

BOOK REVIEWS

Kevin C. Armitage. *The Nature Study Movement: The Forgotten Populizer of America's Conservation Ethic*. Lawrence: University of Kansas Press, 2009. viii, 291 pages.

Environmental historian Kevin Armitage's new book offers welcome relief to readers grown weary of anthropocentrism versus nonanthropocentrism debates and Muir-Pinchot-Leopold "third way" arguments. It will also find a receptive audience among those who have maintained all along that education is the key to addressing our environmental woes. In the United States, environmental education has a vibrant history. During the late nineteenth and early twentieth century, a critical mass of policy makers, educators, scientists, and philosophers shared the belief that a curriculum based on the careful observation and study of nature should be taught in primary and secondary school classrooms. The "nature study movement," as it was called, advanced an ambitious agenda for education reform based on a simple theory: children who develop a deep and abiding interest in the natural world mature into environmentally conscious adults and good citizens. Organized thematically, Armitage's book lays out the meaning of *nature study* as well as its scientific and sentimental interpretations (introduction and chap. 1), the influence of progressive education on nature study (chap. 2), the connection between recapitulation theory and nature study (chap. 3), nature study and bird conservation (chap. 4), school gardening as an extension of nature study (chap. 5), the growth of nature photography in tandem with nature study (chap. 6), and finally nature study's role in promoting agricultural reform (chap. 7). In case the significance of this progressive-era movement is still in doubt, the movement's legacy can still be felt, Armitage contends, in the ideas of perhaps two of the most influential environmental thinkers of the past century: Aldo Leopold and Rachel Carson (conclusion).

In the first two chapters, Armitage defines *nature study* and addresses one source of dissension within the movement: the tension between sympathy and science. Nature study was both an agenda for educational reform and a means to combat the disenchantment of modernity. It "used instruction in basic natural history, such as plant identification, animal life histories, and school gardens, to promote the skills needed to succeed in industrial life and to cultivate the spiritual growth that modern life occluded" (p. 3). According to one of its pioneers, horticulturalist Liberty Hyde Bailey, nature study had "two objects: to discover new truth for the purpose of increasing the sum of knowledge . . . [and] to put the pupil in a sympathetic attitude toward nature for the purpose of increasing the joy of living" (p. 1). Sometimes it was possible to harmonize these twin objectives. For instance, most nature study proponents subscribed to some version of the following argument: the child has the impulses of a generalist; if the child is truly a generalist, then

early environmental education should initially awaken the child's innate curiosity, sympathy, and wonder about the natural world, and only later impose the rigor and discipline of scientific study; therefore, nature study should resemble a segmented path or a gateway, a gradual movement of the pupil from a mild (sympathetic) to an intense (scientific) engagement with nature. However, the scientific and sympathetic sides of nature study also came into direct conflict. Several technology and science educators, such as William Sedgwick and M. A. Bigelow, criticized nature study teaching for being too sentimental and reliant on common-sense observation, drawing, and even poetry. "Few scientists openly opposed nature study," Armitage writes, "but many remained wary of its pedagogical value unless it conformed to standards of experimental investigation" (p. 63). Nevertheless, a holistic approach to nature study emerged in the writing and teaching of several key nature study figures, such as Bailey and Anna Comstock, who both found themselves at Cornell University: "the intellectual center of the nature study movement."

In the third chapter, Armitage explores the close relationship between progressive education and nature study. Several well-known contemporary environmental philosophers are self-proclaimed Deweyan pragmatists (most prominently, Bryan Norton). However, not one of them adequately reveals the reciprocal influence of Dewey's educational ideas and nature study—at least not to the extent, in terms of careful research and scholarly insight, that Armitage does. Defining nature study as "the study through observation of obvious natural phenomena," Dewey appreciated it as one with the progressive educational idea of "learning by doing" (p. 57). Rather than deposit facts through lecture and rote memorization (what Paolo Friere called the "banking concept of education"), teachers led activities that piqued students' interest in the natural environment (e.g., observing native flora and fauna or gardening out of doors), channeling native impulses into more disciplined habits of intelligent inquiry and sympathetic engagement—what Dewey called "growth." However, Dewey was not alone in influencing the pedagogical methods and curricular content of nature study. Many others left their mark, including eighteenth-century romantic thinkers John Amos Comenius and Jean-Jacques Rousseau, nineteenth-century American Transcendentalists Ralph Waldo Emerson and Henry David Thoreau, and twentieth-century educational reformers Liberty Hyde Bailey, Francis Wayland Parker, and Wilbur Jackman. For better or worse, nature study also became entangled with recapitulation theory: the idea that a single human being's development from child to adult imitates the evolution of humankind. According to Armitage, "the theory provided scientific support for the idea that children learned through contact with nature because, developmentally, they were in a savage state. . . . The theory of recapitulation 'proved' that children had natural affinities for basic scientific exploration" (p. 74). Following this logic, some nature study advocates—for instance, Parker and George Seton—recommended "back to nature" retreats (to convert the wild child into the calm naturalist or scientist), while others, such as Louis Agassiz, identified recapitulation with the claim that "the human species could be divided and ranked into various components according to a

system of racial classification” (p. 74). In case the racist overtones of recapitulation (particularly Agassiz’s version) appear to poison the well of nature study, Armitage reconsiders the association at the book’s conclusion. There, he endorses an updated and less controversial version: the biophilia hypothesis, or “that humans, having evolved in a state of nature, contain a fundamental, genetically based need to affiliate with nonhuman life” (p. 212).

