

Landscape Legacies of the African Diaspora in Brazil

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Abstract: Geographers have been reticent on the role of the African diaspora in the contouring of Brazil's biological and cultural landscapes. Whereas paradigm shifts have occurred in regards to environmental stability in the tropical realm and the pristine nature of pre-Columbian landscapes, these have not translated to a rigorous reassessment of the geographical position of Africans and their descendants as active agents in landscape evolution. In this article, we briefly examine the historical development of black diaspora scholarship outside of geography. We review the contributions of geographers and others to understanding the floristic homogenization of the Atlantic world set in motion by European exploration and colonization. Finally, by highlighting recent findings on the dynamic role of forced African immigrants in the process of landscape transformation, we hope to stimulate further geographical inquiry, improve pedagogical materials and advance in a modest way a recovery of the African contribution to the making of the Americas.

Key words: Africa diaspora, Black Atlantic, Brazil, culture-environment, plants in food, medicine and religion.

I Introduction

The publication of historian C.L.R. James' book, *Black Jacobins*, in 1938 established the conceptual approach that would guide the burgeoning research interest in the African diaspora evident from the second half of the twentieth century. In setting the struggles of San Domingo's (Haiti's) slaves for freedom against the convulsions of revolutionary France, James moved slaves from the background to the center of his account and examined their struggles for freedom in a transoceanic context of challenges to European political-economic domination. His work revealed the value of situating black history and culture within the Atlantic world, which depended vitally on

enslaved labor for economic expansion. The long-standing resistance of the enslaved to bondage emerged an important research focus from the 1970s in numerous studies that chronicled slave resistance and rebellion in plantation societies. James' legacy in thinking of the Atlantic as an intellectual and historical-geographical unit is again quite apparent in the profusion of recent historical, sociological and anthropological studies on the African diaspora.¹ Geographers, however, have been slow to take up the challenge. The burgeoning literature on the Black Atlantic has not wrought similar commitments, even though this paper contends that the discipline could conceivably make a substantive contribution.

This article takes up the challenge by its focus on Brazil, where more slaves landed than any other part of the Americas. The tropical environments in which they were forced to work resembled those already known to them in Atlantic Africa. Emphasis is placed on relevant geographical research on culture and the environment that holds considerable potential for illuminating the African experience in the Americas. Divided into three principal sections, the discussion begins with the profound shift that has occurred in views of tropical environments as a result of geographical research on the legacy of Amerindians as landscape managers. An overview of relevant scholarship on culture and environment shaping current interest in the Black Atlantic is the focus of the next section, while the remaining section identifies research directions relevant to geographic expertise.

II Geographical perspectives on nature-society relations in tropical Brazil

Our understanding of the relationship between nature and culture in Brazil's humid tropical landscapes has undergone significant shifts in recent years. On the one hand, these habitats are viewed less as the consequence of benign and stable environmental influences, and more as landscapes shaped by natural disturbance – successional mosaics of animal and plant communities shaped by episodes of drought, cold and fire. Periodic disturbance, ranging in scale from tree falls to continent-wide climatic perturbation, has displaced environmental quiescence in efforts to explain nature's dominant creative force in the tropical realm (Colinvaux, 1993; Zimmerer, 1994; Whitmore, 1998). At the same time, the notion of pristine, pre-Columbian tropical environments has withered with recognition that most or all of these landscapes are profoundly humanized in nature. Presaged by the writings of geographer Carl Sauer, these protean forests and savannas are seen now increasingly as the products of millennia of ingenious actions by native societies, large and small, to secure a living in a difficult environment. People, as environmental agents, have been reintroduced to the humid tropics, both as defenders and despoilers of native biodiversity, depending on one's perspective (Sauer, 1963; Hecht and Cockburn, 1989; Denevan, 1992; 2000; Balée, 1994; Dean, 1995; Smith, 1999; Mann, 2002).

These challenges to outdated paradigms have not, unfortunately, stimulated a similar reassessment of the role of the African diaspora in the contouring of Brazil's biological and cultural landscapes.² Indeed, one might gather from the geographical literature that the technical skills and traditional knowledge brought by some four million forced immigrants arriving over the course of nearly four centuries had left no physical or cultural imprint whatsoever. Certainly, the opportunities for introducing material

culture and traditional lifeways were severely constrained, and much was irretrievably lost during the Middle Passage to the Americas. From the sixteenth century, Brazil was an evolving extension of Portuguese civilization, and chattel slaves were no more encouraged to introduce their modes of subsistence and systems of belief than were livestock. That they were forced to labor in the export-based plantation system contributed to their representation as animated commodities, carrying out routinized work for their masters.

