the role of capitalism in the shift to sugar and slavery, I was surprised at the silence that I found related to capitalism in the telling of the region's early history.[2] Not surprisingly, the colonial enterprise was considered invasive and was associated with dramatically negative impacts on native peoples and regional biota (Higman 2011:53). Moreover, there is agreement relating to the impact of slavery, capitalism, and colonialism on past and present societies in the Caribbean, and agreement that knowledge of the past is critical to an understanding of the trajectory of Caribbean societies for the future; see, e.g., Mintz (1985), Williams (2005), Beckles (2006), Higman (2011:53), and others. However, discussion of capitalism, and capitalists, in the region tends to be associated with temporal frameworks parallel with the coining, or at least popular use, of these terms in the late 18th and 19th centuries. Many have avoided using these terms in reference to the actual period of dramatic shift to capitalism in the mid-17th century. For instance, in *Sweetness and Power*, Sydney Mintz (1985:55) asserts that "most students of capitalism (though not all) believe that capitalism became a governing economic form in the late 18th century and not before." Mintz was willing to assert the presence of industrial factories embedded in the fields of early Caribbean sugar estates and seems to beg for the refutation of "the opinion of most authorities" (Mintz 1985:55). However, he appears bound to a normative world of interpretation in which capitalism must universally replace feudalism in order to exist, rather than to coexist differentially in time and space. Rather, he obliquely says: "If it is not 'capitalism,' it was still an important step towards capitalism" (Mintz 1985:55). Not bound by the strict tenets of 19th-century synchronic, and universal, developmental-replacement models as applied by Marx (1972) and Morgan (1877) as a requirement for the presence of capitalism in the social and economic structures that emerged in Barbados, I argue that it was not only an important step toward capitalism, but it was both "capitalistic" and "capitalism."

In Williams's (1994) *Capitalism and Slavery* created a foundation for the study of colonialism, imperialism, and capitalism in the Caribbean. Williams's book and his subsequent *From Columbus to Castro* (Williams 1984) explore the economic and social impacts of slavery from the point of Columbus's contact with the indigenous peoples of the Caribbean through to the era of nationalistic movements of the 1950s and 1960s. His thesis, stated boldly on the first page of *From Columbus to Castro,* revolves around ways in which "[f]or over four and a half centuries the West Indies have been the pawn of Europe and America" (Williams 1984:1). The post-1492 era brought with it an array of established European social order, which from the time of initial Spanish contact included structured social relations based on systems of inequality, in which "slavery and serfdom were constituent elements" (Williams 1984:30).[3] Williams points out that, upon encountering indigenous peoples in the Caribbean, Columbus wrote in his journal: "They should be good servants and intelligent, for I observed that they quickly took in what was said to them" (Williams 1984:31). In short order, indigenous peoples were put to work in the mines and agricultural enterprises of the Spanish. Many were taken captive, moved from island to island, or transported to Spain to serve as enslaved laborers; actions that ominously foreshadowed the later transatlantic African slave trade (Williams 1984:57,79–94). Yet, even Williams addresses issues related to capitalism and capitalists only in relation to wage laborers associated with the "new industrial order" of the post-emancipation era (Williams 1994). Interestingly, in his argument against slavery, Williams draws from Adam Smith's (1937:365) critique of the economics of slavery: "[T]he work done

[2] As an historical archaeologist who has focused on plantation systems, much of my research has focused on a critical examination of colonialism, slavery, and capitalism. However, until this study it has tended to focus on sugar and slavery as extant systems. This is the case for most studies of plantation contexts in English, French, Danish, and Dutch colonial settings. As I began to look at this earlier period and the transitions of the first few decades of the 17th century, I was surprised to find that much of historical scholarship has taken a pass on the era of transition to plantation slavery and not addressed it squarely in relation to the rise of capitalism.

[3] Spanish social relations were grounded in the 13th-century code of "Los Siete Partidas" (itself rooted in the Code of Justinian), "in which slavery was recognized as an integral part of the Spanish economy" (Williams 1984:30).

by slaves, though it appears to cost only their maintenance, is in the end the dearest of any. A person who can acquire no property can have no other interest than to eat as much, and to labor as little as possible," and Adam Smith's work defines capitalism as already well established in the mid-18th century.

Capitalism is defined as "an economic system characterized by private or corporate ownership of capital goods, by investments that are determined by private decision, and by prices, production, and the distribution of goods that are determined mainly by competition in a free market" (Merriam-Webster 2019). The term "capitalism" is often conceived in relation to 18th-century economist Adam Smith's (1937) notion of capital accumulation associated with a rising class of financially and politically powerful industrialists in mid-18th-century Europe. The critical use of the term "capitalist" is most often associated with mid- to late 19th-century political economists Karl Marx and Frederick Engels (Marx and Engels 1969; Marx 1972). Marx is critical of the exploitation of laborers in pursuit of the surplus capital produced by labor, often under harsh and unregulated conditions (Marx 1972:255,239).

Marx and Engels's critique of capitalism and capitalists was powerfully aimed at active social and economic systems that were extracting capital from mid- to late 19th-century laborers (focusing on conditions of wage laborers in Europe). In reviewing the history of capitalism, they project a link back to agricultural practices of the 16th century and feudal control over laborers by those who controlled the land, tenancies, and jobs (Marx and Engels 1969:48). Marx and Engels's writings emphasized conditions faced by 19th-century laborers and control over labor by bourgeois capitalists. For instance, in *Capital*, Marx's (1972:225) focus was on social impacts of inequalities in labor and the flow of commodities resulting in the accumulation of capital by the bourgeoisie under systems of capitalism. Commodities had exchange values, and control of or the lack of access to commodities, particularly by the laboring class, had an impact on tangible aspects of the material way of life of laborers.

For the Caribbean, many scholarly works, including Richard Dunn's *Sugar and Slaves* (1972), present arguments that tie the inception of sugar production to the dramatic rise of the institution of slavery. Simon Newman, in *A New World of Labor* (2013), documents the correlation between the rise of sugar and a shift in the structure of labor from a reliance on indentured Europeans, who were contracted to work for two- to five-year periods, to a reliance on enslaved laborers from Africa who were held in bondage in perpetuity. Newman also provides an in-depth assessment of the impact of this change in labor practices on both Barbadian and West African societies (Newman 2013). But others, like Larry Gragg, seem to simply ignore the social impact of enslavement. Instead, Gragg (2003) places emphasis on the static transplantation of English forms of religious and civil governance in the new colony, virtually ignoring the new economic and social systems, including the emergence of slavery and a treatment of capitalism and colonialism that goes beyond mere silence; see also Puckrein (1984).

In *Sweetness and Power*, Sidney Mintz (1985) addresses the applicability of the term "industrial" to settings of agricultural production, like sugar plantations. He notes that the term industrial usually implies the heavy substitution of machinery for human labor. Mintz (1985:51) concludes that "what made the early plantation system agro-industrial was the combination of agricultural processing under one authority." Sugar production fused field and factory; neither field nor mill could operate independently, and each required a labor force that involved both skilled and unskilled workers (Mintz 1985:51); see also McWilliams (1999:56–57). Moreover, the growing and processing of sugar added an additional burden on labor; its processing was time sensitive. Sugar cane had to be milled within a short time of cutting in order to maximize its yield and, thus, profitability (Mintz 1985:51–52).

Given the omission of outright recognition of the role of capitalism in early plantation societies one might ask: Is it appropriate to correlate the rise of capitalism with the emergence of agro-industrial plantation society, and is capitalism an appropriate lens through which to examine changes that took place in Barbados with the emergence of sugar and slavery? My answer is yes. This answer draws upon archaeology and follows Michel-Rolph Trouillot's (1995:xix) challenge to dig more deeply in order to achieve the "exposition of history's roots." The argument that I make is based on the conceptual framework, meanings, and implications of capitalism, as well as evidence for the creation of dramatically new cultural settings based on capital accumulation through the production of cash crops using chattel slavery.

Early Capitalism from the Vantage Point of Historical Archaeology

Fortunately, historical archaeology engages in scholarship that bridges back to the 15th century to examine the "origins of capitalism," and it has paid attention to transitions between feudalism and capitalism (Johnson 1996, 2010:191). As argued by a number of archaeologists—Patterson (1993:350), Johnson (1996), Orser (1996), Delle (1998:4, 2014), Leone (1999:3–20), Armstrong and Kelly (2000), Armstrong (2003:64), Hauser (2008, 2011a, 2011b), Matthews (2010), and Croucher and Weiss (2011), among others—historical archaeology is well positioned to assess the spatial and material record of social relations that allows the illumination of evidence of structural inequalities established under capitalistic systems of accumulation by a capitalist elite at the expense of the laboring classes. Matthew Johnson asserts that historical archaeology has brought forward a body of scholarship addressing "the 'origins of capitalism', the 'feudal/capitalist transition', and 'industrialization', and the 'origins of modernity'" (Johnson 2010:191–192). Mark Leone notes that there is some agreement concerning when capitalism came into existence and, while it may have occurred in other regions at other times, in Western society "its immediate beginnings are in Renaissance Europe," and "it is the dominant form of social relations in the West, and probably the world, today" (Leone 1999:4). The analysis of capitalism aims at examining the "relationship between wealth-producing and wealth holding groups," or classes of people; and the inherent conflict of interests between these groups often creates settings of exploitation and conflict (Leone 1999:5).

