Ch. Joyeux and Baer, and the trematodes by Baer and Joyeux. The material on the Mesozoa was prepared by P.-P. Grassé; this includes a section on Orthonectida by the late M. Caullery (probably this remarkable zoologist's last contribution). Acanthocephala were prepared by Baer, and the nemerteans by Marie Gontcharoff. The book as a whole is remarkably up to date, with only a short addendum of loose ends.

The classification of Turbellaria is extensively revised, and those accustomed to acoels and rhabdocoels will have trouble finding them in a maze of unfamiliar orders and suborders, to say nothing of the unfamiliar new creatures that have come to notice in the last few years. As for the speculations about the affinities of the Mesozoa, the inimitable P.-P. Grassé remarks that they are not very serious—they are based on "simple jeu de l'esprit. Les véritables affinités des Mesozoaires sont à découvrir."

Among the illustrations are four color plates, one of free-living Turbellaria, the others of nemerteans (one of these resembles a dish of discolored spaghetti and hardly seems worth the considerable cost of printing). Although the section on the cestodes is illustrated with at least 15 drawings of life cycles, with hosts and all, reminiscent of a yearbook of agriculture, there are no diagrams of life cycles for trematodes. The text figures are clear and abundant, except that a fresher diagram of the general anatomy of a nemertean should have been prepared.

In all, this is a well-organized, substantial contribution to this standard and now essential series.

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Immunology

Advances in Immunology. vols. 1 and 2. W. H. Taliaferro and J. H. Humphrey, Eds. Academic Press, New York. vol. 1, 1961, 443 pp., $14; vol. 2, 1962, 400 pp., $12. Illus.

Modern immunobiology represents a group of disciplines in the process of rapid development and expansion. Even the professional immunologist is hard pressed to keep abreast. But this field is also the real concern of the general biologist, the microbiologist, the geneticist, and the clinician. To keep up with advances in this broad field requires summary and analysis. Thus, the initial volume of *Advances in Immunology* seemed a welcome addition to the literature. This reaction was reinforced by the unusually high quality of the reviews in the initial volume. The eight well-chosen critical reviews ranged broadly over the field. For example, immunological tolerance was treated from the viewpoint of the transplantation biologist (by Hasek, Lengerova, and Hraba) and from the viewpoint of the classical immunologist (by Smith) with little overlap.

It was clear from these reviews that, like the positive immunologic response, "specific immunologic negativity" is a phenomenon that must be incorporated into the framework of understanding of the specific adaptation to antigens. The mass of fact in this one area alone reflects the vigor of the current activity in immunology. Osler's review of the complement system holds promise of understanding at both the chemical and the biological level. Perhaps the greatest promise of understanding of immune reactions lies in isolating the responsive system in a test tube. Stavitsky's able consideration of efforts in this direction leaves one convinced that both conceptual and technical progress are needed before adaptive immunity can be produced entirely in vitro. Weigle presents a beautiful succession of experiments that establish the toxicity of soluble antigen-antibody complexes and suggest a pathogenetic mechanism for a variety of experimental and clinical lesions. Gell and Benacerraf most effectively analyze the current knowledge about delayed allergy. Here, it is clear that recent understanding in this area has stemmed from the work of these authors and from that of S. B. Salvin, work in which precisely defined systems were used. The final chapter in the first volume, a masterly consideration of tumor biology, is a posthumously published chapter by P. A. Gorer. Gorer did more than anyone else to keep respectable the use of an immunological approach to the study of cancer, and his review reflects both his vast knowledge and the incisiveness of his theoretical approach to this difficult field.

The second volume of the series has been published, and it is clear that the high standards have been maintained. This volume also contains eight critical reviews of most important areas in immunobiology. Karush's concern with specificity and its basis in molecular structure and molecular forces is balanced by the presentation (by Miller, Marshall, and White) of an analysis of a hot biological problem—the role of the thymus in immunobiology. Nossal's review of the cellular genetics of immune responses emphasizes the key role of proliferation in immune adaptation.

The contributors to the first two volumes of *Advances in Immunology* have set a lofty goal for those that will follow. If, in the ensuing volumes, this yearly series can approach the standards set in the first two volumes, Taliaferro and Humphrey will have been amply rewarded for the difficult task of keeping eight immunologists in line each year.

Advances in Immunology must find itself among the most active volumes in the libraries of our universities and research institutions, immediately available for immunologists, immunochemists, and transplantation biologists and close at hand for cellular geneticists, pathologists, biologists, and clinicians.

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Lanthanides

The Chemistry of the Lanthanides. Therald Moeller. Reinhold, New York; Chapman and Hall, London, 1963. x + 117 pp. Illus. $1.95.

It is an unfortunate fact that, in inorganic chemistry courses at the lower collegiate level, the so-called rare earths are often completely ignored, or, at best, presented in one lecture as a rather uninteresting breed of elements. As a result, a typical chemist, asked simply to name the lanthanide elements, either shakes his head in dismay or immediately resorts to a memory device—Caesar's (Ce) Prudence (Pr) Needs (Nd) Permanent (Pm) Salvation (Sm), Europe's (Eu) Good (Gd) Tables (Tb) Disperse (Dy) Hoboes (Ho), Errant (Er) Tramps (Tm). Why be (Yb) Ludicrous (Lu)?—in order to fulfill his assignment.

A typical chemist also knows that the 3 + oxidation state is exhibited prominently by the lanthanide elements, that the different 3 + ions are hard to separate quantitatively, and that there is something known as the lanthanide contraction. He does not know that the lanthanides are not rare.

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