Yet enslaved Africans transformed the landscapes of tropical America, not merely for plantations but also for subsistence, a process that established many foods of African origin in the diasporic Atlantic. While the plantation economy developed from Portuguese agency, slaves pioneered forms of landscape management that would serve their dietary preferences. In reclaiming swamps for cultivation, they relied upon their sophisticated knowledge of wetland farming to establish rice, a West African food staple (Carney, 2001a). Recognition of botanical families and genera, valued in Africa for medicine and poison, ritual and material culture, similarly led to conscious plant selection and environmental manipulation in the Americas (Ayensu, 1981; Voeks, 1997; Carney, 2001a). Such knowledge proved additionally critical in the survival strategies of runaway slaves (maroons), whose expertise in tropical farming nurtured their repeated attempts to establish free, independent African communities in the tropical-forest hinterlands of Brazil and the Guianas (Carney, 2001a). While the survival strategies of Afro-Brazilians were undoubtedly shaped by Amerindian achievements, the contribution of Brazil's black pioneers remains ignored. Yet their legacy in manipulating plant resources for subsistence, survival, resistance and identity resonates in Afro-Brazilian culture to this day.

III Shifting views in scholarship on the Black Atlantic

There has been a measured willingness, particularly by anthropologists and geographers, to concede that Africans played a significant role in shaping the cultural landscape of the Americas since 1500. Among the long-standing themes in African history in the Americas is the debate over cultural survivals and acculturation. This dates to the 1920s, when anthropologist Melville Herskovits first tried to show that it was a pernicious myth to believe that the African in the Americas had no past. He challenged the notion of sociologist E. Franklin Frazier that slavery had stripped its victims of their African heritage. Over the next decades, Herskovits and his followers searched for the retention of specific African cultural traits in the Americas, emphasizing carryovers in language, the arts and especially religion (Herskovits, 1941). Much of this research, however, subsequently drew criticism for treating Africa as a single cultural area, a concept of culture very much in fashion at that time, but inaccurate in portraying the diversity and complexity of cultures found in just West Africa alone (Mintz and Price, 1992). The search for vestiges of an African culture in areas where he and his followers worked – Suriname, the Caribbean and the US South – consequently proved so generalized as to provide little understanding of the distinctive black cultures that formed in the Americas.

Rejecting the value of merely identifying African traits in the Americas, anthropologists Sidney Mintz and Richard Price emphasized instead the process of cultural

change. They argued that cultural fragmentation and the formation of plantation societies of bondsmen from disparate ethnic origins were typical of the slave experience. Enslavement therefore forced those in bondage to forge their own culture around the cultivation of specific crops in different geographic regions within a setting where plantation owners exercised an absolute monopoly of power. African origins served as no more than a cultural denominator for slave adjustment to bondage but resulted in uniting diverse African traditions into the distinctive black cultures of the Americas. Thus, enslavement structured the cultures they created far more than any traits or retentions previously regarded as representative of a broader African 'culture'. This emphasis on syncretic cultures shaped from African origins profoundly influenced studies of black cultures throughout the African diaspora in the last quarter of the twentieth century (Mintz and Price, 1976; Joyner, 1984; Creel, 1988; Vlach, 1990).