James Delle's (1998:2, 2014) studies of early 19th-century coffee plantations in Jamaica have focused directly on the emergence of a global system of capitalism. He addresses estates during a period in which both capitalism and the power dynamics of plantation slavery were established. In contrast, several studies, including my own studies of Drax Hall and Seville sugar plantations in Jamaica, have addressed similar capitalist modes of production at plantation settings dating to an earlier period, the later 17th and 18th centuries (Armstrong 1990, 2011; Armstrong and Kelly 2000). To date the only limit on the application of archaeological evidence related to capitalism from earlier periods, including the important period of inception of and transitions to capitalist forms of production, has been the identification of sites and contexts dating to the period of change and framing arguments that are aimed at exposing the roots of capitalism in the region; see Trouillot (1995). Fortunately, Trents Plantation in Barbados is yielding not only an abundance of data from the early 17th century, but data that span the period before and through changes associated with the shift to both sugar and slavery (Armstrong and Reilly 2014; Armstrong 2015a).

A Basis for Sugar and Slavery in Barbados: Transitions beyond the "Line" of Governance

How exactly did capitalism and slavery gain such a dominant foothold in England's West Indian colonies? The form of chattel slavery that emerged in Barbados and spread through the British colonial holdings in the Americas did not have a direct historical precedent in England. In contrast, there was a well-established record of colonialism and the organization of landholdings, defined as plantations, and much of this early settlement was not only governmentally sanctioned, but corporately backed (Horning 2011:66–69). As early as 1566 English occupation of county Cork in Ireland resulted in the creation of plantations, with the latter involving a resettlement of populations. This practice was continued in Ulster beginning in 1606. These plantations set in motion structures of colonial imperialism aimed at subduing opposition in Ireland, and among the resettled folk moved into these areas were those from places such as lowland and borderland Scotland.[4] In these plantation settlements, three themes emerged that were carried to the New World and, significantly, chattel slavery was not one of them. Control over religion was one theme. The second was displacement and control of opposition (indigenous, religious, political, and any other surplus population); and the third was a model of capital production that granted proprietary patentees wide-ranging economic and social control and, conversely, stripped it from the foregoing opposition parties. Hence, from the inception of settlement, the colonists were funded as corporately backed enterprises, which Johnson, ascribing Marx (1972), defines as proto-capitalist operations that were part of a transformative shift from feudal to capital systems

[4] These settlements project imperial expansion that correlate with England gaining control of much of what became known as the British Isles and Great Britain. Moreover, it establishes the social, political, religious, and corporate basis for later colonies in the Americas.

(Johnson 2010:191–192); see also Dietler (2010). These initial settlements were corporately backed and entrepreneurial, but lacked any reliable or set relationships in price and exchange values of commodities. Still, the objective of the financial backers was capital production.

For millennia, slavery has been practiced in various forms on several continents and has deep roots in human power relations. Slavery existed in Africa well before Portuguese ships of trade made their way to the shores of west and central Africa in the 15th century (Lovejoy 1989; DeCorse 1991), and enslaved Africans were part of the early colonizing expeditions of the Spanish (Woodward 2011). It was encoded in labor systems of Mesopotamia as far back as 3100 B.C. (Rodriquez 1997:430) and is well documented for the Greek and Roman empires (Westermann 1984).

Sugar, a domesticated crop endemic to south and east Asia, has been produced in the Mediterranean since the 7th century A.D. (Galloway 1989:50), and in this region it was associated with plantation systems involving slavery as early as the 10th century. By the 14th century the Portuguese had begun to expand colonial holdings in the islands off the North African coast, in places like Madeira, and to a limited extent the Azores, and both the Spanish and Portuguese had influence in the Canary Islands.[5] On the islands off the coast of Africa European colonizers found a productive environment for "the cultivation of sugar that was considerably better than around the Mediterranean" (Galloway 1977:177, 1989:50). Christopher Columbus visited the Canary Islands prior to his travels to the New World, and he brought sugarcane cuttings with him on his second Atlantic voyage, planting cane at the Spanish settlement on Hispaniola in December of 1493 (Morison 1942).[6] Spanish settlers grew at least some sugarcane on virtually every island that they settled. Hence, much later, when islands like St. Christopher and Martinique were settled by the English and French, they found cane growing when they arrived (Labat 1742:321–327).

The Treaty of Tordesillas in 1493 established a spatial division of Spanish and Portuguese colonial interests in the Americas. Spain gained colonial jurisdiction over the western region of the South American continent, including regions that fed their quest for gold, while the Portuguese gained large expanses of fertile agricultural lands with little gold or silver. Hence, from the onset of settlement much of the focus of Portuguese settlement was on agricultural production, and less so for the Spanish. Growing demand for sugar, coupled with Portuguese knowledge of the production of sugar gained in the Atlantic island colonies, facilitated expansion of production in South America (Galloway 1989:64).[7] Portuguese sugar plantations, or *engenhos* (mills), in Brazil expanded from the 1520s through the 16th century. Over time labor gradually shifted from wage and contract laborers to enslaved laborers from Africa, following a precedent established in the Atlantic islands. Initially enslaved Africans were brought as personal servants from places like Madeira, or brought to Brazil based on their knowledge of milling and cane production (Galloway 1989:72).[8] As indigenous peoples began to resist, the Portuguese came to rely on Africans in Brazil, and by 1600 the sugar *engenhos* were dependent upon enslaved laborers from Africa.

In Barbados, the shift to agro-industrial capitalism using enslaved laborers was tied, not only to revolutionary changes in sugar processing, but to an abundance of capital to facilitate the high initial capital outlays necessary to acquire labor, clear land, and build the factories required to crush the cane and boil the sugar juices before they spoiled. Financing was critical, and the timing was right for mid-17th-century Barbados to

[5] Sugar production in Madeira began in 1433, and by about 1450 it had replaced wheat as the principal crop of the island, with exports increasing significantly through the 15th and 16th centuries (Galloway 1989:50–52); see also Mintz (1985:51). By the mid-1500s sugar growers on Madeira began to import African slaves from Guinea. In 1552 the King allowed sugar growers on Madeira to import one shipload of slaves every two years from Guinea, and a total of 3,000 enslaved laborers were reported among the laborers at Mundial, Madeira, in 1552 (Mauro 1960:185), while permits were granted to import 150 laborers per year for five years from the Cape Verde Islands (Mauro 1960:185). In the Canary Islands a Spanish mission had been established by 1352, but sugar production did not begin until cane and milling experts were brought to Grand Canary from Madeira in 1484 (Fernandez-Armesto 1982:14,80).

[6] Before his travels across the Atlantic to the Americas, Christopher Columbus had been involved in maritime travels associated with the Madeira trade and had even married the daughter of a Madeiran landowner from the island of Funchal (Morison 1942[1]:41–53).

[7] While introduced by Columbus, sugar production on Hispaniola really began only after the exhaustion of placer goldfields in about 1515, with some form of formal production of sugar continuing until the 1630s. It was produced in combination with corn, manioc, and native cotton (Galloway 1989:64). The rapid growth of the Portuguese sugar industry in South America probably served as a disincentive for the Spanish in the Caribbean, who quickly shifted from mining to the production of provision foods and stock raising in support of their South American mainland and shipping enterprises.

[8] Much of the shift to African labor in Brazil occurred in the last quarter of the 16th century. As late as 1583 two-thirds of the laborers working in Pernambuco were still indigenous peoples, with the remainder enslaved Africans (Galloway 1989:77).

become a point of innovation and dramatic change that yielded dramatic profits for the planters and their financial backers at the cost of traumatic human suffering for those trapped in the brutal system of slavery that emerged.

The Dutch had been involved in trade with Spain and Portugal and had a long history of transporting sugar from Brazil and refining sugar in the Netherlands. When the Netherlands separated from the Spanish Empire in 1568, it retained trading ties with Portugal and sugar refineries in the Netherlands, even as this separation was contested and periodically fought over for the next 80 years.

