

States of Nature: Science, Agriculture, and Environment in the Spanish Caribbean, 1760-1940.
By *Stuart McCook*. Austin: University of Texas Press, 2002. xiv + 201 pp. Tables, illustrations,
photographs, maps, bibliography, index. Cloth, \$50.00; paper, \$22.95. ISBN: cloth 0-292-75256-
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Latin American and U.S. historians and economists have studied the history of the economic development of Latin America (agricultural, commercial, and industrial) for decades. More specifically, with modernization theory and the reactions to it that emerged during the 1960s—namely, the construction of dependency theory and of the world systems paradigm—historians have tried to understand the factors that created the region’s varying patterns of economic development and state-building. Some historians have studied railroads and infrastructure; others, the industrial and corporate expansion by the United States in the late nineteenth and early twentieth centuries; still others have tackled the role of technology and world economic systems; and some have even examined philosophical and religious factors. Very few, however, have tried to address Latin America’s primary-product export boom—and the propensity toward monoculture that skewed its economic development—from the perspective of an environmental historian. Stuart McCook’s excellent book attempts that task.

He argues that during the nineteenth century, when Latin America was engaged in state building, “[n]ation, economy, and nature . . . became deeply intertwined” (p. 1). McCook traces these intersections “in the Spanish Caribbean through a history of the agricultural and botanical sciences” (p. 1). His historiographic concerns, therefore, organize the structure of his book. He approaches Latin American history primarily from a scientific perspective, and, in this environmental history, concentrates on Cuba, Puerto Rico, Venezuela, Colombia, and Costa Rica.

McCook argues that the history of science provides few tools for understanding the transnational character of science in Latin America between 1800 and the 1930s. In describing the historiography of Latin America, McCook “seeks to dissolve the sharp distinction between ‘imperial’ and ‘national’ science” (p. 5). He claims that Latin American scientists appropriated models and institutions from abroad, primarily from the United States, and adapted them to local conditions. He agrees that historians of science have presented the natural sciences as essential tools for building empires and shaping how colonial powers such as Spain understood nature. However, he believes that this historiography has concentrated on the metropolis, failing to understand that the scientific development of this region has been transnational, or perhaps even

multinational. He makes the convincing point that plant science, from the time of its origins in both the United States and Latin America, was more international in scope and exchange than historians of science have realized.

Between 1800 and 1930, scientists, in the United States and especially in Latin America, tried to create a physical and cognitive reorganization of tropical nature based on scientific principles. In his first three chapters, McCook examines the early efforts of leading botanists to organize knowledge of the plants of the Caribbean basin. The initial effort in that direction was the creation of databases of plants, or “national flora.” Between 1760 and 1890, first the Spanish imperial government and, later, Latin American national governments organized botanical gardens, natural history museums, botanical maps, and agricultural experiment stations “in order to extend state power over the natural world” (p. 11). Many examples of scientific work in Costa Rica, Venezuela, Cuba, and Puerto Rico are cited, particularly the accomplishments of leading scientists like Henri Pittier and Carlos Chardón, whose work and contacts were both national and international in scope. For example, he describes Pittier’s work in Costa Rica and Colombia, citing his U.S. networks, and he shows how Chardón relied on his contacts with the U.S. Department of Agriculture and universities in the United States while he was conducting his research in Colombia, Cuba, and Puerto Rico. Moreover, McCook argues that the foreign–domestic alliances were necessary for the building of national inventories of floras, because complete scientific independence was not possible in small countries. Thus, the necessity of enlisting the assistance of scientists across national borders made Latin American plant science a transnational endeavor from its beginnings.

McCook also shows how botany evolved in tandem with the creation of independent states in the nineteenth century. Plants became a subject of interest to states when politicians realized that plans for economic progress required the improvement of their agricultural methods. Planters, too, supported the new work as they came to understand the importance of science in agricultural development. Massive changes in farming occurred with the development of hybrids (particularly sugarcane), the use of fertilizers, the establishment of experimental agriculture stations, and scientific work on plants. Countries moved toward cash crops and monoculture as new methods gave them a “competitive advantages” in the world market. Each government supported research projects on an ad hoc basis, depending on the likelihood that they would benefit the national economy. Because government funds were usually tied to domestic political concerns and to political connections, their distribution often changed as different administrations took office.

One source of private funding was the famed U.S. sugar magnate in Cuba, Edwin Atkins. Atkins recognized that it was essential to develop new, more prolific hybrids of sugarcane with greater resistance to disease. As McCook points out, “Until the late nineteenth century, the only way to obtain new cane varieties had been to import and acclimatize wild varieties from Asia” (p. 57). Atkins, however, established a botanical garden and an experimental station to breed hybrids in Cuba. By 1900 he had brought Harvard scientists to Cuba, and by 1905 he had created the “Harvard” cane. When Atkins died in 1924, he left a permanent endowment to the Harvard Biological Laboratory and the Atkins Gardens.

McCook concludes that the export boom of primary products in Latin America at the end of the nineteenth century and the beginning of the twentieth was inextricably linked to the environmental transformation of the region: “The planters’ single-minded pursuit of profit generated a host of environmental changes” that ultimately created a “hidden history of catastrophic environmental transformation” (pp. 5–6). McCook argues that the discovery of solutions to problems of disease in the sugar industry led to an expanding monoculture and a transformation of nature in the countries bordering the Caribbean. For example, “[t]he dramatic and ultimately successful scientific struggle to control the [sugarcane] mosaic disease had given scientists a new legitimacy in Latin America” (p. 104). During the 1920s, a science-based agricultural development model emerged in Latin America that changed how scientists, politicians, planters, and others understood nature and the means of human control over it. A scientific paradigm of “promoting the practical” took root, as did a new understanding of the impact of humans on nature. By the 1930s, the lessons of the export boom and the resulting monoculture had been learned. Many began to realize that the new “Columbian Exchange” had a dramatic and often detrimental impact on nature and agriculture, and the birth of the conservation movement in Latin America can be traced to that decade: “The changing state of nature began to shape the nature of the state in new ways. Rather than frame opportunities, as it had done for most of the export boom, it now determined its limits” (p. 141).

McCook has made effective use of archives and of sources in Cuba, Puerto Rico, Venezuela, Costa Rica, and the United States, and he supports his interpretation of the material with appropriate examples and evidence. Thus, he achieves a fine balance between interpretation and letting the evidence tell the story. He also has compiled an impressive array of secondary sources, and he weaves the various historiographic strands with great subtlety through his analysis. Historians of science and environment, Latin Americanists, and economic historians will find much to interest them in this book, although business historians will find it less useful.

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