on the Cetacea, 1866, Ray Society, London). Slijper's misrepresentations are italicized: "Eschricht . . . discovered no less than thirteen *complete* porpoises and *fourteen* seals in the first chamber of its stomach (6½ × 4¾ feet). A *fifteenth seal* was found in the animal's *throat*." Eschricht says that only one of the porpoises was even "almost entire, most of them [were] half decomposed and only to be recognized by fragments of the skeletons . . . I satisfied myself [as to their number] by only collecting the heads." Eschricht said that upon first opening the stomach ". . . five or six seals, some large, some small, all flayed . . ." were revealed. As further seal bodies were taken out ". . . a couple of them seemed to be fresh flayed, most of them [were] half digested. . . . some only remaining in the shape of loose parts of the skeleton . . . a fourteenth [seal], a very small one, . . . had [passed on] into the second stomach. . . ." The alleged 15th seal Eschricht described as a seal skin clutched in the killer's teeth and empty except for the "crushed head" and "the paws." He considered this skin to belong "to one of the flayed bodies found in the stomach, and, therefore, . . . not to be counted separately."

Thus, Slijper's words and illustrations imply that the first stomach of the killer whale contained 27 whole animals, when in fact it contained the *remains* of 13 skinless, partly digested seals and the *remains* of 13 partly digested porpoises. And the whole seal in the throat was an empty skin in the teeth. Since most of the remains in the stomach were much reduced from their original bulk, Eschricht's original account is quite credible, whereas Slijper's is not.

As a book intended for scientists and laymen alike, Slijper's *Whales* is flawed by these excesses of enthusiasm, by the lamentably high frequency of error, and by the difficulty of checking errors because of inconvenient and inadequate documentation of original sources. As a slightly contaminated fountain of the knowledge, it will nevertheless be truly invaluable to those adequately fortified by the prophylactic of skepticism. Certainly no cetologist can afford to be without the book, and no mammalogist will find a better single compilation on the Cetacea.

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Entomology

Insect Pathology. An advanced treatise. vol. 1. Edward A. Steinhaus, Ed. Academic Press, New York, 1963. vxiii + 661 pp. Illus. $19.

I have a relatively low opinion of multiauthor books, be they textbooks or advanced treatises. But the present volume is exceptional in that a very high percentage of its chapters are really good.

This volume, the first volume of a two-volume work, treats physical injuries, chemical injuries, nutritional diseases, genetic disturbances, tumors, normal microbiota, the effect of vertebrate pathogens on insect and acarine vectors, immunity, physiopathology, predispositions, the nature of infections, the nature of nuclear polyhedrosis viruses, cytoplasmic viruses, the induction of virus infections, granuloses, and Rickettsiae. Only some of these can be singled out for further comment.

The chapter by Day and Oster on physical injuries only points out how little interesting work has been done. Even with respect to radiation effects the data are mostly superficial (the dosages tolerated), with little on the fundamental nature of the effects. Brown follows with an excellent chapter on chemical effects which covers histopathology, symptomatology, and enzyme inhibitions. The chapter by Berg, on genetic diseases, should be useful to those entomologists who need instruction on what can be determined by genetic analyses. Harker's chapter on insect tumors is excellent; unfortunately, little is known about these tumors. Brook's chapter on the microorganisms found in healthy insects is a comprehensive survey, and I wish that she had been allowed more pages to detail the literature more thoroughly. Stephens' chapter on immunity is one of the half-dozen highlights of the volume. In this difficult and controversial field, she does a nice job of presenting the available data and of evaluating it critically, without making the mistake of taking a stand in favor of this or that idea. Arizama's chapter on the nature of virus infections, despite its poor English, gets across the status of the field today.

The truly superlative chapters by Bergold, on nuclear viruses, and by Smith, on cytoplasmic viruses, are the highlights of the volume. The work on insect viruses, as it is presented by these internationally known leaders, has been important not only to entomology but also to the general field of virology. I recommend these chapters to both entomologists and virologists. Huger deals competently with the granulosis viruses which are less well known, and Krieg treats Rickettsial effects in insects.

No review can do justice to this volume—it can only recommend the volume to those who are interested. When complete (the second volume will cover bacterial, fungal, and protozoan diseases, epizootiology, diagnosis, and the control of insects by microbial methods), this work should not only be a landmark in this field but an indispensable book for everyone concerned with pathological problems in insects.

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Measuring the Earth

Geodesy. Guy Bomford. Oxford University Press, New York, ed. 2, 1962. xvi + 561 pp. Illus. $14.40.

Three recent developments, the requirements for guiding rockets from point to point on the earth's surface, the very precise determination of satellite orbits from observations at widely spaced sites, and the need to reconcile distances measured into space from terrestrial base lines with direct radar measurements, have led to an increase in the importance of geodesy, the science of measuring the earth on a large scale. Since the first edition of this excellent book was published (1952), the field of geodesy has developed very rapidly, and a second edition is therefore most welcome.

The subject matter has been brought up-to-date by the inclusion of sections dealing with the Tellurometer, with the geometrical and dynamical uses of artificial satellites, and with modern ideas relating to basic aspects of reduction and computation. The book merits high recommendation for use as a textbook and also as a source for general reading by workers in related fields. The material is exceptionally well organized, the writing lucid, and the numerous