In 1602, private Dutch investors, with trading interests in the Far East, created the VOC through the merger of a group of private Dutch trading companies. The combined corporation controlled risk for sustained long distance trade. The economic success of the VOC provided a global model for capital production and reinvestment. This corporate model, and some of the profits, were spun off and reinvested in the expansion of trade in Africa, and the Americas. After decades of less-formal trade and interaction, the WIC was founded by Dutch investors in 1621. The WIC approach initially involved trade, new settlements, privateering, and piracy. During this era Dutch and English pirates and privateers collectively caused the Spanish to restrict the focus of their engagement to their larger settlements and to protect their lucrative plate fleet. This left unguarded the islands of the eastern Caribbean, including Barbados.[9]

In the early 1600s, the Dutch established settlements in Guiana (Suriname) and gained parts of the Pernambuco region of Brazil in 1630.[10] Dutch investors in Pernambuco made significant profits, and many sugar refineries were constructed in the Netherlands, but the separation of Portugal from Spain in 1640 led to the ultimate ouster of Dutch WIC company interests from Pernambuco. Entering the 1640s, the Dutch had money for new ventures and a knowledge of sugar production, and Barbadian planters, including James Drax, visited Pernambuco and came back with details for planting and processing of cane. Initial testing of sugar crops in Barbados proved successful, and capital from Dutch investors was readily available to invest in sugar production.

Sugar, Agro-Industry, Labor, Capitalism

As sugar production began in earnest in Barbados, the construction of new plantations allowed the implementation of technologies that were known, but not fully implemented, in Brazil. Portuguese sugar producers nearly doubled the rate of production when they converted from the old horizontal, two-roller mills that had long been used in the Mediterranean, to mills that used a vertical, three-roller (cylinder) system driven by cattle.[11] By 1628 the three-roller system was the predominant form of mill used in Brazil (do Salvador 1965:366).[12] The Dutch, who partnered with the Portuguese in settlements like Pernambuco, spread knowledge of this type of mill to Barbados in the 1640s, and from there it spread throughout the Caribbean (Galloway 1989; Ligon 2011:84).

Another important innovation of the Portuguese spread through the Dutch was the development of a new process of boiling cane in a series of cauldrons, or coppers. As the boiling juice evaporated, it was ladled from one copper to another in a train, or battery, of three to six or more cauldrons. The design of the battery was such that greater heat was applied to the smaller coppers than to the larger ones (Gama 1983:91,157–162; Galloway 1989:76–77; Ligon 2000). This increased efficiency and made "the work of the boiling house a smooth, industrial activity" (Galloway 1989:77). Such batteries of coppers were incorporated into the sugar mills in Barbados from the beginning of the industry on the island (Ligon 2000).

The revolutionary shift to sugar occurred during an era in which cattle mills predominated in Barbados. However, this change was not static, and by the mid-1650s Dutch-influenced windmills were introduced. The windmill took advantage of the West Indian trade winds to facilitate crushing the cane and represented another contributing technological change that enhanced profitability, provided that there was sufficient

[9] By this time Barbados had become depopulated, due to over a 100 years of Spanish raids procuring laborers for the mines and plantations in the Greater Antilles.

[10] The Dutch were also engaged in the procurement of salt from islands along the north coast of Venezuela. Salt was important to the Dutch fishing industry (Robertson and Funnell 2014:27).

[11] The earliest record of one of these new vertical mills is in an illustration dated 1613 that is now in the Ajuda Palace Library. There is considerable debate as to the origin or technological influences that produced this mill, but Galloway (1989:75) suggests that it may derive from Chinese mills observed by Jesuits. Before the introduction of the three-roller mill in Brazil, each slave produced an average of 0.25–0.40 tons a year; afterwards, production per slave doubled to 0.50 tons a year (Barrett and Schwarz 1975:542).

[12] In 1570 there were 60 *engenhos* in Brazil, by 1580 there were over 100, by 1629 there were 346, and by 1710 there were 528 (Galloway 1989:77).

labor to grow the crop, feed the mills and run the factories.[13] Hence, the industrial aspect of sugar production in Barbados was tied to a convergence of factors, including a highly profitable crop, sugar; and access to capital; new technology (new vertical rollers, systematic boiling, and windmills); and control over labor in a milieu of pliable governance. The trajectory toward capitalism was not static. Rather, it continued to evolve, incorporating investments in new technologies and formalizing sanctions for its financial motives. Slavery was initially sanctioned by informal traditions and decrees, and then in laws and regulations that upheld property contracts and insured future profits by defining labor as heritable and transferrable property, and encoded a system that sanctioned enslavement without external oversight (C. Bridenbaugh and R. Bridenbaugh 1972; Campbell 1993; Handler 2016).

Background to Initial Settlement of Barbados: Antecedents to Sugar, Slavery, and Capitalism

Historical accounts, archival records, and archaeological findings dating to before, during, and after the shift to sugar at Trents (initially "Fort") Plantation, illuminate an era of dramatic change and illustrate how these changes fit squarely within the definition of capitalism. In order to understand the significance of the findings, one must understand the history and economic basis of English colonial settlements. In 1607, 20 years before the founding of a colony on Barbados, the English settlement of Jamestown, Virginia, was corporately backed, but had mixed objectives, ranging from finding a northwest passage to the Orient to a futile effort to mine gold and silver. With almost no knowledge of New World agricultural crops or their propagation, the Virginia Colony was virtually bankrupt by the time of settlement on St. Christopher in 1623 and Barbados in 1627 (Harlow 1924; Highfield 2013). In contrast, the initial Barbadian settlements in and around Holetown (originally Jamestown) and Bridgetown were, from the outset, marginally successful. Their success correlates, at least in part, to their emphasis on agricultural production that involved the growing of a mix of provision crops and of cash crops for export. They were established as agricultural colonies with the aim of producing wealth for investors by producing a surplus for export, but also producing sufficient local provisions so that their pioneer farmers could survive. From the beginning, the corporate interests of different colonies actively engaged in lobbying Parliament and the Crown for regulations and price supports aimed at minimizing risk and protecting crop prices and profits (Highfield 2013:88–90).

In 1625, during the final year of the reign of James I of England (James VI of Scotland), Barbados was visited by John Powell and a group of seasoned mariners and pirates working for Sir William Courteen (who had mixed Dutch and English backing). They were returning from a trip supplying an early English settlement in northern South America and interacting with the Dutch, when their ship was blown off course and they sighted the island of Barbados. They landed near what is now Holetown (initially known as Jamestown), found the island to be uninhabited, and laid claim to the island on behalf of King James I and their sponsor, William Courteen (Harlow 1925).[14] Two years later, in 1627, Powell returned with his brother Henry, his nephew Henry Powell, Jr., and a group of settlers.[15] This enterprise was under the financial control of Sir William Courteen, who, in turn, was backed by corporate sponsors led by Sir William Pembroke (Harlow 1925). The corporate backers provided supplies, food, and arms to assist in permanent settlement. Unfortunately for them,

[13] The introduction of the windmill probably relates to Dutch interests in the industry. Matthew Parker suggests that James Drax had the first windmill constructed in Barbados in 1644, that it was built on a Dutch design, and was capable of crushing 8 tons of cane per day (Parker 2011:34). However, David Watts suggests that the shift to windmills was tied to an epidemic that killed many of the large animals on the island, including horses, in 1655–1656 (Watts 1987:193). The shift to the use of windmills in Barbados coincided with the Dutch expulsion from Recife in 1654 (Galloway 1989:78). Estate records start showing the appearance of windmills by the mid-1650s, with a reference to a windmill at Trents plantation in 1669 (BDA 1669:156; Gragg 2003:104).

[14] Later accounts recorded in court depositions by Capt. Henry Powell, one of the leaders of this expedition, note that they found the island to exhibit an abundance of resources and to be an ideal place of settlement and colonization (Harlow 1926). At the time, Jamestown, Virginia, had been occupied for nearly 20 years, but its lack of economic viability had resulted in King James I revoking the charter of the Virginia Company in 1624, hence, even that colony remained in flux.

[15] This group included James Drax, William Hilliard, and James Holdip (Parker 2011:15). These three initial settlers managed to negotiate the politically dangerous transitions of the first two decades and later became the leading innovators in the shift to sugar production in Barbados. Their knowledge of the island and longstanding relations with the Dutch allowed them visit Dutch settlements in the late 1630s and early 1640s to learn the process of sugar making. This knowledge garnered them access to support and funding from Dutch investors for their new sugar plantations.

a second band of English settlers arrived within two years. This group represented the Earl of Carlisle and had been granted a competing royal charter from King Charles II (who had inherited the crown from James 1). The Earl of Carlisle's settlers ultimately gained control of Barbados.[16]

When settled in 1627, the Courteen group that began clearing the land and setting up farms consisted of about 80 men who had traveled with the Powells from England, along with 10 enslaved laborers from Africa who were captured on the way to Barbados from a Portuguese slave ship.[17] A ship was immediately dispatched to trade with the Dutch settlements in Guiana. It brought back provisions, including cuttings and seeds to grow cassava, corn, potatoes, yams, pineapples, and a variety of other plants, including both cotton and sugar (Harlow 1925).[18] On the way back to Barbados they were approached by a group of 30 native Guianese who made a contract by which they indentured themselves under terms that included teaching the new settlers how to clear the land and plant crops brought from South America (Harlow 1925).