Nowhere was this more the case than in the study of African-derived religions, where some of the best historical and ethnographic work along this theme emerged (Bastide, 1971; 1978; Bascom, 1980). The convergence of West African and Catholic belief systems into syncretic religions, already under way even prior to the Atlantic crossing, intensified among slaves in Brazil and included its earliest maroon societies (Anderson, 1996). Unlike other African immigrant cultural elements, syncretic African-American religions were viewed by scholars beginning in the 1970s less as products of subordination by the weaker slave society to European domination and increasingly as dynamic symbols of manipulation and resistance from the bottom up. Based on extensive archival and ethnographic work in Africa and the Americas, this work was likewise sensitive to the diversity of African cultural origins as well as to the proactive role of individuals in this transferal and transformation of the 'New World's' religious landscape (Verger, 1981; Elbein dos Santos, 1986). African-based religious and ethnomedical systems not only arrived and survived, they argued, but also ultimately expanded their umbrella of influence, in some cases dramatically. Haitian Vodun spread from its eighteenth-century introduction into New Orleans to the northeastern and southwestern USA. Bahamian Obea men settled throughout the Caribbean, the southeastern USA, and Panama. Cuban Santería, a diasporic Yoruba belief system that is steeped in African knowledge and customs, has diffused to Florida, New York and California, and even as far as Venezuela and Spain. Candomblé and its offshoots, likewise tracing their roots to the peoples of the Bight of Benin, have navigated nearly every corner of the Brazilian territory (Cabrera, 1971; Pollak-Eltz, 1972; Brown and Bick, 1987; Davis, 1988; Voeks, 1993; Brandon, 1993; Olmos and Paravisini-Gebert, 1997).

Research on plantation economies has similarly departed radically from previous assumptions. In a seminal work, historian Peter Wood (1974) moved blacks from the background to the center of analysis by showing the context in which slaves forged a new way of life around the cultivation of rice. He argued that the emergence of rice as the chief plantation crop in South Carolina owed a great deal to the fact that many West Africans, unlike the European colonists, were practised in rice cultivation before their forced migration to the Americas. In emphasizing the skills that Africans of specific ethnic groups brought to the Carolina frontier, Wood's insight shifted the research emphasis in plantation studies from cultural *change* to cultural *exchange*. His work also challenged the long-held notion that slaves contributed only unskilled labor to the plantation economies of the Americas. The emphasis of Wood and, later, Daniel Littlefield (1981) on the diffusion of skills from West Africa to South Carolina in rice

cultivation explored new terrain over the earlier debate between followers of Herskovits and those of Mintz and Price. Abandoning the chiefly cultural concern of anthropologists with plantation societies, they emphasized instead agriculture and, thus, the cultural-environmental forms of knowledge that informed the emergence of one plantation system based on rice. Their work showed how Africans from diverse ethnic groups in West and Central Africa thrown together in slavery created a new way of life in coastal Carolina where a cropping tradition known to some of them emerged as the plantation staple.

Drawing upon fieldwork and archival research on rice systems of the Black Atlantic, Carney (2000) brought a geographic perspective to historical research on Carolina rice beginnings. She identified the contours of an indigenous system of rice farming in West Africa that diffused to the Americas in the early colonial period. African origins are evident from field to kitchen – in the use of similar cultivation techniques, agricultural implements, milling devices and cooking styles that ethnic groups from West Africa's rice-growing region established in the Americas with enslavement.

Paul Richards' (1996a; 1996b) notion of 'agrarian creolization', the process by which farming systems associated with specific African ethnic groups creolized with the diffusion of rice in West Africa, offers a way to move beyond the essentialist debates on African agency that plagued Herskovits and his followers. In Richards' view, crop diffusion across geographic space often brings farming systems of different ethnic groups into contact. A process similar to linguistic creolization unfolds, with innovation at times the outcome. The history of rice diffusion in West Africa supports Richards' insight. As Mande-speakers disseminated rice cultivation from the inland Niger Delta in Mali to the south and southwest, they came into contact with West-Atlantic-speakers who farmed mangrove soils; the result was an innovative rice system that likely served as the prototype for the Carolina plantation system (Carney, 2003). Diverse environmental knowledge systems shaped the tropical landscapes settled by slaves and maroons. In manipulating environmental resources for survival and resistance, they drew upon diverse traditions, thereby creating the habitats that sustained the distinctive rural black cultures of the Americas. In linking African environmental knowledge systems to ethnicity, and Neotropical landscape transformation to plant preferences and resistance, these studies offer a geographical perspective on the Black Atlantic.

The conquest and colonization of the Americas also heralded a biological exchange, inadvertent and purposeful, of unprecedented proportions. Judged by the glacial momentum of most biogeographical processes, the pace of floristic exchange between the New and the Old World can be reasonably described as frenetic. The successful transatlantic diffusion of African grasses in the seventeenth and eighteenth centuries, for example, having persevered over thousands of years of ungulate treading and chewing, represented 'one of the most rapid and significant ecological invasions in the earth's history' (Parsons, 1970: 53; 1972). The impetus for their introduction to the Americas remains a matter of speculation. Perhaps their potential economic value in the New-World ranching sector encouraged intentional introduction or, just as likely, they arrived inadvertently as seeds in the bedding of slave ships (Parsons, 1972).

