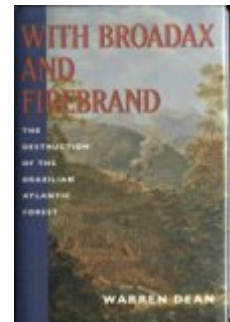


Warren Dean. *With Broadax and Firebrand: The Destruction of the Brazilian Atlantic Forest.* Berkeley: University of California Press, 1995. xx + 482 pp. \$38.00, cloth, ISBN 978-0-520-08775-0.



Reviewed by Robert M. Levine

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Warren Dean died tragically in May 1994 in a freak accident while beginning research in Santiago for a study of the Latin American ecosystem. His final book, *With Broadax and Firebrand*, is magisterial, a *tour de force*. It is Dean's most sweeping work, as humane as his earlier writing and as cogent. The book is so deftly written that at times it reads like a novel or a personal memoir ' not unlike the nuanced, passionate travel writings of Bruce Chatwin, another sage observer of the region whose life ended prematurely.

As Stuart Schwartz notes in his foreword to the book, *Broadax* is "a fitting capstone to a scholarly career in which concern for the human situation and social justice were combined with a consistent commitment to principle." Dean's other books--*The Industrialization of Sao Paulo* (1967); *Rio Claro: A Brazilian Plantation System* (1976), and *Brazil and the Struggle for Rubber* (1987)--are classics as well, analyzing the human structures and actions that accompanied major transitions in Brazilian history. *Broadax*, enormous in scope and rich in detail and subtle analysis, examines the devastation of the rich and varied Brazilian

Atlantic Rain Forest, a subcontinental landmass one million square kilometers in breadth in 1500 but reduced to relict patches by the mid-twentieth century.

In its rich description of the tropical forest, Dean's first chapter, "The Forest Evolves," reminds the reader of the first hundred pages of Euclides da Cunha's *Os Sertoes*, although it is less self-conscious than da Cunha's. Dean's choice of phrases is splendid: "sand flies parasitized by microbes lethal to us hairless mammals," "urticating caterpillars," "thunderheads.. surging 19,000 meters high and wreak(ing) havoc on the canopy trees," "epiphytes ... festoon(ing) the branches..." "lianas curtain(ing) the spaced between." Dean's forest, however, is no glen of idylls. His book is a wrenching catalog of the coevolution of plants and animals in the midst of the relentless movement to the forest's destruction by its latecoming hominoid irruptors some 13,000 years ago.

The book chronicles the waves of human invasion. The first chapters are mostly conjecture--who can know the details of the earliest human immigrants seeking shade and water in the

gallery forest? When the Tupi-Guarani imported agriculture, they instantly transformed their relationship to the forest. They needed forest soils, so they slashed and burned huge gaping holes in the canopy to plant manioc. Protein-rich maize was used by the indigenes only to produce fermented beverages. They did not abuse the forest although it was for them endless; they learned to store their surplus manioc by leaving roots in the ground after they reached maturity. The Tupi were not interested much in territorial possessiveness. Things changed, of course, when the rapacious Europeans came.

One of the first acts of the Portuguese mariners who landed on Brazilian soil on April 22, 1500 was to cut down a tree. The very name the new land ultimately was given was taken from the coveted, dye-producing Brasilwood tree, called **ibirapitanga** (red tree) by the Tupi. In the decades that followed, missionaries cleared forest land for captive **aldeias** (villages), where tens of thousands died from virulent epidemics brought to the New World by the microparasites of the conquerors. For a while, the sixteenth-century native population decline and the relative insignificance of Portuguese settlement brought a respite to the Atlantic forest, but it was brief-lived. Sugar-cane agriculture doomed the remaining forest along the Northeastern coast. Sugar production consumed all of the firewood along the Atlantic coast. In the Center-South, the Portuguese nostalgia for staple cereals led to leveling vast tracts of land for plantations and farms. Brazil's osmotic frontier regrouped and thinned. Chaotic and conflictive destruction of the forest followed almost immediately in the wake of the discovery of precious metals in the interior and the resulting gold rush, the greatest such event in history. Much more food was now needed, so slash-and-burn techniques were perfected and spread. Pastures were formed. Forest products were extracted ruthlessly. When lands were exhausted, settlers

moved deeper into the hinterland and slashed and burned with even-greater vigor.

Dean's book not only speculates about the fate of the forest but of Brazilian society as a whole as a function of the European colonial system. "Imagine," he asks, "a different society Would subsistence farmers have adopted more intense methods? Even a just society would have confronted material, ecological obstacles to the use of the plow ... The marvelous diversity of the Atlantic Forest included a remarkable array of invasive creatures eager to appropriate the harvests of the disturbed cycles that were the farmers' burned clearings." Dean blames the tenacious hold of cattle farming for turning pasture into range, thereby preventing the reversion of abandoned farms to forest. By the mid-1700s, nearly half of the original Atlantic forest cover had been destroyed.

Trees fared no better under Brazilian rule after independence in 1822. The notables who constructed the new nation sought personal and factional wealth and power. They maintained the slave trade decades after it had been stopped elsewhere in Latin America, necessitating, in turn, vastly larger areas of planted land. The government assigned virtually no value to the public lands it now freely granted to the wealthy classes. There was no inventory of public lands; and the inability of officials to regulate and control their sale further accelerated the cycle of deforestation. Soil and trees were considered to be a totally expendable resource. Old prohibitions on harvesting brasilwood and hardwood were listed. The forest now became seen as a source of exports, of new wealth. In the Center-South, coffee plantations worked by slaves now dispossessed the forest. The terrain was taken for coffee cultivation. It was, Dean writes, "thus readied for the healing hand of man, resembled some modern battlefield, blackened, smoldering, and desolate." The felled trees were only partially incinerated; they were left to rot with their stumps still in place and their trunks pointing down the slope.

Even when, in the postwar world, notions about saving the ecosphere and its forests spread like lightning among the environmentally-sensitive in Europe and North America, Brazilians were slow to jump on the bandwagon. "You raped your environment," they said to those showing concern; "don't tell us what to do with ours. "Brazilian officials became enamored of "economic development," of plans to stimulate capital accumulation and industrialization to promote rapid economic growth. Economic development, which Dean calls a "social program of vast scope, energy, and originality," was linked to the possibility of eradicating poverty and establishing national sovereignty. Agrarian reform and the secure entitlement of land belonging to smallholders was evaded by sponsoring the expansion of colonization onto remaining patches of the Atlantic and Amazonian forests. Forests were bartered for economic development, an exchange that "could be made to appear a brilliant stroke only by assigning to the former a trifling economic value and ignoring all other values."

Warren Dean's prodigious research into his topic is packaged into a flowing, tightly organized monograph of 482 pages that includes nearly one hundred pages of often discursive endnotes, the index, a glossary, and eleven lucid, original maps, composed by the author's son Tom Dean. Jeff Lesser proofread the manuscript and answered editorial queries. *Broadax* is handsomely produced by the University of California Press and has been designated a Centennial Book, one of 100 books published on all subjects between 1990 and 1995 to commemorate the anniversary of the Press. As much as all of Warren's earlier books, *Broadax* deserves to be read and debated not only by specialists on Brazil but by historians in all fields. This book, of course, is required reading for any informed citizen seeking evidence of the malign results of policies fast reducing the world's forests to bare ground.

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