For example, the weight of cerium almost matches the weight of nitrogen in the crust of the earth.

In his monograph, *The Chemistry of the Lanthanides*, Therald Moeller provides the wherewithal for the chemist described in the previous paragraphs. The book is well organized. It is written at a level that will enable undergraduate chemistry students to appreciate the lanthanides as an important and interesting group of elements. First, the history of the discovery of the lanthanides is unfolded; then atomic structure and oxidation states are discussed. Chapter 4 is devoted to practical aspects, and the very brief chapter 5 relates the actinides to the lanthanides.

I was disappointed with only one section—that on color and light absorption in chapter 2. Specifically, the discussion of inner $4f^n$ transitions will certainly baffle eager young students, and, I am afraid, many lazy older ones, who do not know that the configurations $4f^1$, $4f^{13}$, and $4f^{14}$ give only the single terms ^2F, ^2F, and ^1S, respectively, and that the other configurations give more than one term. It is not obvious from the text why $4f^1$ should be colorless if crystal fields make the transitions possible (which they do not). However, this is only a minor criticism of a book which I thoroughly enjoyed and which I believe is a substantial contribution to chemical education.

The book is almost completely free of printing errors. All in all, it is a bargain at $1.95.

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Anthropology

Ethnic Origins of the Peoples of Northeastern Asia. Arctic Institute of North America, Anthropology of the North, No. 3. M. G. Levin. Henry N. Michael, Ed. University of Toronto Press, Toronto, Canada, 1963. xii + 355 pp. Illus. Paper, $3.50.

The Arctic Institute edition of this classic is a fitting memorial to its author, M. G. Levin, whose untimely death on 18 April 1963 saddened all those who were privileged to know him. It is regrettable that he did not live to see this English translation of his crowning achievement—a project in which he took such satisfaction. Levin, who rose to be deputy director of the Institute of Ethnography of the Academy of Sciences of the U.S.S.R., was one of the last of the all-round anthropologists, equally at home in physical anthropology, ethnography, and archeology, a masterful scholar and an incredibly productive one, who will also be remembered for the charm and warmth of his personality.

This work was originally published in 1958, as volume 36 of the *Trudy* of the Institute of Ethnography, under the title "Physical anthropology and ethnogenetic problems of the peoples of the Far East." For Western readers the new title more accurately reflects the contents. This well-edited volume represents a new high in this distinguished translation series.

To the science of man, northeastern Asia is both crucial and little known. Without a better understanding of this key area, we cannot hope to interpret man's biological history over most of the world. Levin has provided us with a definitive summary and review of the available information, as of 1956, from the earliest prehistoric traces to the living populations; his work is based on Soviet research and on an amazing acquaintance with foreign publications. The resulting indispensable reference work, an outstanding example of the interdisciplinary approach, hews to the thesis that the data of physical anthropology are inadequate when disassociated from the data of ethnography, archeology, and linguistics. The consequent broad scope and wide range of information make it of interest and value to a larger audience—to all who are concerned with the biological or cultural history of man in the lands surrounding the North Pacific Ocean. Unquestionably, this volume is one of the very best products of Soviet anthropology to date.

The first chapter, a history of research on the physical anthropology of northern Asia from the time of Bering's expedition to the present and a historical and critical survey of racial classifications and their bases, forms a valuable work in itself. Subsequent chapters cover the population of the Amur-Sakhalin area, the Tungus peoples, the Paleoasiatics and Eskimos (classified together as the Arctic Mongoloid race), and the question of the enigmatic Ainu. In all cases there is a review of previous work, a presentation of detailed data from the author's own field researches, and summaries of pertinent information from prehistory and ethnography; this is followed by discussion of the problems posed, not all of which can be resolved on present evidence. Appendixes present useful data on the physical type of Koreans and Japanese. It should be pointed out that, because of recent advances, the review of Japanese prehistory and paleoanthropology is out-of-date and that the author's own subsequent excavations at Bering Strait have thrown further light on Eskimo history. But as a whole this monograph is of lasting value and will serve as a base line for all future research.

