

Sears D.W.G. (1992b) Cosmic debris, meteorites in history, by John G. Burke. *Meteoritics* 27, 189-190. (Book review)

Cosmic Debris, Meteorites in History, John G. Burke, University of California Press, 1986, 445 pp., \$22.50 (ISBN 0-520-05651-5).

I once heard it said that a scientific discipline really comes of age when historians of science take an interest in its history. I have therefore always been surprised that there was no major work on the history of meteorite research. John Burke, who died a few years ago after a career as a historian of science at the University of California, Los Angeles, finally gave us our history in his book "*Cosmic Debris*," such an inglorious title for such a glorious book.

There are nine chapters, which generally follow a historical narrative from the legends of Greece and Rome, through the establishment of meteoritics in the early 1800s, to the work of the mathematicians and early mineralogists and chemists in the first half of the nineteenth century, to the growth of the world's major meteorite collections and their omnipresent curators in the mid nineteenth century, and finally to the emergence of some fairly "modern" ideas in the late nineteenth and early twentieth century. Burke rounds out his book with a summary of contemporary theories.

There are ample well-reproduced figures, and the text is pleasing with well laid-out type on good quality paper. There is also a good supply of detailed notes and references, as well as name and subject indexes. In the middle of a chapter on myths and folklores there are even four pages of color plates, but these struck me as rather incongruous and the subjects badly chosen.

Probably the phase in the history of our subject that fascinates most of us is the acceptance by the scientific community that meteorites really fell from the sky, i.e., the period between Lavoisier's report to the French Academy (1772) and Berzelius' major analytical papers of 1834, during which a great many meteorites fell. Chladni published *Eisenmassen* (1794), Howard and the continental chemists described the unusual but remarkably similar compositions of all the known meteorites (1802) and LaPlace and Poisson (1803) argued for a lunar origin. All these factors were important in establishing the infant science, but opinions differ as to their relative importance; whether it was Chladni's insight as a lawyer, the burgeoning art of chemical analysis, or, as Burke advocates, a remarkable fall rate between 1770 and 1800.

Undoubtedly, John Burke has not written the definitive history of meteorite research, that would have been too much to ask. Maybe the sign of a good book is the questions it generates in the mind of the

reader. How did the evolution of meteorite research reflect other realms of science and even social history? How much of mid-nineteenth century meteorite research reflects the professionalisation of science, and to what extent did the major developments in astronomy influence meteoritics in the late nineteenth century? After all, most of us began our thinking about chondrules with Sorby's drops of fiery rain, which were almost certainly inspired by the work of Lockyer and others on solar flares. John Burke does not really address such questions, but he does provide us with a highly readable account of the pathway by which modern meteorite research evolved, which all members of the Meteoritical Society will thoroughly enjoy reading.

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FIG. 1. A popular Irish newspaper's view of the acquisition of the Crumlin meteorite by the British Museum from Burke's book "*Cosmic Debris*." In fact, as Burke describes, the transfer was a very harmonious affair. (From the *Irish Independent and Nation*, 1902 November 15. Courtesy R. Hutchison, The Natural History Museum, London.)