from summary papers. The number of references range from a low of 4 to a high of 68 with an average of 19 for the first 27 papers. The final world- summary paper has a selected bibliog- raphy of 533 titles not necessarily mentioned in the text. The 418 figures illustrating the volume show evidence of their original design as lantern slides, but are simple and legible. The color used on the figures in the world- summary paper seems unnecessary for most of them. A key-word index for the volume is appended.

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Geochemical exploration of the Moon and planets


Man’s exploration of space is an epic undertaking, and its bearing on 3 major scientific problems of our time: the origin and evolution of our Earth, Sun and planets; the origin and evolution of life; and the dynamic processes that shape man’s terrestrial environment (page 1) provides food for thought in many if not most scientific disciplines. This book was apparently intended to tell scientists and engineers in general (the layman is obviously excluded) the fascinating story about the chemical data that have been and can be obtained from the Moon and planets, how they are obtained, and their significance. I fear, however, that it misses this mark, and I am not sure I can say what readership the authors (and publishers) actually had in mind, and hence why this book was written. Over three-quarters of the book deals with the philosophy, constraints, performance requirements, and physical details of the design of the instruments used, and the mathematics of the reduction of the resultant data, with a liberal use of undefined terms from the jargon of space physics, electronics, and data processing (including instrument model numbers and trade names). This shorthand language, like the instruments themselves, is beautifully designed to pack a maximum amount of material into a minimum space, but causes the book to be of maximum value and interest to a limited group of specialists in the space program who are already involved in various aspects of such experiments. The rest of the book details some of the chemical data from past flights,

but with very little discussion of their significance in light of the many important questions asked in the opening few pages.

With the special advantage of hindsight, it is always easy for the book reviewer to suggest other ways it could have been organized. Thus here it would have been helpful to me to have had the general considerations of spaceflight experimental design given early, but they are first listed on page 211. A few of the very significant constraints on experimental design are mentioned earlier, but cursorily. Thus the necessity of electronic design to survive stringent sterilization procedures—a difficult problem indeed—is apparently mentioned first on page 130 (and not at all in the index). In addition, the book suffers from hurried preparation and editing, as evidenced by the very discorntesting use of identical typography for what they are, from context, several different ranks of section headings, numerous inadequacies in the literature citation and the graphics, and a rather surprising number of misspellings and typos (10 in the first 13 pages).

I say all this rather reluctantly, as I believe there is a real need for a book of this same title, addressed to the whole scientific community, and written to stimulate interest in the nature, validity, and significance of the data of space chemistry. (Since we have exobiology, why not exochemistry?)

The authors have shown that there is an amazing range of data already on hand, and the possibilities for the future are fantastic; such a book could be a scientific best-seller.

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Physical processes in geology


Reviewing this book at first was a puzzling task. Initially, I started to evaluate what I thought was a text in structural geology; however, I quickly found that shifting my viewpoint to engineering mechanics brought me closer to the context of the book. At the very least, Johnson’s approach to geological problems is different, if not unique. He uses theories of mechanics to reconstruct the forces that produced geologic features and results obtained by such geological modelers as Willis. This approach is interesting and useful to the structural and engi-