Meteoritics 29, 297-300 (1994)

From the Editors

Shedding Light

The present issue of of *Meteoritics* is arguably one of the most satisfying during my editorship. For some time, it has been the editorial board's aim to attract more lunar papers, and the present issue contains three major papers on lunar science. Coincidentally, they all concern the Apollo 12 site, and they are collectively discussed in an editorial by Paul Warren. The other Article in this issue is of interest to me for more personal reasons. Being especially interested in the luminescence properties of geological samples and the information the phenomenon contains about the formation and history of the samples, it pleases me that cathodoluminescence (CL) is playing an increasingly important part in our efforts to decipher meteorite history and that in this issue we have a major paper by Weisberg *et al.* utilizing the CL properties of enstatite chondrites.

It is probable that the discovery of the CL of meteorites coincided with the discovery of Ni in them at the very origins of meteorite research (Howard, 1802). This century, Smith and Stenstrom (1965) published a very influential paper pointing out the value of CL micropscopy, and now the technique is commonplace in sedimetary and palaeontological studies, even warranting its own textbook (Marshall, 1988). Many researchers have utilized CL observations: Keil in his classic study of enstatite chondrites; Geake, Sippel and many others in their studies of lunar samples; Steele in a series of studies of chondrites; my own students in their studies of chondrites and chondrules; and, most recently, Lofgren and his colleagues in their work with enstatite chondrites.

Enstatite chondrites are especially suited to CL studies because their low-Fe enstatites produce bright blue or red CL depending on genetically important compositional and structural properties. In the present issue, Weisberg *et al.* use CL microscopy to locate non-luminescent high-FeO enstatites in EL3 and EH3 chondrites (which they term "black enstatites") in a sea of luminescing enstatites. A color photograph of one of their chondrules is featured on the cover of this issue. They, thus, observe petrographic associations for these pyroxenes which indicate, they argue, that the enstatites once existed in a more oxidizing environment and that it was solid-state reduction which decreased their FeO and increased their luminescence.

Of the large number of Reports in the present issue, three concern crater studies (two of which, concerning the Pretoria Saltpan, are discussed by Richard Grieve in his editorial below). Two pertain to CV chondrites, while the isotopic composition of CaS in enstatite chondrites, regolith grain-size on asteroid Vesta, a possible Australasian tektite source crater and modeling fractional crystallization effects on iron meteorite parent bodies are all dealt with in other Reports—an exciting and diverse set of papers.

On the administrative front, it is with regret that we note that, for personal reasons, Kazushige Tomeoka has stepped down as an associate editor of *Meteoritics*. We much appreciate all he has done for the journal during his short sojourn on the editorial board. Happily, his place will be filled by Hiroko Nagahara, who will join the group to handle papers dealing with chondrite mineralogy and petrology and experimental petrology. To help correct for the overworked status of Frank Podosek and Ludolf Schultz, Rainer Wieler has agreed to join the board as an additional nuclear cosmochemist. We much appreciate the willingness of these two highly respected members of our community to help us steer the journal for the next few years.

Derek Sears
Editor

REFERENCES

HOWARD E. C. (1802) Experiments and observations on certain stony and metalline substances, which at different times are said to have fallen on the Earth; also on various kinds of native iron. *Phil. Trans. Roy. Soc.* **92,** 168–212.

MARSHALL D. J. (1988) *Cathodoluminescence of Geological Materials.* Unwin Hyman, Boston.

SMITH J. V. AND STENSTROM R. C. (1965) Electron-excited luminescence as a petrologic tool. *J. Geology* **73,** 627–635.