Because of this complexity civilian leaders, with the exception of Jimmy Carter, have had little interest in the details of U.S. fighting plans and capabilities. This lack of interest has been encouraged by a military bureaucracy (specifically, the Strategic Air Command) that has been most reluctant to reveal details of U.S. nuclear war plans to civilian officials. The result is a civilian leadership ill-prepared to make the appropriate decisions in a nuclear crisis.

In his final chapter Lebow offers several suggestions, beyond those implicit in earlier chapters, for improving crisis management. Among them are improvement of early warning, arms control, preservation of the ABM Treaty, and alternatives to quick-launch strategies. I found this the weakest chapter in the book, particularly because of the absence of recommendations relating to force structure and targeting, matters the author had earlier identified as important to making nuclear crisis management possible. But even with this failing *Nuclear Crisis Management* is a valuable contribution.

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Pioneer Ecologist

Fraser Darling's Islands. J. MORTON BOYD. Edinburgh University Press, Edinburgh, 1986 (U.S. distributor, Columbia University Press, New York). xiv, 252 pp., illus. $25.

Scientists are inclined to snub colleagues who indulge in popular scientific exposition, especially if they are successful at it. Many contemporaries of Sir Frank Fraser Darling, who died in his beloved Scotland in 1979 at the age of 76, were less than appreciative of his contributions to vertebrate natural history and to the international conservation movement. This affectionate portrait by J. Morton Boyd goes a long way toward setting the record straight.

Fraser Darling was a naturalist writer whose book *A Herd of Red Deer* broke new ground in field research on animal behavior. As a result of it, the red deer was to become a testing ground for modern theories of vertebrate social evolution. By Fraser Darling's own assessment, the most important outcome of the red deer project was to gain credence for extended study of groups of wild animals as a source of new insights in behavioral biology and to establish social behavior as a significant ecological factor. Another work, *Bird Flocks and the Breeding Cycle*, concerned with social influences on breeding synchrony in gulls, was equally influential, though scientifically it proved to be on less secure ground. Another favored subject for island projects was the behavior of the gray seal. Then, as now, funding for long-term field studies of behavioral ecology was exceedingly difficult to obtain. Fraser Darling did get support from a Leverhulme Fellowship (the other recipient that year was Charles Elton), but mostly he paid his way by income from popular books about the delights and hardships of life with his family on uninhabited islands in northwestern Scotland, in pursuit of his animal subjects. Books like *A Naturalist on Rona* and *Island Years*, romantic in their sense of adventure and isolation and immensely evocative in their appreciation of nature at close quarters, played their part in drawing budding scientists, including Boyd and this reviewer, into field biology.

Fraser Darling had a deep appreciation for the sturdy qualities of the crofters of the Scottish Highlands and the Hebrides and became deeply concerned about their poverty and dwindling numbers. His *West Highland Survey: An Essay in Human Ecology* was a milestone in British environmental science. Pitted against the deep conservatism of the highlanders and the British civil service, the practical consequences of his ecological evangelism were few. According to Boyd, the words "wilderness" and even "national park" are anathema in the Highlands to this day. Internationally, however, Fraser Darling's work had some of the impact of the writings of Aldo Leopold and Fairfield Osborne, confronting problems of land use planning in a spirit not of exploitation but more of "wooing" of the environment. In fact, Fraser Darling got a better hearing on this side of the Atlantic than at home and quickly moved to the forefront of activities of the Conservation Foundation, in Washington, D.C. He also spent much time in Africa, the subject of another book Boyd plans to write. Fraser Darling was influential, for example, in conservation of the Ngorongoro Crater in Tanzania. Late in life his focus shifted back to Britain, where he gave the prestigious Reith Lectures and received a knighthood. The network of nature reserves throughout Scotland established and administered by the Nature Conservancy, an organization Fraser Darling helped to create, stands as a monument to his foresight.

Yet, these accomplishments notwithstanding, for many the true image of Fraser Darling is a more modest and personal one. As Boyd says, he saw himself "as an explorer in the middle ground between animal behavior and ecology and felt that he possessed something special in the philosophy of science which most of his academically distinguished contemporaries did not have." By felicitous choice of quotations, including unpublished letters and notebooks, warm personal reminiscences, and eloquent accounts of pilgrimages to places where Fraser Darling lived and worked, Boyd has captured the essence of a biologist who fulfilled his own sense of destiny as a leader of contemporary thought on the awareness and care of nature.

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Decision Making About Decision Making. Meta-

(Continued on page 1362)