a limited adoption of this type of system, perhaps for newly described minerals. The complete transformation of all existing names into a new system raises the problem of carrying on the meaning of the thousands of old names and synonyms in the past scientific literature.

In the case of Povarennykh's system, there is a further matter that creates an irresolvable difficulty. This concerns his redefinition of the unit of description to which a species name is to be applied. He unknowingly or unwarily returns to the precise definition employed by Franz von Kobell in 1848 in his debate with J. M. Fuchs on the species concept in mineralogy. This particular concept has run out, in the course of a century or so of consideration, into terms such as structure-type and isotype. It has proved useful in a classificatory way but not as a unit of description for species names. It states that the species comprises the entire range of composition within a single type of crystal structure. Povarennykh uses a single species name for this unit, with subspecies, varieties, and subvarieties within the unit being given names derived from the name of the species and formed from it by prefixes. This is superficially attractive, but it can deprive us of a rational name for any end composition present in the broad unit. For example, in the calcite group, the complete solid solution series between Mg-Fe and Mn-Fe results in Povarennykh's abandonment of the familiar designations siderite, magnesite, and rhodochrosite and their replacement by the two names magfercite and manfercite. The pure end compositions $FeCO_3$, $MgCO_3$, and $MnCO_3$, which do or can occur in nature, are indicated by prefixes to the solid solution names, as the subspecies ferromanfercite, magnesiomagfercite, and manganomanfercite. This is irrational because the end compositions contain only one cation and the names indicate two.

Povarennykh's two volumes, in addition to nomenclatural matters, also contain a treatment of relevant aspects of crystal chemistry and of various historical topics. There is also a useful partial description of the x-ray characters of some 1900 minerals; structural drawings and some interatomic distances are included.

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Personal Memoir

Rutherford. Recollections of the Cambridge Days. MARK OLIPHANT. Elsevier, New York, 1972. xvi, 158 pp. + plates. $7.50.

Oliphant's recollections of his decade at the Cavendish Laboratory are a welcomed addition to the genre of what might well be termed highly personal source material. His reminiscences will be of interest to the sociologist and historian of science as well as to a more general public. They provide not only anecdotal glimpses of the striking personalities associated with Ernest Rutherford during the last ten years of his directorship of the Cavendish, but also offer diverse suggestions as to Rutherford's abilities and limitations in the scientific, administrative, and teaching arenas. Thus, although the somewhat standard claim is made that Rutherford was the greatest experimental physicist since Faraday, the most vivid depictions are of a researcher so eager for results (and yet, somehow, incapable of providing more than the bare essentials of equipment) that his collaborators, who were continuously engaged in the experimentation itself, hoped for—and even conspired to assure—his absence during critical moments lest he damage apparatus and spoil incipient results by his enthusiastic, impetuous behavior!

As a book the work suffers severely from two related defects. It may be expected that any set of recollections spanning a decade will be diffuse, but this book is unnecessarily episodic and disorderly in spite of chapter titles and subheadings that give an initial promise of organization. One therefore regrets all the more that it was not deemed worthwhile to prepare a careful, or indeed any, index. Second, while Oliphant has usefully supplemented his own recollections with those (some of them previously unpublished) of several of his Cambridge colleagues, he has curiously enough restricted himself to these same sources when attempting to sketch in background material and to make historical assessments. It is true that in an introductory disclaimer he urges that his work be regarded as but a supplement to the official biography by A. S. Eve (*Rutherford*, Cambridge, 1939). It is also true, however, that in the intervening third of a century a small but significant body of historical scholarship has emerged. In not making use of this scholarship Oliphant has perpetuated a few anachronisms and, much more important, has neglected certain likely underlying themes that could have been used to provide a context for his episodes and thus a cohesiveness for his book. This neglect has also deprived the sociologists and historians of science of the benefit of his reactions to the themes they have suggested. Any comments Oliphant might have made as a physicist personally involved in the work of the period would have been greatly appreciated.

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