Among ecologists, historians of science, and environmentalists there is growing interest in the history of ecology. The editor of the Journal of the History of Biology therefore requested that I write a new bibliographic essay to supplement the one published in 1977. My earlier essay, which covered relevant writings from ancient to recent times, concentrated on general ecology and population ecology. The present article, limited to the 19th and 20th centuries, covers the general history of ecology, terrestrial plant ecology, marine ecology, limnology, population ecology, and animal ecology. In Part Two I shall survey the history of applied ecology in North America.

GENERAL HISTORY OF ECOLOGY

The most comprehensive narrative history of ecology to date is Donald Worster's Nature's Economy: The Roots of Ecology (1977). Worster appreciates the value of making history interesting, and he knows that this is best accomplished when the historian has a definite point of view from which to tell his story. His own perspective is a presumed tension throughout the history of ecology between humble, arcadian, holistic ecologists and hard-nosed, imperialistic, analytic ecologists. His prime examples are Henry D. Thoreau and C. Hart Merriam respectively, with most of the other ecologists he discusses being some blend of the two types.

While a case can be made for the relevance of the works of both men for the history of ecology, as I have already done myself (1976: 331-333, 342), an equally strong case can be made that both were on the fringes rather than in the mainstream. Thoreau was far more a social critic and philosopher than a scientist; Merriam was more a mammalogist-turned-bureaucrat than an ecologist. Thus Worster's two types, when closely scrutinized, seem to exist only in his mind. I think he must believe, with Wordsworth, that "our meddling intellect misshapes the beauteous things we murder to dissect." However, if he were
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to poll any random sample of ecologists, he would probably find what must always have been true, that the same individuals who measure (a fairer word than Wordsworth’s “murder”) and dissect are usually as concerned for the preservation of unspoiled nature as he or Thoreau. Worster’s perspective is far better as interesting narrative than as objective history.

The author of a first broad synthesis runs the risk of superficiality. One historian, who compared his own findings on the historical relationship between phytogeography and plant ecology with those of Worster, comments: “Worster, *Nature’s Economy*, pp. 198-202, 206-9, completely misses the importance of Drude’s plant geography, and his account of the origin of American plant ecology, which is not derived from manuscript sources, should not be relied on” (Tobey 1981: 267-268n40). Even worse is Worster’s incorrect estimate of the continuing importance for ecology of Darwin’s theory of evolution, an error apparently based upon ignorance and hostility toward evolutionary biology (Egerton 1979a).

Serious though these defects are, Worster’s excellent writing style and the broad sweep of his story guarantees a wide readership. That is all to the good if *Nature’s Economy* is to serve as a point of departure for further research.

If we reject Worster’s main perspective on the history of ecology as simply inaccurate, what alternative is there? Easy questions may have difficult answers. Imposing a monolithic perspective upon a diverse and often diffuse subject is inappropriate. Yet studies that lack a well-defined perspective may be boring and limited. To write a rewarding history of ecology involves awareness of the major issues in ecology today, but without captivity to any single ecological perspective.

The difficulty of deciding what to include and what to exclude from works on the history of ecology is inherent in the subject matter; how to deal with this problem is a theme that runs throughout this essay. Worster’s use of Thoreau and Merriam as types of ecologists is only one example. Other examples fall into one or both of two categories: the relationship of pure science to applied, and the relationship of ecology to other sciences.

The first of these difficulties is apparent from the recent almost universal adoption of the term “ecology” for any kind of environmental concern, even though it had been applied for decades only to pure science. An illustration of this blurring of boundaries is Anne Chisholm’s *Philosophers of the Earth: Conversations with Ecologists* (1972), which includes interviews with pure scientists, such as Charles