The next four chapters document and evaluate nature study’s social, political, and environmental impact outside the classroom, particularly in the areas of bird conservation, school gardening, nature photography, and farming practices. In 1913, William Temple Hornaday, director of the New York Zoological Park, addressed a group of school teachers, imploring them to command students, “It is your *Duty* to protect all harmless wild things, and *you must do it!*” (p. 92). Although not as elegant as Kant’s categorical imperative, Hornaday’s message was surprisingly persuasive because it appealed to that critical mass of nature study supporters. The moral fervor Hornaday inspired in nature study educators translated into a popular conservation campaign and the creation of Bird Day (“a teach-in for the conservation of birds”) (p. 93). Moving from bird conservation to school gardening, Armitage argues—similar to Ben A. Minteer in *The Landscape of Reform: Civic Pragmatism and Environmental Reform* (Cambridge, Mass.: MIT Press, 2006)—that the history of environmentalism is profoundly deficient to the extent that it ignores the civic-minded projects of progressives intent on improving environments not traditionally defined as “wilderness.” In these settings, school gardening offered many nature study pupils the opportunity to learn about an array of subjects (e.g., soil science, seasonality, food production, even business) by planting, harvesting, and consuming (or selling) what they had grown (see also S. J. Ralston, “It Takes a Garden Project: Dewey and Pudup on the Political of School Gardening” *Ethics and the Environment* 16, no. 2 [2011]: 1–24). Moreover, school garden projects yielded a series of cascading benefits for students, schools, and communities: “Nature study advocates held that gardens fought juvenile delinquency; beautified urban, rural, and school environments; and taught the invaluable lessons of conservation. In short, school gardening was a great way to create productive and responsible citizens” (p. 113). The sixth chapter grapples with the aesthetic and cultural fall out from nature study instruction, particularly the varied response of nature study advocates to the advent of nature photography. While some nature study conservationists feared that this new technology would “estrangle people from the natural world, alienating sympathy,” most were eventually won over to the view that nature photography increased “respect for wild things,” encouraged nature enthusiasts to trade their rifles for cameras and strengthened “the moral imperative of conservation” (pp. 150, 160, 168). Moving from nature photography to farming, Armitage discusses the work of the Country Life Commission, which sought to remedy problems of rural life, including surges in tenant occupancy, ignorance of modern farming methods and the exodus of youth from rural to urban areas. Several leaders of the nature study movement, including Liberty Hyde Bailey, Anna

Botsford Comstock, and other Cornell faculty (indeed, Cornell's charter as a land grant institution mandated that it offer agricultural instruction), collaborated with the commission to combat the social, economic, and environmental ills associated with country life. "Educators felt that nature study held the answer to economic quandaries by imparting scientific methods of agricultural production. Nature study could also assuage the cultural crisis of agrarian America by instilling a love of nature in rural children, encouraging them to appreciate their surroundings and develop an abiding commitment to rural living" (p. 173). Indeed, the partnership between nature study advocates and country life reformers was, as the chapter's title suggests, one grounded on "the science and poetry of the soil."

Although it would be inaccurate to characterize this book as a philosophical work, it would also be equally irresponsible to call it a traditional work of history. Parallel to the author's historical account is a normative argument that nature study deserves careful reassessment due to its continued relevance. "Nature study was rooted in a specific era," Armitage writes, "but it also heralded one of the most powerful relationships Americans have had with the nonhuman world" (p. 14). For some readers, the most dramatic evidence of nature study's legacy for environmental ethics and environmentalism, generally, will be Leopold's and Carson's own educations; both were products of nature study teaching. For others, the enduring lesson of nature study is that environmental education is crucially important if the environmental movement is to achieve "progress" in the form of substantive environmental reform. What struck me was an implicit argument in Armitage's *The Nature Study Movement* challenging philosophers to clarify the terms of popular environmental discourse, to abandon faulty frameworks of the past (e.g., anthropocentrism versus nonanthropocentrism) and to adopt a new, more pragmatically valuable environmental rhetoric (for instance, one that speaks to the alienation felt by those living in the age of industrial modernity)—a conclusion that, in time, hopefully more of us will reach (see S. J. Ralston, "On Two Concepts of Environmental Instrumentalism: John Dewey and Aldo Leopold in Conversation," *Southwest Philosophy Review*, forthcoming).

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