

tises of inorganic chemistry "report everything about the chemistry of the element—true and false, probable and fantastic."

These considerations have prompted the authors, who represent a company that is a leader in the technology of the element, and who, therefore, can write authoritatively, to prepare a text that can be of great value to those dealing with the metal or with the complexity of its reactions.

The properties of molybdenum are presented in a critical manner; the fundamental chemistry is discussed in chapters on the oxides, halides, sulfides, and in chapters on complex ions. Uses of compounds are described, as is the role of molybdenum in life processes. The chapter on "Analytical Procedure" includes those used by the Climax Molybdenum Company; as such, they are to be considered as authoritative. The importance of molybdenum catalysts is emphasized by the listing and abstracting of 1755 patents and 535 journal references.

All the chapters are well documented with literature references, a valuable part of the book. The text is free from typographical errors, and the book is well bound and printed.

*Molybdenum Compounds* should be found in the library of all inorganic chemists and of others whose interests deal with this element in its many forms and uses.

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***The Primeval Atom: An Essay on Cosmogony.***

Georges Lemaître; trans. by Betty H. and Serge A. Korff. New York: Van Nostrand, 1950. 186 pp. \$3.00.

For some twenty years past Canon Lemaître has been working toward an extremely bold and most exciting theory of cosmogony. This theory has as its cornerstone the hypothesis that the present physical universe had its origin in a single massive super-radioactive atom, whose decay products after many generations are to be identified with the material particles and radiation constituting the universe. The spatiotemporal structure of the universe is then the expression of the external relations of this horde of product particles, governed by the field equations of the general theory of relativity as developed in the theory of the expanding universe. At each stage in the evolution, the material particles are accordingly subject to an attractive force and to a repulsive force, the former (gravitation) more effective at shorter distances, and the latter (due to the "cosmological constant") more effective at greater distances. The interplay of these two forces brings about the aggregation of matter into stars, of stars into well-defined galaxies, and of galaxies into more loosely organized nebular clusters. Meanwhile, the more vagrant high energy particles and radiation resulting from the decay are coursing through the finite closed universe as ultra-penetrating cosmic rays.

Such is the grand scheme of Lemaître's cosmogony; rather than a finished theory, it is an outline of problems to be attacked, enlivened by most exciting suggestions as to how the answers may be expected to fall out. This is the fare which is offered the intellectually mature English reader in the present little volume of five of Lemaître's papers and addresses. These essays, tied together by an introduction written by the author, represent a spread in time from 1929 to 1945; although some repetition is thus inevitable, the spread enables the reader to partake vicariously in the evolution of the theory. The more technical aspects of the subject are for the most part only alluded to in passing, but the technical expert will find the mathematical backbone of the hypothesis, the theory of the expanding universe, most elegantly presented in an appendix. The more philosophical implications of the effort are touched upon in a preface by Ferdinand Gonseth, and its relation to astronomical fact in a brief foreword to the English edition by Henry Norris Russell. The translators, recognizing that "translation involves a compromise between transliteration of the author's words and conveyance of the author's meaning" have consciously leaned heavily toward the former, with the result that in some cases the author's meaning has been somewhat obscured by a too literal translation.

Let no one be misled by the author's distinguished position in the Church to expect to find therein the *raison d'être* for his cosmogony. Its formulation is a truly scientific venture, which is to stand or to fall on its ability to measure up to the facts in accordance with accepted scientific methodology. The general reader will find intellectual stimulation in this splendid account of the hypothesis of the primeval atom, and the technically expert among them may well be incited to accept the challenge to test the hypothesis where it impinges upon his own field.

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## Scientific Book Register

***The Prenatal Origin of Behavior.*** Porter Lectures, Series 18. Davenport Hooker. Lawrence: Univ. Kansas Press, 1952. 143 pp. Illus. \$2.50.

***Handbook of Aerial Mapping and Photogrammetry.*** Lyle G. Trorey. New York: Cambridge Univ. Press, 1952. 180 pp. Illus. \$6.00.

***Structural Aspects of Cell Physiology.*** Symposia of the Society for Experimental Biology, No. VI. New York: Academic Press, 1952. 357 pp. and plates. \$7.50.

***A Field Guide to Shells of the Pacific Coast and Hawaii.*** The Peterson Field Guide Series. Percy A. Morris. Boston: Houghton Mifflin, 1952. 220 pp. and plates. \$3.75.

***Storage Tubes and Their Basic Principles.*** M. Knoll and B. Kazan. New York: Wiley; London: Chapman & Hall, 1952. 143 pp. Illus. \$3.00.

***An Introduction to Medical Science: An Elementary Text on Pathology.*** 4th ed. William Boyd. Philadelphia: Lea & Febiger, 1952. 304 pp. Illus. \$4.50.