The initial model for settlement looked much like the infrastructure of English feudal/transitional plantations in Ireland. By the time the Carlisle group gained control of the island in 1629 there were already about 1,900 settlers, including colonists along with their indentured and enslaved laborers. The Carlisle group was able to attract even more pioneer farmers and indentured laborers by altering the land-tenure system and providing options for individuals to obtain patents on land (rather than retaining a feudal-like system of holding all lands for themselves). In return, the corporate backers were to receive rents. Initially high prices for tobacco encouraged settlers with entrepreneurial dreams. By the mid-1630s hundreds of patents were let to pioneer farmers, and by the early1630s the island population had expanded to several thousand people on 106,000 patented acres that had been divided, at least nominally, into between 8,000 and 11,200 properties.[19] These small-scale planters continued the initial practice of making use of indentured Europeans primarily, along with some enslaved African and native peoples. Laborers were used to clear the land as well as plant and harvest the crops, and, with proof of more working laborers, landowning farmers were allowed larger patents.

This initial frontier era is often defined as a chaotic setting involving small-scale production by farmers, each working with the aid of small numbers of indentured and enslaved laborers to produce a fluid array of export crops (such as tobacco, cotton, and indigo), provisions (such as cassava, corn, potatoes, sorghum, grass, and even sugar), and stock to clear the land, to haul, and for food. In characterizing this era John Galloway projects a negative view, invoking Richard Sheridan's assertion that "[t]his rather crowded island appeared to have poor prospects with the low prices for tobacco and cotton when, in the 1630s some of the leading citizens began to consider sugar cane as an alternative cash crop" (Galloway [1989:80], citing Sheridan [1974:83,132]). In contrast to the vast capital gains and reliable monetary rewards for those who later owned sugar estates, this pre-sugar environment was a chaotic and a risky place for capital investment. However, given the number of settlers that it attracted and the successes of smaller-scale agriculture production, the pre-sugar era should perhaps be reconsidered. Before sugar, many small farmers were making a living off the land, and prior to 1643 a range of crops, including cash crops, were producing at least marginal profits.[20] Tobacco grew well, but was not harvested with the same care as in Virginia and quickly lost favor. Moreover, as production increased, its price dropped. Barbados-produced cotton, on the other hand, became known for its high quality and long fibers, and by the mid-1630s it had become the island's primary cash crop. Much

[16] The complex story of the dispute over ownership and control of the island is told in detail in a series of 17th-century accounts that were published by Vincent Harlow (1924), and that have been retold by Peter Campbell (1993) and Hilary Beckles (2006).

[17] These African slaves were taken from a prize ship, a vessel captured by the initial settlers on their way from England to Barbados. That ship was probably on its way to a Portuguese settlement in Brazil, where plantation slavery was already a very well-established tradition based on longstanding plantation operations in Madiera and more recent plantation structures in Brazil. The capture of this ship shows the early settlers involvement in regional conflict, if not piracy. It also shows that their conception of settlement included the use of enslaved Africans, modeled after those of which they were aware on the Atlantic islands and in Brazil.

[18] Pineapples and, later, citrus crops became much-anticipated produce sent back to England each year and attest to the fact that traditionally recognized cash crops like sugar and cotton were not the only crops produced by the plantation system (Drax [1674]; Watts 1987).

[19] At this time only small tracts of land had been cleared, and many of the parcels that were defined as patented were not actually settled until after the consolidation period following the success of sugar.

[20] In fact, after sugar production began to dominate the island economy, a wide range of crops and products continued to be produced both on the large sugar estates and small farms.

commerce was carried out using cotton "wool" as the basis for financial exchange (Beckert 2014).

Rethinking Early Plantation Landscapes and Social Relations

This study began with the realization that the impact and the shift to sugar would be better understood with a more definitive understanding of the system from which it emerged. Rather than simply looking for early sugar plantations, I wanted to better understand the pre-sugar era and to explore settings in which sugar, slavery, and capitalism emerged. This led to an effort to recover archaeological and archival data from the period before sugar, the period of transition to sugar, and the era in which the sugar industry dominated the landscape. The first step was a reassessment of archival research and historical documentation looking at primary and secondary records in Barbados and England with an eye on what lands had been settled and how they were used during the pre-sugar and early sugar eras (Hapcott 1646; Drax [1674]; Colt 1925; Handler 1967; Thompson 2009; Ligon 2011); for examples, see deeds manusripts for Trents in the list of manuscripts from the Barbados Department of Archives (BDA). Through this review, assumptions regarding the configuration of early plantations shifted to account for the small-scale and the ephemeral nature of early sites (Chayanov 1986:90–117).

While conceptually this was a good idea, the practical problem for archaeological studies was that early sites had simply not been defined, and there was a general assumption that the pervasive nature of sugar had so dramatically impacted the cultural and physical landscape that early sites would be difficult to find. Moreover, as I reexamined interpretations of early periods of settlement I found a lack of focus in historical reviews on the people who lived in the landscape. Rather, they tend to focus on the political and legal systems that emerged. In contrast, this project takes an anthropological approach to settlers, it focuses on the cultural landscape and the material record of changes in labor relations and their social consequences, and it examines the spatial and material record associated with the pre-sugar era and the rise of agro-industry and capitalism.

For early settlers, social divisions between planters and their indentured and enslaved laborers were present, but, with small numbers and little cleared land, they were living together in close quarters, much like on the ships from which they had disembarked. The present study began with a basic question: Can contexts representing early, small-scale plantations be recovered in Barbados? Fortunately, in reviewing achival records of small estates that became sugar estates I began to notice what appeared to be incongruities in the recording of deeds. For instance, for Belle [Bell] Plantation (St. Michael Parish), I noticed that a 400 ac. sugar estate was created in an area that had had only five, small 10–20 ac. parcels recorded in the deeds. Moreover, in his 1657 *History of Barbados*, Richard Ligon (2011:86) observed:

> when the small Plantations in poor mens hands, of ten, twenty, or thirty acres, which are too small to lay to that work, be bought up by great men, and put together, into Plantations of five, six, or seven hundred acres, that two thirds of the Island will be fit for Plantations of Sugar, which will make it one of the richest Spots of earth under the Sun.[21]

The question of how a few 10–20 ac. parcels, adding up to perhaps 50 ac., became a much larger estate like Belle Plantation was answered visually in the form of a unique map of a Barbadian plantation drawn by John Hapcott in 1646 (Fig. 1).

The 1646 Hapcott map, held by the John Carter Brown Library at Brown University, has been known for decades, but was only superficially understood (Hapcott 1646). Significantly, the actual plantation that it depicted was not known, nor were the embedded spatial data on pre-sugar era plantation layout that it contains understood. The Hapcott map depicts small, irregularly shaped, 10–20 ac parcels within the larger rectangular outline of a formal 300 ac. estate, much of which was still forested.[22] As soon as I saw the map I realized that it provided an answer to the question of how a few small parcels could be consolidated into much larger estates.

[21] During the period of the shift to sugar there was a dramatic consolidation of lands and a corresponding reduction in landowners, from an estimate of between "8,300 and 11,200 in the mid-1640s to 2,639 in 1679" (Handler and Lange 1978:116).

[22] These small parcels, or inholdings, had been owned by Henry Pinkins (20 ac.), Joan Masters (10 ac.), and Pattrick Rogers (10 ac.).

Fig. 1 The 1646 John Hapcott map: "Estate Plan of 300 Acres of Land near Holetown, Barbados" (Hapcott 1646).