Following geographer James Parsons' pioneering study on the botanical 'Africanization' of the Neotropics, a generation of botanists has tackled the problem of alien invasives, mostly from the point of view of the inherent vulnerability of American

ecosystems to exotic invasion (cf. Baker, 1986; Filgueiras, 1990; Van Driesche and Van Driesche, 2000). The threads of this biological collision, five centuries in the making, have been masterfully woven together by historian Alfred Crosby (cf. Crosby, 1972; 1986; 1994). His work chronicles the transatlantic exchange of peoples, plants, animals and pathogens, drawing particular attention to the role of seeds of Amerindian origin in the Old World and to Europeans in their global diffusion. An enduring legacy of his research was to place culture and environment in a new relationship through the dramatic transformations that occurred in Old World ecosystems. Yet, for Crosby and others, this ‘Columbian Exchange’ was at its core a historical ecology of European endeavor. Through maritime voyages, Europeans introduced Asian, Amerindian and European crops to new regions, forever changing the food systems, economic history and lives of ordinary people, as the Irish potato famine and the significance of the tomato in Italian cuisine, the chili pepper in Asia and the peanut in Africa so tellingly reveal.

However, conceptions of the Columbian Exchange fail to credit Africa or its peoples with any significant contribution to international plant exchanges. The ecological impact of several million arriving Africans, one is left to assume, was limited to their role as vectors for the introduction of Old World diseases (McNeill, 1999). Yet the continent that gave birth to *Homo sapiens* as a species, and where modern humans have likely existed for more than 100,000 years, also participated fully in the process of agricultural domestication. Over a period from 3000 to 8000 years ago, Africans domesticated plants in three cradles of agricultural domestication: in the Ethiopian highlands, along the inland delta of the Niger River in Mali, and in the savanna-rainforest ecotone of Cameroon and Nigeria. Food staples such as African rice (*Oryza glaberrima*), yams (*Dioscorea cayenensis*, *D. rotundata*), pearl millet (*Pennisetum glaucum*), oil palm (*Elaeis guineensis*), sorghum (*Sorghum bicolor*), okra (*Hibiscus esculentus*), black-eyed peas (*Vigna unguiculata*) and watermelon (*Citrullus lanatus*) figure among the more than 2000 native grains, roots, fruits, vegetables, pulses and oil crops that have been feeding Africans for millennia (NRC, 1996; Harlan *et al.*, 1976). Seeds from these plants arrived in the Americas as provisions aboard slave ships, providing those in bondage with the opportunity to establish their dietary preferences for subsistence, which would result in the cuisines that bear the signature of Atlantic Africa (Carney, 2001b).

The broader ethnobotanical corpus developed in Africa over millennia also included plants used for stimulants, medicinals, ritual and magic. Contemporary Afro-Brazilians, for instance, recognize that elements of their local ethnoflora also inhabit their ancestral West African homeland. Several vernacular plant names used in healing and Candomblé religious practices translate from Portuguese as ‘leaf of the (West African) coast’ (*folha da costa*), such as the domesticated African kola nut (*Cola acuminata*) (*obí da costa*) and melegueta pepper (*Aframomum melegueta*) (*pimenta da costa*). Some African plants like *akokô* (*Newbouldia laevis*) are known in Brazil only by their Nigerian Yoruba lexeme, while others refer to the Yoruba religious pantheon, present on both shores of the Atlantic: *tapete de Oxalá* – Oxalá’s carpet (*Plectranthus amboinicus*); *espada de Ogun* – Ogun’s lance (*Sansevieria* cf. *aethiopica*); and *tiririca de Exu* – Exu’s tiririca (*Scleria* spp.) (Voeks, 1997: 29-31). The legacy of these African natives resonates in the plants that form the cornerstone for cultural identity, healing and religion in Afro-Brazilian culture to this day.

