important function of scientists in politics is to foster this reorientation of nations; and what Gilpin calls fearmongering is an important part of this effort.

Gilpin's book is informative, helpful, and fairminded. It is full of sharp observations, incisive comments, and good advice to both scientists and politicians. What Gilpin lacks—in common with many other commentators—is a sense of the revolutionary character of our times, the feel for the tragic challenge now placed before mankind by the discrepancy between the rapid advance of science and the stagnation of an obsolete international system. Gilpin writes as if the structure of American democracy were something permanent, a stable basis for planning into an indefinite future. Scientists, on the other hand, cannot divest themselves, even when they enter politics, of a sense of impending crisis, of the inevitable heading into a storm which could splinter our ship of state and others as well. This sense of a tragic crisis is what accounts for scientists having become active in political life; in fact, it is the only valid justification for this involvement. A scientist who becomes an important cog in the political machinery without this sense of tragic challenge is merely a technical expert, accidentally involved in politics—which is what many traditional politicians want him to remain.

Clear and Concise

Pleuropneumonia-like Organisms (PPLO) Mycoplasmataceae. Emmy Klieneberger-Nobel. Academic Press, New York, 1962. ix + 157 pp. Illus. $6.

There has been, over the last few years, a growing interest in the pleuropneumonia-like organisms (PPLO). This interest has been generated by an increased awareness of the pathogenicity of these cells, by new developments in the study of bacterial L forms with which they have some common properties, by the finding of PPLO as contaminants of tissue culture, and by a realization of the significance of these very tiny forms in studying cellular processes. It is therefore an appropriate time for a book on the PPLO, and it is fortunate that the project has been undertaken by E. Klieneberger-Nobel who has contributed so much to this field by her own research. The result is a concise, clear, easily readable monograph covering all aspects of the PPLO. There is useful material, both for those interested in PPLO as etiological agents and for those concerned with the cellular physiology of these microbial forms.

Chapter 3, on morphology, is of particular interest. In it are collected the wide variety of reported morphological information. From this, Klieneberger-Nobel has formulated a model to account for the conflicting results that have been reported. The model presents a coherent scheme for the replication of the PPLO, and it appears to account for all the present observations.

The nutrition and metabolism of PPLO is reviewed in chapter 8, which was written by S. Razin. His review is exhaustive and collects in one place the available information on the subject. But the paucity of such information should serve as a stimulus to the biochemists who have virtually ignored this class of organisms.

Chapters 1, 2, 9, and 10 relate to aspects of the PPLO that are of direct interest in the study of diseases caused by these agents. The wide variety of PPLO infections in domestic and laboratory animals, and the relatively small amount of information on PPLO in humans, suggest that the veterinary bacteriologist has been more alert than his medical colleague to the pathological potential of these strains. The recent identification of Eaton agent, which causes a pneumonia in human beings, as a PPLO reinforces the notion that the organisms may be far more important in human disease than has been previously recognized. Klieneberger-Nobel's work on the pathogenicity of PPLO has been a pioneering study, and it is summed up in these four chapters.

Chapter 4 is a brief note on laboratory procedures. A much expanded section on methods of isolating, growing, assaying, and otherwise experimenting with these cells would have been useful. There is a general misconception that the PPLO are very difficult to work with, and I am afraid this book does little to alleviate the notion.

Bacteriologists will be especially interested in the discussion concerning the relationship of PPLO to L forms (chapter 7). An attempt is made to differentiate the PPLO from chicken coccobacilliform bodies (*Mycoplasma gallisepticum*) (chapter 6). In view of the great similarities between these strains and other PPLO and the range of diversity within the PPLO group itself, one wonders why the author tries so hard to separate these strains into a different grouping. It is difficult for me to accept many of the arguments in this chapter.

In all chapters the author's opinions are stated clearly and strongly. Even where one disagrees, one must of necessity respect the hard work and careful reasoning behind the conclusions. This book is clearly an essential addition to the library of anyone interested in modern developments in the pleuropneumonia-like organisms.

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Medical History

Galen on Anatomical Procedures. The later books. Translated by W. L. H. Duckworth. M. C. Lyons and B. Towers, Eds. Cambridge University Press, New York, 1962. xix + 279 pp. $7.50.

David Edwardes' Introduction to Anatomy, 1532. A facsimile reproduction, with English translation and an introductory essay on anatomical studies in Tudor England. C. D. O'Malley and K. F. Russell. Stanford University Press, Stanford, Calif., 1961. 64 pp. $2.75.