Identifying Pre- and Post-Sugar Plantation Landscapes: The 1646 Hapcott Map

The Hapcott map was overlaid on an ODS1986 topographic map of the Holetown area of St. James, Barbados, using GIS (Armstrong et al. 2012). The overlay indicated that the old map depicts Trents Plantation. It was found that several features on the map lined up with structures and features in the modern landscape, including the St. James Parish Church (originally built in 1629), the mansion house at "Fort" (Trents) Plantation (originally built in 1627), as well as the positioning of the shoreline, gullies, and terraces. Using this map as a guide, it was possible to find midden deposits on Trents Plantation that are associated with structures and activity areas dating back to the early pre-sugar era, as well as archaeological data from the period of the transition to sugar (Locus 1, IBS3-1). Subsequently, a combination of later historical maps and intensive surveys were used to expand the study to recover spatial and material data from the much larger scale, industrial sugar complex of the post-1650s era (Locus 1; IBS3-1), as well as to find the plantation's enslaved laborer settlement (ca. 1650–1838; Locus 2, ISB3-2), and a cave site with materials suggesting use by enslaved laborers as a place of ritual practice and resistance (Locus 3, IBS3-3) (Armstrong 2015a, 2015b).[23]

The Hapcott map shows the location of the houses and fields associated with each of the small-farmer inholdings. For example, Joan Master's and Pattrick Rogers's 10 ac. plots are shown in the upper-lefthand portion of the map (Fig. 1). They are depicted as areas of cleared land that are defined as "Fallen." Several other

[23] The shelter and cave (Locus 3) has several micro-chambers, each of which has a grouping of primarily iron and steel artifacts, including numbers of knives and blades, suggesting storage of weapons and the probable use of the cave as a place of ritual and resistance. The cave and associated shelter were included in detailed 3-D LiDAR mapping, but excavation and assessment is still underway, and complete findings must await completion of analysis, but a preliminary report of findings has been published (Armstrong 2015b).

areas of cleared and farmed lands are depicted, along with drawings of what appear to be small wood-frame houses that are surrounded by fields called “Pastures” or “Fallen Lands.” One parcel is defined as a “Potato piece.” Potatoes were a staple food for the pioneers in the early 17th century. They were also used to make “mobbie,” a common fermented drink (Handler 1970; Ligon 2011:195–209). The original heavy forest cover of the island presented a formidable problem for early would-be planters, who often planted their crops between the stumps of trees, following instructions for slash-and-burn agricultural practices taught by their native Guianese instructors. It is this type of slash-and-burn land clearing that Henry Colt observed in 1631: “[T]her stands a stubb of a tree above two yeards high, all ye earth covered black with cenders, nothing is cleer; whatt digged or weeded for beautye? All are bushes, & long grasse, all thinges caryinge ye face of a desolate and disorderly shew to ye beholder” (Colt 1925:66). Colt had just arrived from England and was on his way to St. Christopher, where he had acquired land for a cotton plantation. The partially cleared landscape was typical of early, small-scale farms. However, to Colt the fields looked chaotic and haphazard. What he saw was somewhat of a shock to him, as slash-and-burn agriculture did not conform with his knowledge of English farming practices, and he was fearful of what he would encounter on St. Christopher.

Archaeology and History of the Pre-Sugar Era (1627–1640s)

The Hapcott map and spatial and material data from archaeological sites on Trents Plantation provide a means to examine spatial changes in the cultural landscape associated with the shift to sugar. Just as the GIS map plots the Hapcott map over modern topographic features, in 1646 John Hapcott plotted the design and configuration of plans for a sugar estate over a series of small, irregularly shaped parcels, one of which was the site of the former mansion house of one of the island’s five initial plantations. The site was settled in 1627 by Henry Powell, Jr., the first governor of Barbados, along with a small group of laborers. By the late 1630s until at least 1643 the site was the plantation and home of Daniel Fletcher. The legend of the Hapcott map indicates that by 1646 this estate was purchased, probably through the acquisition of a mortgage, by Captain Thomas Middleton.[24] Middleton acquired the estate "for and in the name of Owen Browne, William Williams, and Andrew Reward," who were a group of London merchant capitalists investing in Barbadian sugar estates (Hapcott 1646).[25]

Middens recovered from the area where a small building is shown to the south of the mansion on the Hapcott map (Fig. 2) provide evidence of the small-scale nature of early settlements, as well as the paucity of material culture for this early plantation, even for what was one of the larger planter houses on the island in 1646. The other small parcels illustrated within the plantation have houses associated with them. These houses were occupied by a farmer and probably only one to three indentured laborers. At least one of these small parcels had been abandoned by 1646. The transaction recorded on the Hapcott map was the consolidation of the full 300 ac. into a single estate that eliminated the other small-farming parcels from the landscape.

The pre-sugar-era site that was excavated near the mansion house may have hosted an array of individuals from the earliest years of settlement through the end of the pre-sugar era. The material data projects a relatively small-scale enterprise. The material record from Trents Plantation includes items like Ming-period porcelain bowls (Fig. 3), stoneware Bellarmine jugs, and free-blown and case bottle glass, but the number of artifacts is relatively low, particularly in comparison to the abundance of goods found in later levels at this site that date to the sugar era.

Fortunately, the pre-sugar era at this site is also recorded in two detailed inventories. In 1641, the owner, Captain Daniel Fletcher, recorded a mortgage that used the property as collateral on a loan secured on the basis of the real property (land and buildings) and value represented by contracts for 14 indentured laborers, various animal stock, and material items on the estate (Barbados Department of Archives [BDA] 1641b). Significantly, this first mortgage on "Fort Charles" Plantation was to be repaid with a combination of 20,000 lb. of cotton and tobacco (BDA 1641b). The terms of the mortgage involve a half moiety, or half the value of

[24] A well-known planter who had partnerships with James Drax, and who at the time was also the owner of the Mount Plantation, adjacent to Drax Hall Plantation in the Parish of St. George.

[25] William Williams retained his interest in Fort Charles Plantation until 1669, when he and a group of London bankers and brokers sold it to William Dyer. By then it was a fully operative sugar estate that sold for £6,990.

Fig. 2 Trents Plantation: Excavation of pre-sugar contexts (ca. 1627–1640s) and later sugar-era deposits associated with the planter's house (1640s–present). (Photo by author, 2014.)

the property on the estate. The inventory lists the 14 indentured servants and their individual contracts of indenture:

> Thomas Walker, one year in May for one full year; John Parker, one year in July; Richard Howes, one year in March next; Nicholas Cooke, one year in March next; John Chittenden, for four years in March next; Edward Hyde, 3 years; Jaques Hendricke, for four years in March next; William Gymes, for four years in March next: Gilbert Scott for two years in March next; Martin Bowyer, for 2 years in March; Andrew Clarke, for one year in March; John Heralla, for 3 years in July; two Frenchmen for 3 years in August.[26]

The inventory "of stock, tools, arms household goods on the property" includes

> one bull, three young cattle, ten old sows. one boare, ten of the goates now in the plantation, thirty of the turkeys now upon the plantation, nine old howes and cooke and other to make up the same number, ten other fowls on the plantation, one large copper, two iron pots, all the pewter on the plantation, all the tools or whatever kind belonging to the plantation, a table cloth and twelve table napkins, all the tables boards forms and stools, one hammock for sake of the servants, one muskette. (BDA 1641b)

Fig. 3 Ming porcelain bowl from the 17th-century context at Locus 1, Trents Plantation. Material derives from the East India trade. (Photo by author, 2013.)

Two years later, Daniell Fletcher was involved in a second mortgage transaction. This mortgage shows him repurchasing a half interest in the estate from Johathan Hawthane, who, in turn, had acquired it from Christopher Codrington.[27] The list of laborers on the estate in 1643 includes five indentured and eight enslaved laborers (BDA 1643c).[28] The eight enslaved laborers included five men: Tony, Mingoe, Grange, Mall, Butler; and three women: Maria, Judy, Nell. The indentured laborers, all called servants, were listed as John Chittenden, Moses Watkins, John Richards, Gloomer, Richard Grymes. The inventory of possessions on the estate includes

[26] Note that all but the "two Frenchmen" are listed by name. This probably reflects a different basis for indenture; they may have been captured off a French vessel and were likely to have been Roman Catholic. In any case, they were defined differently.

[27] This was an era of growing financial speculation aimed at securing profits from contracts on cotton. This type of transaction shows that, even before sugar swept the island into large-scale capitalistic marketing of cash crops, Barbados was already experimenting with this form of capitalism.

[28] Daniel Fletcher had obtained the enslaved laborers as part of a separate land transaction that included the enslaved African laborers as part of a property transaction, and they were apparently then moved to what was then "Fort Plantation."