The introduction of plants of African origin – edible, medicinal and spiritual – and

the plausible role of slaves and their descendants in adapting them to tropical environments of the Americas have only recently begun to receive consideration among geographers (Voeks, 1993; 1997; 1999; 2000; Carney, 1993; 2000; 2001a; 2001b). Previous neglect derived from the racial and male bias of so much inherited scholarship, which cast Africa and its peoples as a backwater of the global economic system, intrinsically devoid of civilization and its accomplishments. African religious achievements, almost without exception, were cast as peculiar forms of paganism and devil worship, too steeped in occultism to merit serious attention. As bondage placed males and females in the social category of slaves, scholarship dispossessed them of their pre-existing ethnic and gendered forms of knowledge, robbing them of their real contributions to the Americas. African food, medicinal plant species, and healing systems were similarly ignored. The historical botany of West Africa's indigenous food staple, rice, for instance was not widely known in the anglophone world until the 1970s (cf. Portères, 1970; Lewicki, 1974; Harlan *et al.*, 1976).

Botanical research on African domesticates generally avoids discussion of the role of slavery in plant dispersal (Carney and Hiraoka, 1997). Instead, the focus is on whether the species is native or a 'recent' introduction, natural forms of introduction such as the chance arrival of plants like the bottle gourd (*Lagenaria siceraria*) to the Americas that made the transatlantic voyage on their own (Richardson, 1972), and African plants like coffee and oil palms that became global commodities (for notable exceptions, see Grimé, 1976; Otedoh, 1977). The literature remains largely silent on plants that slaves established and the plant families whose properties they recognized for medical, liturgical and practical purposes.

An exception is the sacred kola nut (*Cola acuminata* and *C. nitida*), much coveted by Africans and their Brazilian diaspora. Known in Nigeria and Brazil by the Yoruba name *obí*, kola has a lengthy history as a trade item. Native to West Africa, it formed the mainstay of the twelfth- to sixteenth-century Arab trade route from the Gulf of Guinea across the Sahara to North Africa. During the nineteenth century, this demand stretched to the diasporic African populations, where the nuts were employed in religious ceremonies and as a stimulant. Among those who profited from this enterprise was José Francisco do Santos, a Brazilian slave who purchased his freedom and returned to Dahomey (Benin). He carried on a successful business from the 1840s to the 1870s shipping palm oil and kola nuts to Bahia (Verger, 1952). Seeds were undoubtedly planted during this period, for by the early part of the twentieth century Afro-Brazilian religious leaders were employing naturalized *obí* in divination ceremonies (Voeks, 1997).

As a result of these research biases, scholars have been slow to consider the proposition that slaves may have actively shaped landscapes of the Americas not solely by their brawn but also with their brains. As geographers working on Amerindian cultural-environmental contributions to the Americas have learned, white political control over indigenous populations in the colonial period did not totally vanquish the knowledge systems of those forced to survive at the margins of society. Nor was this likely the case with those enslaved, the black pioneers of the Americas who formed a numerical majority in many areas of the Americas, including South Carolina over much of the colonial period. However, research supporting their initiative in transferring irrigated rice systems and milling technologies to South Carolina, strikes deeply into one widely held belief in western culture. The feature that presumably distinguishes

Europe and its culture from others that would subsequently form the 'third world' is the supposed preeminent mastery of technology, to which the political-economic hegemony of Europe and the USA is attributed. In this view, the direction of technology flow and concomitant landscape features diffused across geographic space by slaves providing brute labor for major transformations prompted by Europeans, not the reverse (Adas, 1989; Blaut, 1992; Carney, 1993). Although historians are chipping away at the notion that slaves were minor elements in the shaping of the cultural and agricultural landscape of the Americas, geographers have been slow to consider the possibility that Africans, through their own indigenous skills, traditions and, significantly, indigenous knowledge systems, may have made important contributions. A focus on the plants that reaffirmed African subsistence patterns and belief systems represents a beginning for evaluating such considerations.