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History of Medicine

A Short History of Medicine. Charles Singer and E. Ashworth Underwood. Oxford University Press, New York, ed. 2, 1962. xx + 854 pp. Illus. $10.

In 1928, in the preface to his *A Short History of Medicine*, Charles Singer wrote, ". . . two particular aims have been steadily kept in view: first, to stress the principles of Medicine rather than the details of practice; second, to treat of these principles in as small a space as may be. For 'principles' the author has substituted at times the word 'Philosophy.' He would . . . beseech the timid reader to take no alarm at a word. . . ."

Thirty-three years later, E. Ashworth Underwood presents a revised version of the book. The neat 368 pages of Singer's writings have grown to 854 much fuller pages. And details, names, and dates have sadly swamped Philosophy. The justification offered is that ". . . scant justice was to be done to the greatly increased output of important scientific researches . . . and to the historical studies published during the last three decades." But this is a will o' the wisp. For in this edition, the following appears on page 696, ". . . it is possible that [penicillins] may soon supplant organic arsenicals entirely in the treatment of syphilis." Under the discussion of teeth and their diseases, fluoride is not mentioned. And I was unable to find anything on chromosomes, DNA, or RNA. A chauvinistic flavor is introduced by too lengthy and fullsome praise of British personages, such as Macewan and Henry Dale. And, inevitably with bulk, errors of cross-reference are multiplied. An excellent example is

the confusion about the paternity of vital statistics: On page 179, a passage reads: "John Graunt (1620–74), the founder of vital statistics . . ."; on page 181, "The science of vital statistics was founded by . . . Quetelot (1796–1874)"; and on page 717, "The founder of vital statistics, William Farr (1807–83) . . . ." Even the useful 34-page list of references is much too long and much too unselective.

This is still a good one-volume history of medicine, which retains some of the scholarly flavor of Singer. It could recapture more of that flavor, if the next edition were pruned to "as small a space as may be," and Philosophy recognized once again, despite timid readers and timid revisionists.

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Chemical Analysis

Handbook of Analytical Chemistry. Louis Meites, Ed. McGraw-Hill, New York, 1963. Unpaged. Illus. $47.50.

This book, which weighs between 3 and 4 pounds and runs close to 1800 pages in length, is not a handbook in the sense that it is a book to be held in the hand. "Tabulated analytical chemistry" would be a more descriptive title, since the book covers, in a tabular form, practically all aspects of theoretical and practical analytical chemistry. Many of the tables are accompanied by expository material of a general nature, which is very helpful in making use of the data. With a few exceptions the tables include literature references, and most are quite up to date. The material has been compiled by the competent editor with the aid of 130 chemists, the great majority of whom are recognized experts in the field to which they have contributed.

The book is divided into 15 sections. Section 1 presents, in 23 tables, fundamental data. Among these, the tables of all types of equilibrium constants are particularly valuable. Many more tables of fundamental data are found in other sections. In general, the data have been critically selected, and several have been taken from recent compilations published by the Analytical Chemistry Section of the International Union of Pure and Applied Chemistry. Section 2, "Qualitative Analysis," presents 20 tables dealing with schemes of inorganic qualitative analysis (*embarras de choix*), a few tables of selected tests and techniques, and some 16 tables covering organic qualitative analysis. Section 3 deals with the essentials of gravimetric and visual titrimetric analysis; the important and relatively modern subject of "chelometric" titrations (a notation not universally adopted) is dealt with in some 130 pages. Again, some of the tables are too exhaustive and not selective. For example, table 35 contains a list of 55 methods for direct visual titration of calcium with EDTA, but the list is not very helpful to the analyst who is looking for guidance in selecting a method. Section 4, which deals with gas analysis, is followed by extensive sections (5 through 8) on electrometric, optical, nuclear and magnetic, and thermoanalytical techniques. Separated from these is section 10, on techniques of separation, which is preceded by section 9, on biological and chemical methods. It would seem more logical to have the section on techniques of separation follow the other sections on techniques and to place the present section 11, on measurement of *p*H, before the treatment of biological methods. Section 9 is organically related to sections 12 (methods for the determination of specific substances) and 13 (technical analysis). A brief section on the use of statistics in chemical analysis and one on definition of terms and symbols conclude the book.