> 12 head of cattle young and old with their increase, 1 mare, 12 head of cattle, 1 mare, 1 colt, 5 sowes, 1 boare, 11 hamackoes, 1 Spanish duck, 1 horse, 2 whipsawes, 11 musketts, 2 bibles, 1 pewter basin, 1 pewter pint pott, 5 howes, 4 bills, 1 axes, 1 jug, 1 table cloth, 6 napkins, 1 copper, 1 frying pan, 1 batinge iron, 2 iron pots, 1 brass grater, 11 old pewter plates, 4 old pewter platters, 1 engine [cotton gin], 1 broad axe. (BDA 1643c)

From these lists it can be seen that, even though Daniel Fletcher's holding at “Fort Charles” (Trents) Plantation is rather substantial for the pre-sugar era, his list of possessions is still relatively sparse. Dozens of inventories examined from small pre-sugar-era plantations consistently record sales and mortgages that list buildings, laborers, and goods on the estates. Nearly all show considerable detail in what is recorded, but also a paucity of goods listed per inventory. These transactions usually indicate that certain personal items, such as chests and hammocks, were withheld from the deed. For example, a mortgage made by Thomas Waller on a small tobacco- and cotton-producing plantation in the parish of St. Lucy notes the exclusion of personal property, including "one chest, one trunk, one hammock and wearing clothes" (BDA 1643d). Property included in the mortgage consisted of two indentured servants along with their hammocks and clothes. The list of animals on the estate included only one boar, a sow, and some dunghill fowl. The material goods included three muskets, a fowling piece, one brass kettle, two hoes, four bills, one broad ax, several plains and joiners, a chisel, a gouge, two augers, 50 ft. of boards, one lamp, one water cask and salt barrel, one stone jug, five wooden platters, five spoons, one ladle and half tub, and one case of empty bottles. The production of cotton and tobacco is indicated by the presence of two cotton gins and two tobacco wheels (used to twist ropes of tobacco). Many of the inventories list from one bottle to a case of empty bottles, not only illustrating that glass bottles were continually reused, but, as relatively scarce items, they were reused as generalized containers for liquids. Over the course of their use they probably held a variety of liquids, from water to spirits.

Even less material wealth was represented in the holdings on the small tracts of land. For example, Alexander Nicolls and Sanders Nickolls sold a 20 ac. parcel to William Fait and Alexander Walker on 17 July 1643 for 1,200 lb. of merchantable tobacco. The parcel included "fallen and unfallen" land. The inventory included only 3 sows, 3 goats, 10 pigs, 8 turkey hens, 2 cocks, 6 “dunghill fouls,” “and all the tools and kettles and other things now belonging to the plantation” (BDA 1643a). Finally, a half interest in 16 ac. of land was sold by Henry Harford to William Halloway, recorded 10 January 1641. It lists only "one iron pot, two treys, one bowl, half of all the boards, tables, benches, one new axe, one old axe, one hatchet, two old bills, two old hoes, and half of the implements on the plantation" (BDA 1641a).

Like many of the other inventories dating from the late 1630s to early 1640s, the records for Trents Plantation provide a glimpse into the rise of cotton production on the estate during the early 1640s. The 1643 inventory for Trents included one engine, or cotton gin, that probably operated as a simple pair of horizontal rollers and a hand crank. By that time, prior to the rise of sugar, cotton had emerged as the commodity of capital exchange. Moreover, these mortgages indicate a trend toward the use of capitalistic forms of investment in commodities and the use of enslaved labor on the eve of the introduction of sugar. Hence, even before the rise of sugar and the dramatic shift in scale and social relations, labor was being defined in terms of capital to gain finances and goods needed to operate the estate (BDA 1643b). However, based on the trajectory of Trents Plantation, cotton production remained a fairly small-scale operation and did not substantially alter the layout of the estate, the positioning of laborers in close quarters with the planter, or the record of material use at the site. However, beginning in 1643, following the dramatic financial success of sugar by James Drax and others, financial backers were more than willing to invest capital to transform what had been relatively unstructured, undercapitalized, and uncleared forested, lands to create sugar plantations, and this is exactly what the 1646 John Hapcott map depicts.

Archaeology and History of the Shift to Sugar, Slavery, and Capitalism

By 1646, London financial brokers were willing and able to put up substantial capital to acquire "Fort Charles" Plantation. Three years earlier, James Drax, after visiting the Dutch plantations in Pernambuco, had

successfully produced sugar at plantations like Drax Hall.[29] He and a small group of planters established ties with English and Dutch financiers, arranged for shipping, and negotiated contacts on future sugar crops. This group would often work together, taking half interests in or providing access to mills and factories to process the first season's sugar prior to the completion of rapidly constructed mills and sugar factories. Sugar grew well and demanded a high price. Based on initial successes, James Drax and others rapidly expanded sugar operations by taking on a series of investors and business partners. Among them was entrepreneurial capitalist Thomas Middleton, the man who brokered the deal with London financiers to convert what would later become Trents Plantation to sugar. Middleton had already partnered with James Drax and later bought "The Mount" sugar plantation from Drax. (Harlow 1925, 1926; Dunn 1972; Campbell 1984a, 1984b, 1993; Ligon 2000, 2011; Gragg 2003; Beckles 2006; S. Smith 2006; Parker 2011; Newman 2013).

Early sugar estates drew upon a confluence of high prices and dramatically expanding markets for sugar, laissez-faire governance, significant technological innovations in both factories (batteries of coppers) and mills (first, the shift to a vertical three-roller mill, followed by the introduction of the wind-powered mill). They insured their supply of labor by transitioning to a reliance on African labor made available by the expanding Atlantic trade, and they had access to abundant capital from English and Dutch investors. Sugar production involved an intensification of both agro-industry and labor, and neither was cheap. In spite of high investment costs, sugar could be very lucrative for investors and planters. With sugar production, land values increased dramatically, in part due to investor's willingness to invest capital in new projects involving sugar. As a result, the island was rapidly developed, and the intoxicating nature of this new wealth dramatically changed concepts of land and labor relations, including the acceptance, enforcement, and, finally, formal legal "legitimization" of slavery. Even though no single element involved in the shift to sugar in Barbados was in itself unique, it was the combination and timing of this confluence during an era of political turbulence and resulting void of consistent governing authority in England, combined with the dramatic wealth created by these new agro-industrial plantations, that allowed structural changes associated with sugar production in Barbados to become so pervasive, so quickly, in ways that soon impacted not only the West Indies but the broader Atlantic World.

Archaeological studies of the cultural landscape make visible the cultural permutations of these changes spatially and materially, and show that all parties were invariably impacted and transformed. Having detailed parameters associated with pre-sugar plantations, I will now examine changes that occurred at Trents Plantation and throughout Barbados. The details on the Hapcott map indicate that, by 1646, within three years of the introduction of sugar on Barbados, the well-seasoned planter Daniel Fletcher either sold or lost his interests in the estate to the group of financers in a deal brokered by fellow planter Thomas Middleton, who was, at the time, deeply involved in financial dealings associated with the shift to sugar on the island.[30] The outline of the plantation on the 1646 Hapcott map foreshadows the changes that would soon occur on what would become Trents Plantation. In a short period of time, lands would be cleared and converted to sugar production with the construction of mills and a sugar-processing factory. Enslaved laborers from Africa would be purchased, and a new, separate village site would be constructed for them. In time the mansion house would be reconstructed, and all, except servants of the planter

[29] James Drax was reported to have been among the initial group of settlers backed by William Courteen and a group of London- and Dutch-based financiers. Father Biet, a visitor to the island in 1654, suggests that Drax and others lived in modest housing, including a cave, near Holetown upon their initial arrival in 1627 (Handler 1967:69). Biet, as translated by Jerome Handler, reported that

> [o]ne day old Captain Oldiph (one must note that all plantation masters carry the title of Captain or Colonel) related to me how this island had been settled, and said that he had been one of the first settlers. It was certainly some thirty years ago, he told me, when seven or eight Englishmen, among them Colonel Drax, entered this island having been carried there by one of their ships. They sheltered in a cave in the rocks. They lived by hunting, which was good enough, and from provisions which had been left them by the ship. They cleared a piece of land which they planted in tobacco, and this grew so well that they produced an abundance which obliged the head of the band to carry it to England-in-the first vessel they met. (Handler 1967:69)

Formal records of estate ownership begin in 1637, with additional details provided in individual wills and deeds designed to confirm ownership for sale or transfers through inheritance (Armstrong 2015b).

[30] Among other dealings, Middleton was a partner with James Drax and ultimately bought the Mount plantation from him.

Fig. 4 Industrial sugar drip jar associated with the post-1650s sugar era at Trents Plantation (Locus 1, ca. 1650–1680 context). (Photo by author, 2014.)

household, would be housed in a village located on a hillside, separated from the planter's house and plantation works.

The archaeological findings at Trents Plantation provide an example of the scale of dramatic change that occurred on Barbadian plantations in the mid-1640s. Though the initial focus was on the recovery of data from the early period of settlement, these data led directly to evidence related to the shift to sugar. The plantation's mansion house, illustrated on the Hapcott map, is still located on the site of the house depicted in 1647. However, with the rise of sugar and slavery, the configuration of the house and its surrounding plantation changed dramatically. The deeply stratified deposits located to the west of the Trents mansion house contain not only material from the earliest settlement, but also a series of mid-17th- to early 18th-century strata related to the transition to and emergence of a sugar plantation. These deposits are marked by a dramatic increase in the quantity and range of goods present. Most obvious among the materials present are large quantities of industrial sugar ware, including drip jars and sugar cones (Fig. 4). The sheer quantity of the thousands of industrial sherds present project the large scale of the sugar industry. However, this site was actually the domestic site, a midden primarily associated with the planter's residence, and even larger numbers of sugar wares are present closer to the core of the sugar factory on the northwest side of the mansion house (Fig. 5).