IV A challenge to geographers

The vital role of Amerindians in creating the landscapes of Latin America has long been a significant focus of geographical research. Geographical studies on indigenous landscape formation, land use, resource-management strategies and knowledge systems have contributed profoundly to the contemporary interest in historical ethnography, environmental history, agro-ecology and indigenous/local knowledge (Denevan, 1970; 1992; Wilken, 1987; Hecht and Posey, 1989; Matthewson, 1990; Butzer, 1990; 1992; Bebbington, 1991; Gade, 1992; Whitmore and Turner, 1992; Doolittle, 1995; Zimmerer, 1993; 1995; Sluyter, 1994; Dunning and Beach, 1994; Knapp, 1998; WinklerPrins, 1999). Research on the cultural and biological landscapes of the European diaspora to the Americas has, moreover, placed the post-Columbian transition wrought by Iberians in broader historical-ecological context (Butzer, 1992; Zimmerer, 1996). However, the role of Africans in shaping Latin American landscapes and biodiversity remains poorly researched. This is surprising, since slaves accompanied the first Iberian settlers and formed a numerical majority among immigrants over a broad area of the Americas, where Amerindian populations often vanished after the appropriation of their lands, succumbing to disease and genocide.

For nearly four centuries, more than 10 million slaves were forced into bondage in the Americas. Even the most conservative estimates of involuntary African migrants place the number of slaves entering Brazil at nearly four million, almost half of the total number of Africans forced across the Middle Passage to the Americas (Curtin, 1969: 268; Klein, 1986; but compare with Conrad, 1986).³ The effects of this massive forced migration proved especially profound in Brazil, where Bernardo Pereira de Vasconcelos claimed to the Brazilian Chamber of Deputies in 1843 that 'It is Africa that has civilized Brazil' (Suret-Canale, 1988: 67). In effect, a whole material civilization, including nutritional and spiritual practices, was implanted in Brazil, not only in the African populations but also among those of European origin. Practices that forged African identity became the signature of a vibrant Afro-Brazilian culture that endures to this day in cuisine, religion, crops and landscape management.

Research on the history of the African diaspora has grown exponentially in the last decade. Special symposia, newly established PhD programs in Diaspora Studies, faculty positions and book prizes underscore the emerging recognition of this area of

scholarship (Coniff and Davis, 1994; Davis, 1995; Geipel, 1997; Segal, 1995; Schwartz, 1992; Okpewho *et al.*, 1999; Palmer, 2000; Restall and Landers, 2000). Scholars are reexamining the African and African-American experience in terms of race relations, community identity, family, linguistics, music, religious syncretism, miscegenation and identity, and many other areas of investigation, from a fresh perspective. This rapidly evolving paradigm shift, rather than marginalizing the enslaved and their descendants at the periphery of power and influence, 'properly situates Africa and her diaspora actively within the complex of New World history' (McLeod, 1999: xix).

While the cultural impact of the African diaspora on 'New World' societies is currently a robust research area among anthropologists and historians, the environmental knowledge systems that informed slave survival in the Americas have not emerged as a focus of scholarship.⁴ This is a promising arena for research by geographers, for it places the cultural concerns of anthropologists and historians working on the Black Atlantic within an environmental matrix. In bridging the social and biological sciences – a hallmark of a geographical perspective – geographers can make a valued contribution in the same way they have done with illuminating the Amerindian legacy.⁵ In the words of geographer Carville Earle, the challenge requires 'a reacquaintance with the rural worlds of American history, a patient tracing of the manifold agrarian connections between nature and culture in worlds we have lost, a suspension of modernity's disbelief in the extraordinary power of prosaic agrarian systems, and, in the process, an exposition of a new interpretation of the American past' (Earle, 1992: 9).

The historical recovery of the legacy of African environmental knowledge systems in the Americas demands intellectual engagement at the historical juncture when plantation slavery was imposed on the terrain of Amerindian populations that were often decimated. While Africans would transform indigenous landscapes for European plantation agriculture, their botanical heritage shaped the tropical environment in subtle ways that strengthened their survival and resistance to bondage. Attention to the plants that succored slaves during illness or flight from slavery and in times of spiritual need, offers a promising geographical approach. The significance of such plants for providing slaves and maroons a cognitive map for survival in the Americas is still evident in their use for edible, medicinal and spiritual purposes in key diaspora areas of the Black Atlantic, such as Brazil.

