

Book Reviews

Strange Genius. The Life of Ferdinand Vandeveer Hayden

By Mike Foster

Roberts Rinehart, Boulder, Colorado
xv + 464 p., 1994, US \$29.95

Reviewed by William A.S. Sarjeant
Department of Geological Sciences
University of Saskatchewan
114 Science Place
Saskatoon, Saskatchewan S7N 5E2

We are in an age when the most respected institutions of government, and the worthiest, are under assault from small-minded politicians, with visions limited by balance-sheets and focussed only on their personal prospect of retaining power. We have seen the reduction of the once internationally respected British Museum (Natural History) to a mere pale shadow called the Natural History Museum; we have witnessed the erosion of research personnel from our own Geological Survey of Canada and from the Canadian Museum of Nature; we are apprehensively awaiting what will surely be highly disadvantageous changes to the administration of the national parks systems of Canada and the United States, with the threat of privatization hovering over both; and we have seen the scaling-down of the United States Geological Survey, hitherto one of the world's foremost scientific organizations, but unlikely to remain so. All this, at a time when there is increasing need for good research. Most urgently, we need a fuller understanding of this world and its ecosystems, present and past, for we are under the very real threat of environmental disaster: disaster that is primarily a product of the shortsightedness and greed of earlier politicians.

At such a time, it is perhaps salutary to be reminded of the struggles of scien-

tists of the past in establishing those research institutions, and to discover how they succeeded in gaining support from politicians of equally limited vision. It is also well to be reminded that power struggles and petty-mindedness are not limited to politicians; they occur also among us scientists, whatever our claims to altruism and to be seeking only the truths about our world. The book here reviewed teaches both lessons with admirable clarity.

As late as the 1860s, although the eastern and western seaboard of North America had been both settled and mapped, the continental interior remained largely unknown. Yes, it had been traversed by a few explorers; yes, it was already being exploited for furs, but its topography, its aboriginal peoples, and its prospects for settlement remained to be investigated. When this task began to be undertaken, it was done in a curiously unco-ordinated fashion, as a result of a series of initiatives sponsored by the US Army and by individual politicians, under stimulus from interested scientists. No less than four different surveys, with leaders of highly variable character and motivation, were simultaneously at work in the west during the period between 1867 and 1879. There was the United States Geological Exploration of the Fortieth Parallel, under the leadership of Clarence King; there were the United States Geological and Geographical Surveys West of the One Hundredth Meridian, led by army officer George W. Wheeler; there was the United States Geographical and Geological Survey of the Rocky Mountain Region, led by John Wesley Powell; and there was the United States Geological and Geographical Survey of the Territories, led by Ferdinand Hayden.

Even from their titles, it is evident that there was a potential overlap in the objectives of these four surveys. It was inevitable that, after a while, their fu-

sion into a single scientific investigative authority would be recognized as desirable. That happened in 1879, when the United States Geological Survey was brought into being.

The four leaders of those earlier surveys have become part of the mythology of US science and exploration. Indeed, John Wesley Powell is perceived nowadays as a hero figure; a Civil War veteran, one-armed and yet the explorer of the perilous Grand Canyon, he is readily visualized and admired, the subject of several biographies (most notably that by Darrah, 1951) and the dominating figure in all accounts of that Grand Canyon voyage. The talented, highly educated and, to his contemporaries, captivating Clarence King is especially remembered because of his role in exposing the great diamond hoax (see Harpending, 1913; Woodward, 1967), his association with the writer Henry Adams (Adams, 1918; Cater, 1947), and an excellent biography (Wilkins, 1958). Even George Wheeler, an essentially unappealing figure of limited vision, has been the subject of a recent study (Dawdy, 1993).

It is curious, therefore, how completely Ferdinand Hayden has been neglected. At the time of its operation, the survey that he led attracted greater attention than the other three combined, as Foster demonstrates (p. 230), and produced by far the greatest volume of publications (p. 295). In terms of aims, the Survey of the Territories was arguably the widest ranging, a consequence of the fact that Hayden's "boyish excitement about nature" never ebbed (p. 200). His enormous energy and "relentless intelligence" (p. 167) caused him not only to respond rapidly and lucidly to the demands of his political masters, but also to inform the public quickly of his Survey's discoveries, through articles and by the early use of photographic illustrations (p. 157, 197 and elsewhere).

When the four surveys were com-

bined into one, Hayden was the obvious candidate for its directorship. Yet he was passed over. Moreover, despite Hayden's great historical importance, he has remained a shadowy figure, often unjustly maligned or ridiculed, and has never hitherto been the subject of an extended biographical study. Even his birthdate and middle name have been a subject for confusion; Foster establishes the former as 7 September 1828 (p. 17) and shows the latter to be correctly Vandever, not "Vandiveer" (p. 14).

Why is it that Hayden, with such great abilities in mapping and comprehending wilderness landscapes, in administration and in popularizing nature — he was a major mover in the establishment of Yellowstone National Park — has been so sadly neglected? Why was it that, in his time, he made so many enemies, upon whose opinions his posthumous reputation has been so largely, and so unjustly, based?