It is difficult to find any specific information without the help of the index, which is exceptionally good. The book is remarkably free of typographical errors. For an editor to submit each table to a close critical examination is virtually impossible. Some shortcomings and even mistakes occur, but they can be corrected in future editions.

Louis Meites deserves great credit for bringing together in one volume such a wealth of critically selected information. Owing to the lack of modern "International Critical Tables," and the nonexistence of a book that provides tabulated information on the whole field of experimental analytical chemistry, the Meites handbook will serve for many years as a source of ready information for practicing analysts, theoretical analytical chemists, and colleagues in related fields.

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New Books

Mathematics, Physical Sciences, and Engineering

Astrophysique. E. Schatzman. Masson, Paris, 1963. 153 pp. Illus. Paper, F. 24; cloth, F. 29.

The Atomic Energy Deskbook. John F. Hogerton. Reinhold, New York; Chapman and Hall, London, 1963. 687 pp. Illus. $11.

The Calculus. William L. Schaaf. Doubleday, Garden City, N.Y., 1963. 436 pp. Illus. Paper, $1.95.

The Constitution of Glasses. vol. 1, *Fundamentals of the Structure of Inorganic Liquids and Solids.* Woldemar A. Weyl and Evelyn Chostner Marboe. Interscience (Wiley), New York, 1962. 447 pp. Illus. $16.

Corrosion-Mechanical Strength of Metals. L. A. Glikman. Translated from the Russian (Moscow, 1955) by J. S. Shapiro. Butterworth, Washington, D.C., 1962. 182 pp. Illus. $9.50.

Differential Amplifiers. Their analysis and their applications in transistor d-c amplifiers. R. D. Middlebrook. Wiley, New York, 1963. 129 pp. Illus. $7.95.

Electric Furnace Steelmaking. vol. 2, *Theory and Fundamentals.* Clarence E. Sims, Ed. Interscience (Wiley), New York, 1963. 487 pp. Illus. $11.

Electromagnetism and Relativity. Edward P. Ney. Harper and Row, New York, 1962. 159 pp. Illus. Paper, $3.75.

Formation Evaluation. Edward J. Lynch. Harper and Row, New York, 1962. 440 pp. Illus. $12.50.

Industrial and Marine Gearing. S. A. Gouling. Wiley, New York, 1962. 254 pp. Illus. $8.50.

Nuclear Reactions. vol. 2. P. M. Endt and P. B. Smith, Eds. North-Holland, Amsterdam; Interscience (Wiley), New York, 1963. 552 pp. Illus. $18.50.

The Physical World. A course in physical science. Richard Brinckerhoff *et al.* Harcourt, Brace, New York, ed. 2, 1963. 512 pp. Illus. $5.20.

Reliability Abstracts and Technical Reviews. Abstracts 1–275. National Aeronautics and Space Administration, Washington, D.C., 1962. Unpaged.

Representation Theory of Finite Groups and Associative Algebras. Charles W. Curtis and Irving Reiner. Interscience (Wiley), New York, 1962. 699 pp. Illus. $20.

Stability of Motion. Applications of Lyapunov's second method to differential systems and equations with delay. N. N. Krasovskii. Translated from *Nekotorye zadaci teorii ustoicivosti dvizeniya* (Moscow, 1959) by J. L. Brenner. Stanford Univ. Press, Stanford, Calif., 1963. 196 pp. Illus. $6.

Statistical Theory of Reliability. Proceedings of an advanced seminar conducted by the Mathematics Research Center (Madison, Wis.), 1962. Marvin Zelen, Ed. Univ. of Wisconsin Press, Madison, 1963. 184 pp. Illus. $5.

This Is Outer Space. Lloyd Motz. New American Library, New York (© 1960), 1962. 191 pp. Illus. Paper, 60¢.

Vectors. Raymond A. Barnett and John N. Fujii. Wiley, New York, 1963. 141 pp. Illus. $2.95.