

Book Reviews

Asa Gray. A. Hunter Dupree. Belknap Press of Harvard University Press, Cambridge, Mass., 1959. 506 pp. Illus. \$7.50.

Almost every botanist in the United States has, as a student, used Asa Gray's *Manual of Botany*, which is still one of the more useful aids for studying the flora of our northeastern states, and still a very useful tool for teaching students how to identify plants. To beginning botanists, "Gray" is practically synonymous with *Manual of Botany*. Biologists who are interested in evolution (and in 1959, the 100th anniversary of the publication of Darwin's *Origin of Species*, nearly all biologists are) know that when Darwin and Wallace presented their famous papers to the Linnaean Society of London, Darwin included in his, as evidence for his priority in describing natural selection, a letter he had written to Asa Gray. Today, we remember Gray both as a leading systematic botanist of the 19th century and as a personal friend of Charles Darwin—a friend who aided Darwin in establishing and spreading the theory of evolution. How much more there was to Asa Gray, what kind of a man he really was, and what he accomplished as a scientist is told in this remarkably well-written biography by Hunter Dupree.

Now the life of a respectable 19th-century botanist, who labored over his *desiccata* ("baled hay" to irreverent scoffers), who collected specimens over a wide territory, who assembled a herbarium, and who named new genera and species, may be deadly dull even though the subject of the biography may have engaged in the no-holds-barred and no-quarter-given fights over nomenclature. To both students and teachers, reading the biographies of such worthy men may be an unpleasant but necessary chore. But reading this life of Asa Gray is no chore at all. It is a pleasure; in fact, the author has made his book so interesting that most readers will resent, rather than welcome, any little incident that interrupts them. *Asa Gray* is an excellent example of the

kind of writing that has recently made biographies so popular.

This is not intended to imply that Dupree has fictionalized his subject. On the contrary, he has documented it thoroughly by citing over 800 references to primary sources, and if he peers into the subject's mind at times and tells us exactly what Gray's thoughts were, he is always able to cite Gray himself as the authority. In this biography Gray definitely comes alive. But, perhaps, despite his narrative skill and mastery of his subject we need not give the author all of the credit for the interest that this book arouses, for Asa Gray cooperated with his biographer by leading a very interesting life.

Gray was born in 1810 in Sauquoit, New York, and grew up in the central valley, at just the time that the first educational institutions of the region were being established. He became a doctor of medicine in 1831, but practiced only a little more than a year. His primary interests were always those of a naturalist, and he spent all the time that he could spare in gathering botanical, zoological, and mineral specimens. He had the good luck to meet and fall under the influence of John Torrey and, in working with Torrey, he became an expert taxonomist. After some years of odd jobs and financial insecurity, but years of productive scientific labors, he established an outstanding reputation as a botanist, and in 1842 was offered an endowed chair at Harvard University, where his salary of \$1000 a year relieved his financial insecurity. But, to earn his stipend, he had to become a one-man department of botany. He taught botany, established what later became the Gray Herbarium, and supervised the Harvard Botanic Garden. But over and beyond these routine occupations, he indulged his wider interests and spent as much time as he could in identifying and classifying the western plants sent him by various governmental exploring parties.

As Gray's knowledge of the American flora increased, he discovered regularities in the distribution of certain

genera and species, and his interest in plant distribution grew. In fact, he was one of the founders of plant geography, and it was in this field that his very original work came to the attention of Charles Darwin. It was here that, without knowing it, he made an important contribution to the theory of evolution. Gray and Darwin exchanged letters and became close, personal friends, and when Darwin published *The Origin of Species*, Gray reviewed it and saw to it that Darwin got a fair hearing in the United States. Gray was Darwin's first American sponsor.

From a personal standpoint, Gray's long and sometimes bitter contest with his Harvard colleague, Louis Agassiz (who did *not* accept Darwinian evolution) furnishes the material for perhaps the most interesting portion of the book. Here, we get a glimpse of academic politics, of the growth of science in the first American university, and of the establishment of the National Academy of Sciences. We also get a view of contemporary scientific standards.

Attention should be called to two aspects of this biography that are not adequately expressed in its brief title, *Asa Gray*. First, Dupree's treatment transcends Gray as an individual and depicts, in fascinating detail, the alarms and excursions of 19th-century biology. Dupree makes the science of the time very real, and the actors—the scientists—very human. Finally, he gives us a great many important facts about the group of men who worked with and around Charles Darwin—Sir Charles Lyell, Thomas Henry Huxley, Joseph Hooker, Alfred Russell Wallace and others—the group that introduced evolution to the world. Gray was a very important member of this group.

This biography of Asa Gray is definitive.

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Law and Administration. vols. 1 and 2. Herbert S. Marks, Ed. Pergamon Press, New York, 1959. xiii + 994 pp. \$26.50.

This work is an authoritative and comprehensive source of background information in the field of atomic energy. The tenth of 12 subject categories in the ambitious series "Progress in Nuclear Energy," the work is in two