As is so often the case, the basic causes for his limitations and attainments are to be found in Hayden's childhood. The illegitimate son of a restless mother and a father who was an irresponsible drifter (p. 17-18), he was shuttled from home to home in Massachusetts and Ohio, sometimes living with his mother, sometimes not: a childhood so unstable as to be a lifelong embarrassment, causing him to transform it, in his later accounts, into an imagined one that was much more satisfactory. Certainly it left him perpetually restless and "incapable of enjoying the moment" (p. 91), with an "aggressive ambition" (p. 92) and a recurrent involvement in "intense but brief" romantic affairs (p. 102), which seem not to have ended even after his late marriage (p. 177-178). Foster summarizes him thus:

Too restless to savour his moments, too ambitious to know what he really wanted, Hayden drove on like a powerful freight train racing into the night without headlights. (p. 102)

The consequence was, as Foster notes (p. 266), that

... Hayden had few, if any, close friends. Mentors were used, colleagues were recruited, but for specific purposes that benefited the survey, not for the pleasures or consolations of friendship. After they had performed, Hayden let them go, and as the survey generated different needs, he turned up a new crop of men appropriate to the new goals... Hayden

thought in terms of winning a man's endorsement rather than cultivating his friendship. At the same time, so obsessed was he with potential rivals and the machinations of his enemies that he trusted no one.

Perhaps Hayden's only true friend was Fielding Bradford Meek, a man of comparably humble origins and matching (although not conflicting) ambitions. His satisfactory relationships with the vertebrate paleontologist Joseph Leidy and the paleobotanist Léo Lesquereux were a consequence of his supplying a steady flow of specimens for study. Hayden's relations with Spencer Fullerton Baird of the Smithsonian were initially obsequious (p. 56, 90-91), later somewhat uneasy (p. 265), and only latterly achieved a mutual respect (p. 264).

Hayden's enemies were, in part, persons of strong and jealous temperament, like the dilatory and difficult paleobotanist John Strong Newberry (p. 100-101, 161-162) and the highly egocentric vertebrate paleontologist Othniel Charles Marsh, into whose quarrel with Edward Drinker Cope Hayden found himself drawn (p. 278-281). Inevitably, his enemies included his rivals for government funds and appointments; not Wheeler, soon left far behind in that contest (p. 255), but King and Powell, whose ambitions caused them to adopt Newberry and Marsh as allies in their struggle for power in the consolidated US Survey: a struggle that was, at times, quite remarkably unscrupulous (p. 284-286, 313-314).

They won and Hayden lost; yet Hayden's loss was a near-miss (p. 310-311, 313) and resulted, in part, from Hayden's unexpected passivity, not only in the final stages of that conflict, but also during the years of obscurity with which his life ended. This has never been explained, either in earlier histories of the Survey or in earlier biographies of the contenders for its directorship; Foster's demonstration, that it had a physical cause (p. 302-305, 325-326) is thus of great, if melancholy, interest.

Yet, despite his faults and ultimate failure, Hayden deserves to be better and more respectfully remembered than has hitherto been his fate. He was so exceptional a collector — of mammals, birds and insects, as well as of rocks, minerals and fossils — that he enabled other workers to make a plethora of new discoveries. He contributed vastly to agriculture, through the work he did

or facilitated on harmful insects and through his elucidation of suitable (or unsuitable) conditions for westward expansion. He was an acute geological observer, early adopting Lyellian and Darwinian approaches (a fact rarely appreciated hitherto, since his deductions were buried among factual or descriptive passages rather than being presented in separate theoretical papers). Although committing a regrettable plagiarism on one occasion (p. 132), he made some valuable contributions to our knowledge of the customs and languages of North America's aboriginal peoples. Importantly also, Hayden's popular writings alerted Americans to the unsurpassed natural beauties of the continental interior.

All in all, Ferdinand Vandever Hayden was a major figure in the history — geological and otherwise — of our continent. Accordingly, we must be grateful that we have at last a meticulously researched, lucidly written, and quite inexpensive biography of him. Foster's book deserves to be on the shelves of all historians of the earth sciences and the American West. Moreover, it should be read for the lessons it provides in political and human relationships, which, alas, have not changed for the better in the ensuing century.

REFERENCES

- Adams, H., 1918, *The education of Henry Adams: An Autobiography*: Houghton Mifflin, Boston, MA, x + 519 p.
- Cater, H.D., ed., *Henry Adams and his Friends*. A collection of unpublished letters: Houghton Mifflin, Boston, MA, cxix + 797 p.
- Darrah, W.C., 1951, *Powell of the Colorado*: Princeton University Press, Princeton, NJ, ix + 426 p.
- Dawdy, D.O., 1993, *George Montague Wheeler. The Man and the Myth*: Swallow Press/Ohio University Press, Athens, OH, viii + 122 p.
- Harpending, A., 1913, *The Great Diamond Hoax and Other Stirring Incidents in the Life of Asbury Harpending*: Barry (for the author), San Francisco, CA, 283 p. [Re-published 1958, University of Oklahoma Press, Norman, OK, xix + 211 p.]
- Wilkins, T. 1958, *Clarence King: A Biography*: Macmillan, New York, ix + 441 p. [Revised and enlarged by Wilkins, T. and Hinkley, C.L., 1988: University of New Mexico Press, Albuquerque, NM, xiii + 524 p.]
- Woodward, B.A., 1967, *Diamonds in the Salt*: Pruett Press, Boulder, CO, xi + 200 p.