Lectures on the Whole of Anatomy. William Harvey. An annotated translation of *Prelectiones Anatomiae Universalis*. C. D. O'Malley, F. N. L. Poynter, and K. F. Russell. University of California Press, Berkeley, 1961. vi + 239 pp. $8.

Anatomists and medical historians will recognize in these three scholarly books a significant contribution to the refinement of the perspective from which we view the development of anatomical science. Duckworth's carefully edited translation of Galen's last major work does much to enhance the stature of the Great Pergamene. The book firmly establishes the solid scientific outlook and achievements of Galen's career-long study of anatomy and permits a more generous attitude toward his errors, which have been so much emphasized since Vesalius.

Anatomical teaching in Britain began officially in 1505 at Edinburgh

through the granting of a seal to the barber-surgeons, and the first text in England was Edwardes' *Introduction to Anatomy*, published in 1532. *The Fabrica of Vesalius* appeared in 1543. In 1616 Harvey gave his first Lumleian lecture on anatomy. This series of lectures was published in 1886 as his *Prelectiones Anatomiae Universalis*, a compilation of Harvey's salvaged notes that appear to have been written, mostly in Latin, over at least the 10-year period from 1616 to 1626.

O'Malley and Russell have provided an illuminating background for Edwardes' work, which comprises only 15 short pages and which is reproduced here in the original Latin. The original volume was not illustrated. The translation shows that the book had no real scientific utility and that it is valuable merely for its priority.

Harvey's lectures are of special interest because they were prepared for physicians, not surgeons, and because they contain his first account of circulation, which the authors date as 1618, not 1616, not quite 10 years before *De Motu Cordis*. The lectures deal with visceral anatomy and the brain, as shown in cadaver demonstrations in the days before embalming. There are numerous clinical and comparative anatomical allusions. Galen is frequently cited by Harvey.

The present books on Galen and Harvey will provide future scholars a basis for enlightening analytical comparisons.

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Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, *but to the publisher or agency sponsoring the publication.)*

Academy of Natural Sciences of Philadelphia. *Monograph*, No. 12: "A monograph of the Orthoptera of North America (north of Mexico)," vol. 1, James A. G. Rehn and Harold J. Grant, Jr. (255 pp., plates, 1961. $10); *Notulae Naturae*, No. 340: "Nomenclature status of the neotropical subspecies of the colubrid snake," Douglas A. Rossman (2 pp., 1961); No. 341: "*Amphiesmoides*, a new genus for *Tropidonotus ornaticeps*, Werner (Serpentes: Colubridae)" Edmund V. Malnate (7 pp., 1961); No. 342: "*Jonga*, a new genus of freshwater atyid shrimps (Decapoda, Atyidae)," C. W. Hart, Jr. (3 pp., 1961); No. 343: "The feeding of *Strombus* and related herbivorous marine gastropods, with a review and field observations," Robert Robertson (9 pp., 1961); No. 344: "Two new Bahaman soles of the genus *Symphurus* (Family Cynoglossidae)," James E. Böhlke (4 pp., 1961); No. 345: "The genus *Opshomala* of Serville, 1831 (Orthoptera; Acrididae; Cyrtacanthacridinae)," James A. G. Rehn and David C. Eades (9 pp., 1961); No. 346: "The Atlantic species of the clinid fish genus *Acanthemblemaria*," James E. Böhlke (7 pp., 1961); No. 347: "The position of the genus *Clematodina* Günther (Orthoptera; Acrididae; Cyrtacanthacridinea)," James A. G. Rehn and David C. Eades (4 pp., 1961); No. 348: "Notes on the caridean shrimp, *Rhynchocinetes rigens* Gordon (Crustaceae, Decapoda), in the western Atlantic," Raymond B. Manning (7 pp., 1961); No. 350: "Some tertiary fossils from the Goajira Peninsula of Colombia," Alex A. Olsson and Horace G. Richards (16 pp., 1961); No. 352: "Supplementary notes on the Rissoellidae (Gastropoda)," Robert Robertson (2 pp., 1962); No. 353: "The effects of temperature and water hardness upon the toxicity of naphthenic acids to the common bluegill sunfish, *Lepomis macrochirus* RAF., and the pond snail, *Physa heterostropha* Say," John Cairns, Jr. and Arthur Scheirer (12 pp., 1962); No. 354: "Phallic structures, relationships, and components of the Dericorythinae (Orthoptera; Acrididae)," David C. Eades (9 pp., 1962). *Proceedings*, vol. 113: 12 papers. (322 pp., 1961. $10). The Academy, Philadelphia.

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