The domestic wares recovered from the 17th-century mansion-house middens include large quantities of tin-enamel ware, with everything from serving bowls and platters to chamber pots, along with ornate overglaze-decorated porcelain bowls and utilitarian stoneware storage vessels. Some domestic coarse-earthenware cooking vessels are present, along with relatively little slipware. The predominance of tin-enamel ware and Chinese porcelain are indicative of the known high economic status of the planters. This is further demonstrated by the wide range of glass stemware present and the presence of free-blown bottle forms, including both onion- and case-bottle forms. In contrast to the pre-sugar era context, bottle glass became an expendable item during the sugar era, with purchased contents unwired and uncorked and the bottles discarded.[31] Also found was evidence of rubble and quantities of items associated with the remodeling of the mansion house. Materials included an abundance of diamond-shaped mullion window glass and caming from leaded-glass windows that were apparently replaced. While these materials date to the 17th century, it is possible that the midden deposits actually date to a reconstruction or refurbishing of the mansion house at some point in the latter 17th or early 18th centuries. The property changed hands in 1669, 1674, and 1722, first transferred to William Dyer, then his children (Gibbes and Afflic), and finally to the Trents family (BDA 1669, 1674, 1722). From 1722 until 1844 (after emancipation), the estate was held by succeeding generations of the Trents family. While there is a continued gradual accumulation of domestic wares and refuse in these later deposits, there were no major episodes of accumulation, indicating no major design changes in the adjacent structure or purges of material goods.

In addition to the artifacts associated with the planter household for the period after the initiation of sugar, the plantation as a whole underwent a dramatic

[31] This change may be tied to overall changes in consumption and discard practice, but it is in sharp contrast with the continued paucity of and evidence of repeated reuse of bottle glass from the adjacent enslaved-laborer contexts (Locus 2, ISB3-2).

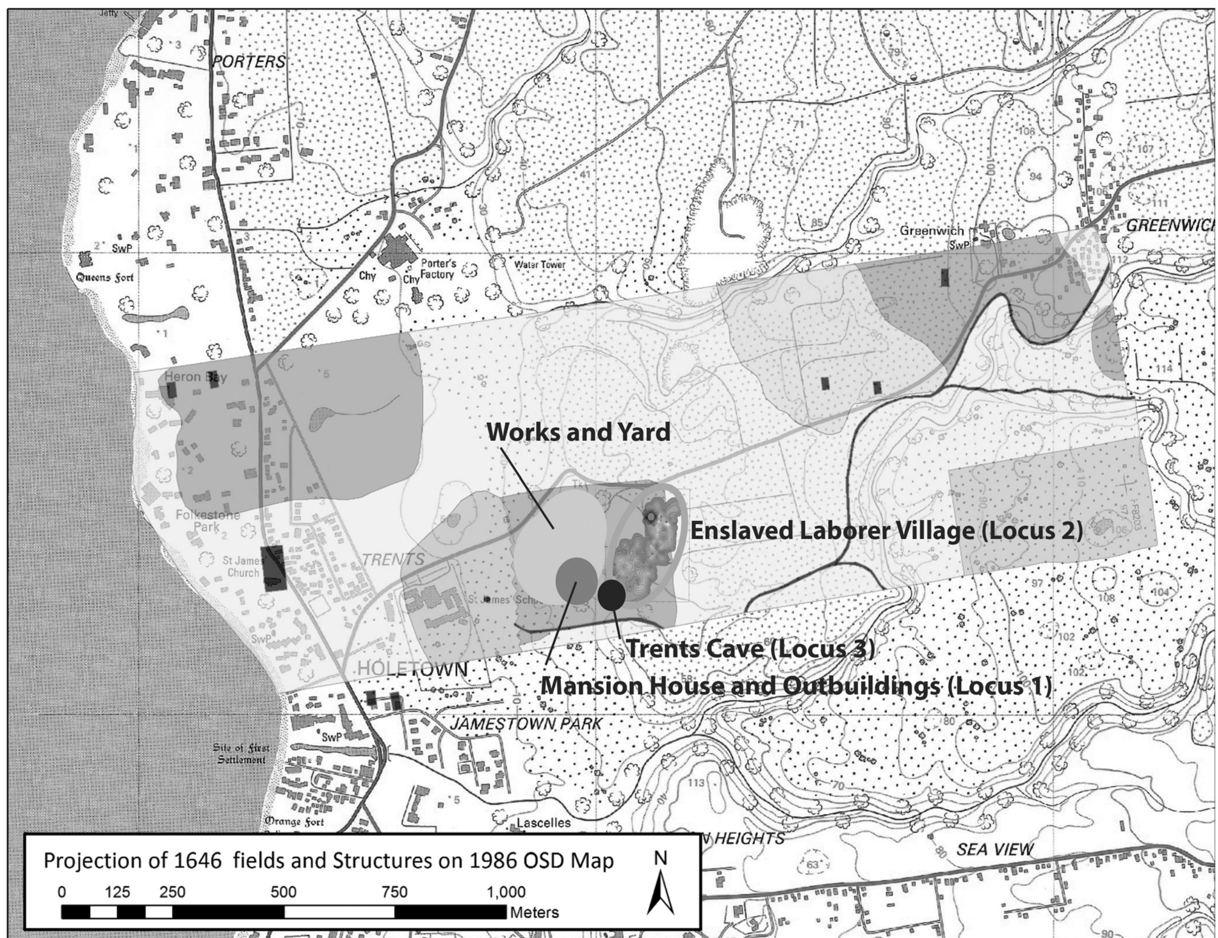

Fig. 5 Overlay map showing the layout of Trents Plantation: GIS map outline of early pre-sugar contexts on topographic map with the location of early settlement (*Locus 1*), sugar-era plantation house and sugar works (*Locus 1*), enslaved-laborer settlement (*Locus 2*), and cave site (*Locus 3*). (Map by author, 2019; base map ODS topographic map of Barbados, courtesy Barbados Survey Department, 1986.)

reorganization. Today the ruins of the mills and the sugar factory are visible, albeit now mostly reclaimed by the forest. These ruins were identified through field survey and are clearly identified on the 1825 Barrallier map of Barbados (Fig. 6). The records of the estate clearly indicate a dramatic and quick shift in the labor force with the shift to sugar, with indentured laborers all but disappearing and the number of enslaved laborers increasing first to 50, then 160, and finally to 176 by the time of emancipation. None of the historical accounts identified where the laborers lived. Fortunately, as part of the archaeological survey the plantation's enslaved laborer settlement was found on an adjacent hillside, close to, but separated from, the mansion/works complex and the sugar fields. This settlement is the only unplowed enslaved laborer settlement that has been found on Barbados. In all other cases, the villages were plowed under, and, in most cases, the land was put into cane when free laborers moved away from the plantation cores following emancipation.

This village (Locus 2, IBS3-2), dates from the period from ca.1650 to the period of emancipation (ca. 1838), at which time the site was abandoned, with the free laborers moving to Trents tenantry, located at the edge of the plantation. Extensive survey, including a systematic grid of shovel-test units has defined the parameters of this settlement. At least 14 house sites were defined, and 4 were intensively excavated (Fig. 7). The site extends from the convergence of three old plantation cart paths intersecting at the head of a gully where the paths come together and lead to the plantation yard and works (northwest). Shovel tests across the site

confirmed the domestic nature of house sites and illuminated clustering of artifacts associated with house middens (Fig. 8). While materials project a long period of occupation and house-area excavations confirmed the presence of 17th-century house floors (with quantities of sgrafitto slipware), the overall array of materials recovered from across the site projects intensive use during the late 18th and early 19th centuries, and then abandonment. Among the imported ceramics, 63.3% of 1,125 recovered from shovel tests were varieties of creamware, 30.0% pearlware, 2.1% slip- and tin-glazed wares, 3.3% stoneware, and only 0.9% porcelain. The majority of imported wares were bowl forms, and most were either plain, edge-decorated, or varieties of annular (or industrial-banded slipware on creamware and pearlware bodies). The enslaved-laborer settlement also yielded a variety of course earthenwares, but, in contrast to the material from near the mansion house for this period, the vast majority of the coarse earthenware, 92.9%, was domestic, rather than industrial sugar wares.[32]