The engagement of geographers in the nascent field of research on the African landscape legacy in the Americas carries both practical and theoretical implications. On the one hand, field research on tropical plants and botanical knowledge has in recent years revealed a wealth of potential resources – as foods, fibers, fuels and medicines – that remain hidden in the collective memories of traditional societies, native and immigrant. Rare and/or poorly documented cultivars are increasingly viewed as integral to the design and management of sustainable agro-ecosystems and commercial export-based enterprises (Alcorn, 1989; Gliessman, 1990; Voeks, 1996b). Bio-prospecting for pharmaceutical drug plants has been a particularly fruitful, if controversial, line of field inquiry (Bannister and Barrett, 2001; Cox, 1999; Voeks, 1996a; Voeks and Nyawa, 2003). Ironically, as the value of these plant resources is beginning to be revealed, the combined forces of destructive land use and erosion of traditional domains of knowledge threatens their anticipated contribution to appropriate development and the continued sustenance of rural tropical peoples (Cox, 2000). As the process of tropical

deforestation proceeds, the potential for identifying and utilizing much of tropical nature's providence, whether for consumption or for healing, is irretrievably lost (Balick *et al.*, 1996; Balick and Cox, 1996; Brush and Stabinsky, 1996). A focus on under-researched Afro-Brazilian communities, located in the eastern Amazon and the northeast regions of Brazil, offers novel venues for examining the plant knowledge developed by the country's black pioneers. Study of such contributions will assist in chronicling the contributions of slaves and maroons to the making of the Americas in a manner similar to the advances made in scholarship over recent decades on the Amerindian legacy (e.g., Weatherford, 1988; Piperno and Pearsall, 1998; Denevan, 2000).

V Conclusion

A geographical perspective on landscape legacies of Afro-Brazil promises to contribute to historical recovery of profound knowledge systems that African peoples introduced to the Americas, thereby improving pedagogical materials that too frequently cast slaves as passive agents in the shaping of Neotropical environments. Research on the plant resources they drew upon for food, propitiatory offerings and worshipping their own deities brings to the fore the role of Africans as active environmental agents. The agency of slaves and maroons would make a lasting imprint on Brazilian culture. In using edible, medicinal and spiritual plants of African origin for survival and religious practices, Brazil's blacks affirmed cultural identity and resistance while Africanizing an Iberian colony.

Geographic research on the plants that mediated African survival in the Atlantic World will challenge the erroneous belief that the millions of Africans who were forcibly settled in Brazil were nothing more than plantation laborers and that they transformed landscapes only under the direction of their masters. In recent decades, geographers have been at the forefront in revealing the Amerindian legacy in the Americas and the enormity of their contribution (Mann, 2002). Like native peoples and European settlers, Africans also shaped the landscapes where they settled to meet their cultural and spiritual needs. Research on the legacy of indigenous knowledge they have maintained in Brazil over the centuries thus offers geographers the opportunity to make a vital contribution to burgeoning scholarship on the African diaspora.

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Notes

1. Notable recent books that use the Atlantic as a conceptual unit for exploring the African diaspora include: Paul Gilroy, *The Black Atlantic* (1993); Michel Mullin, *Africa in America* (1992); Michel-Rolph Trouillot, *Silencing the past* (1995); W. Jeffrey Bolster, *Black jacks* (1997); Jane Landers,

Black society in Spanish Florida (1999), Peter Linebaugh and Marcus Rediker, *The many-headed hydra* (2000).

2. While this paper focuses on Brazil, there is painfully little geographical scholarship on the role of Afro-Latin populations in transforming the human and biophysical elements of Peru, Ecuador, Bolivia and Colombia.

3. This conservative estimate is based on existing documented arrivals. The number of those enslaved is likely much higher for several reasons. Many slaving expeditions left no written documentation while other records did not survive, especially in the earliest phase, prior to the eighteenth century. From 1807, when the British government made transatlantic slavery illegal and its navy patrolled the coast of West Africa to seize illegal slavers, the journeys of many clandestine ships were not documented.

4. The reasons for this are unclear. Geographic scholarship in Latin America does not often pursue this research; work on nature-society relations of the African diaspora remains a focus for anthropologists and historians.

5. While we have limited our examination to opportunities in the area of nature-society relations, these are not meant to preclude other lines of inquiry. We emphasize the transfer and transformation of traditional agriculture and ethnobotanical knowledge systems because of lack of scholarship and, of course, because this is the type of research we do, informed by a Berkeley Sauerian perspective. Other lines of inquiry directed, for example, at society-space/environment-place questions may also play a role in understanding such questions, for example, of altered gender relations before and after the Middle Passage, the re-creation of African religions, commodification and staged authenticity of African cultural elements, and Brazilian nature as socially constructed with reference to traditional African knowledge systems.

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