ynomial matrices," "Unitary and Euclidean spaces," "Bilinear and quadratic forms," "Linear transformations of bilinear-metric spaces," and "Multilinear functions. Tensors."

Much of the book's success stems from the author's wholesome attitude toward the various formulations from which the subject may be approached. "In linear algebra one studies three kinds of objects: matrices, linear spaces, and algebraic forms. The theories of these objects are so closely related that most problems of linear algebra have equivalent formulations in each of the three theories. The matrix point of view, which underlies the present exposition, is the one best adapted to actual calculations. On the other hand, most problems of linear algebra that arise in geometry and mechanics lead to algebraic forms, while the best understanding of the internal connections between different problems of linear algebra is obtained by means of linear spaces. Therefore the ability to pass from one type of formulation to another is one of the most important skills to acquire in the study of linear algebra."

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Rare-Earth Elements

The Technology of Scandium, Yttrium, and the Rare Earth Metals. Eugene V. Kleber and Bernard Love. Pergamon, London; Macmillan, New York, 1963. x + 205 pp. Illus. $7.50.

Within recent years scandium, yttrium, and the lanthanons, atomic numbers 57 through 71, have been prepared as "high-purity" metals. Their physical and mechanical properties have been investigated, and constitutional diagrams have been established for many metals with yttrium and the lanthanons. This book, a revision of a survey undertaken for the U.S. Air Force in 1958, is a compilation of available data on the properties of the pure metals and some of their alloys. It contains 939 references and considers work reported through the latter months of 1960.

A brief review surveys their abundance, occurrence, production, availability, recovery from ores, electronic structure, chemical properties, and nuclear properties. Separating the rare-earth elements, methods of analysis, and the economics of the metals considered are also discussed. Various methods used for reduction and purification are reviewed, and the available data, reported during recent years, on their physical, mechanical, and chemical properties are tabulated.

A chapter devoted to binary constitutional diagrams of the rare-earth metals, with one another and with other metals, contains more than 100 diagrams, many of which are incomplete, as one would expect. The alloying behavior of the metals, as it is related to basic physical principles, is briefly reviewed. The final chapter is a review of the use of the rare-earth elements in alloys, and it is interesting to observe that the only widespread use is that of misch metal, principally for lighter flints. The addition of rare-earth metals to magnesium does, however, increase its strength at elevated temperatures, and several commercial alloys are available. Reports with respect to the influence of rare earths added to steels are quite conflicting; some reports tell of dramatic improvement, but others say there is no improvement or that there is actual impairment.

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Adaptation Tolerance

Parasitism. An introduction to parasitology and immunology for students of biology, veterinary science, and medicine. J. F. A. Sprent. University of Queensland Press, Brisbane, Australia; Bailliere, Tindall, and Cox, London, 1963. x + 145 pp. 35s.

Among the several recent books that present the principles and general laws of parasitism, this little volume by J. F. A. Sprent, the 1962 winner of the Henry Baldwin Ward medal of the American Society of Parasitologists, will be approached with interest. In the first 30 pages Sprent presents concepts and definitions of parasitism and other associations. The rest of the book deals with immunity, which is taken as the central theme of parasitism. Other aspects of parasitism that are of general interest—for example, nutrition and life cycle, and behavioral adaptations—are given only token mention.

Parasitism is defined as an "association whereby one partner gains its nourishment from another, but in such a way as to establish an intimate macromolecular contact, whereby the host is potentially able to recognize the associate as foreign." Adult cestodes are thought not to meet that criterion and are regarded as commensals.

Immunity to heteroparasites and to homoparasites (graft, foetus, tumor), the concept of "self" and "not self," and the clonal selection theory of antibody formation are considered. Among the conclusions is the idea that there is evolutionary selection of hosts toward lower resistance, that is, "adaptation tolerance."

The treatment of parasitism, with concepts only and without description of any parasite, can hardly serve as an introduction to the subject. This is a book for the reader who has some familiarity with parasites and who wants a stimulating introduction to concepts and principles of immunology as it relates to evolution. There is a bibliography of 72 titles of which 18 deal with parasites and 50 with immunity. The very concentrated style may explain some unfortunate implications such as the following: the implication that plague and trichinosis are harmless to rodents (p. 13), that *Entamoeba histolytica* attacks only intestinal cells (p. 23), that yellow fever infects only man (p. 32).

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Uranium Concentrates

The Technology of the Treatment of Uranium Concentrates. N. P. Galkin, A. A. Maiorov, and U. D. Veryatin. Translated from the Russian edition (Moscow, 1960) by R. D. M. Hegarty. R. W. Clarke, Translation Ed. Pergamon, London; Macmillan, New York, 1963. xiv + 204 pp. Illus. $7.50.

This treatise on the technology of uranium production is published in the International Series of Monographs on Nuclear Energy. In their attempt to provide a very ambitious coverage of the subject, the authors range from the