The ruins of house structures reflect three construction techniques, all of which were built *onto* the landscape and not *into* it. Some were built on flattened limestone outcrops, others appear as shadows of small pebbles of limestone marl that is probably the residue of wattle-and-daub (mortar) construction, and others appear to have been built up on lines of rock that were used as foundations (Armstrong 2015a). Most of the materials recovered derive from imported goods—ceramics, glass, and iron—but each house site projects the use of locally made or modified wares. HA2 yielded three gaming pieces that appear to have been broken during manufacture, suggesting a form of household-specific craft production. HA3 and HA4 each had quantities of modified flint and glass, indicating the use of these materials as strike-a-lights to start fires, and HA3 had a spindle-whorl disk carved out of a piece of industrial sugar ware. Near the village a cave was discovered with groupings of iron and steel blades, and reground wrought-iron hinges that had been re-formed into daggers. The overall assemblage of this site (Locus 3, ISB3) projects its specialized and secretive use as a place of ritual and resistance (Armstrong 2015b).[33]

Whereas the period prior to sugar involved a small-scale operation in which everyone lived in close quarters and no one had an abundance of material goods, the shift to sugar is reflected in a dramatic modification in the cultural landscape that involved the expansion of industrial production and not only a definitive separation of the majority of laborers from the planter household, but a marked difference in material goods between the wealthy planter household and the enslaved laborer community. For the 17th century the vast majority of ceramics associated with the planter household were tin-enamel wares and expensive overglaze-decorated porcelains from the Far East, while the imported wares from the laborer village were mostly slipware, and a much higher amount of the overall ceramic assemblage was utilitarian course-earthenware pots and bowls. The spatial separation of the mansion/works from the laborer village also set up a sharp contrast in the proportions of industrially related earthenware, which accounted for a significant proportion of artifacts throughout the mansion/works complex (Locus 1). The shift projects the industrial focus of the planter and the resulting accumulation of capital that not only allowed for the acquisition of expensive wares, but the replacement of those items in cadence with popular trends among the affluent.

The dramatic difference between pre-sugar and sugar eras is also projected in the historical documentation of the site, not only including the differences seen in the 1646 Hapcott and 1825 Barallier maps, but also in the inventories recorded for the estate. The full expression of the shift to sugar is the increased value of the property. In 1669 it was acquired by William Dyer from a group of "various merchants," all of England, for £6,990 (BDA 1669).[34] By that time the scale of the sugar estate was such that transactions no longer included small items, such as the transfer of hoes or empty bottles. Rather, the deed included all lands and all "sugar works, negroes, Christian forths, cattle, stocks, ... and implements of household and of other things remaining and belonging on or about said plantation" (BDA 1669). William Dyer's will, 30 July 1674, provides some detail

[32] It is not yet known which, and what proportion, of these wares were made in Barbados or derive from off-island sources in England, Europe, or elsewhere in the Caribbean. Samples are currently being selected for chemical characterization of the paste using INAA (instrumental neutron-activation analysis).The composition of the glazes will also be assessed.

[33] The materials recovered also included the bones of several young lambs and evidence that they had been cooked on site.

[34] At the time of William Dyer's acquisition of the property in 1669, it was owned by the group of London investors and operated by Edward Body and Charles Bolam.

Fig. 6 Detail from the 1825 Barrallier map of Barbados showing sugar works at Trents Plantation, which was called "Ovens Mouth" in the 1820s and 1830s (Barrallier 1825).

related to wealth (BDA 1674). The bulk of the estate was to be passed on to Dyer's daughters. However, as a sign of Dyer's accumulation of surplus wealth, he bequeaths to his wife Bridgett two pearl necklaces, a diamond ring, an emerald ring, as well all other rings and jewelry, and her wearing apparel, along with an annual payment in sugar, together with a reasonable accommodation of meat, drink, washing, and lodging in the mansion house. Bridgett was also to receive "one negro woman called Bressy with one negro boy commonly called James together with one gray nag." Dyer specifies that he wants his children educated in England, and he bequeaths several hundred pounds sterling to be distributed among relatives. In addition, Dyer asserts that a payment of 3,000 lb. of muscovado sugar was to be made to the St. James Parish Church to be used "towards the building out to prentice to handicrafts trade the poor young laddes of the parish so that they may be comfortable by their trades," and 1,000 lb. of sugar to repair roads in St. James Parish. Finally, £20 was allocated for "mourning rings to be distributed among my friends" (BDA 1674). Estate inventories show a continued reliance on enslaved laborers, so that by the time the estate was passed on to Lawrence Trent in 1743 there were 160 enslaved persons (BDA 1743). From that point the size and scale of the plantation operation remained fairly constant through the period of emancipation in 1834, with 167 enslaved laborers registered in the final return of slaves (University College London

Fig 7. Floor surface, enslaved-laborer house site (House Area 1), Trents Plantation, Barbados. (Photo by author, 2014.)

Fig 8. Glazed earthenware recovered from the floor surface at the enslaved-laborer house site (House Area 1), Trents Plantation, Barbados. (Photo by author, 2014.)

2013). John Constant Trent received compensation of £3,396 9s. 5d. for Trents Plantation (at the time known as Owens Mouth) as part of a total reparation of more than £10,000 for the enslaved laborers on his four plantations.[35]

Conclusions

This article addresses Michel-Rolph Trouillot's (1995:xix) challenge to achieve the "exposition of history's roots." It uses archaeology to dig more deeply into current perceptions of the shift to an economy based on sugar and slavery in Barbados. The study examined the origins of capitalism in Barbados through the exploration of the historical record and archaeological findings from Trents Plantation. This site was part of the initial settlement of Barbados. It was operated as a small-scale plantation, and in 1646 began the process of transformation into a large-scale agro-industrial sugar estate. The combined archaeological and historical data illuminate the dramatic social and economic shift that occurred in Barbados in the 1640s. These data project the defining characteristics of capitalism.

Certainly, the roots of capitalism are much deeper than the 17th century and the form of capitalism that emerged in Barbados. Large-scale sugar plantations had operated successfully in places like Madeira and even more robustly in Pernambuco in the years leading up to the English settlement of Barbados. However, there can be no doubt that, like a match lighting a fuse, the changes that were set into motion in Barbados established a new capitalistic mode of social and economic production. The change that occurred in Barbados during the 1640s was based on a shift in the scale of agro-industrial production of sugar and the use of enslaved labor. The form of capitalism initiated there had a revolutionary impact on the trajectory of what many refer to as the "modern world."

The change resulted in a concentration of wealth among relatively few large-scale sugar producers. In the process the power structure of the island shifted first from the semi-feudal system of proprietors and then from the small landholders in favor of those who could leverage loans to create complex agro-industrial sugar estates. The rapidity of the shift to sugar was facilitated by the high price of sugar, access to capital, and unregulated laissez-faire operations by the English, at least until 1652, and by then the new system of capitalism based on the production of sugar and slavery was well established (Armstrong and Reilly 2014); see also Galloway (1977:177), Ligon (2000), and Campbell (1993).

If what was involved in the shift from small-scale farming to the agro-industrial production of sugar is critically examined, one would expect to find a clear demarcation in the archaeological record and in the spatial layouts defined on the historical maps made by John Hapcott in 1646 and in 1825 by Barrallier. This is

[35] The other three estates were Spring, Over Hill, and Ashton Hall.

the case at Trents Plantation. The historical and archaeological record of the site demonstrates dramatic changes in spatial and material use associated with the emergence of capitalism in the agro-industrial plantation setting. The changes that occurred in the 1640s can be contrasted with the tangible record of the small-scale farming of the earlier pre-sugar era. These data correlate directly with an emergent capitalist economic system in which vast profits were extracted from the land and its laborers, with capital wealth rapidly accumulated by planters and their financial backers in England. This change in the social and economic structure of Barbados fits well with the definition of capitalism. However, a dictionary definition of capitalism presents only part of the story of the social and economic implications of the practice of capitalism. The historical lack of recognition of capitalistic agro-industrial practices in the Caribbean may well relate to the popularization of the term more than a century after the shift to a capitalistic form of social and economic organization in the Caribbean. Assumptions of temporality have acted to limit the understanding of the early forms of capitalism in incipient, transitional, and early industrial forms. Thus, settings where capitalism emerged and where everything from raw agricultural products to processed goods and even people was commoditized, have been omitted in reproductions of history.

No single element of the system of sugar production and institutionalization of slavery that developed in Barbados was completely new or unique, nor was the capitalistic system associated with sugar static. However, the resulting shift in the scale of social and economic changes in Barbados, associated with the rise of the sugar plantation complex, was revolutionary and tragic. The dynamic capacity for profits initiated in Barbados spread rapidly through the expanding colonies of the West Indies. Given the economic success, and with a growing demand for sugar, similar capital-producing systems were established on plantations on French-, Dutch-, Spanish-, Danish-, and even Swedish-controlled colonies in the West Indies (Mintz 1985).

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