Any attempt to popularize a subject is certain to bring forth criticisms of over-simplification from professional workers in the field. The book in general is not open to such criticisms, although it may be hoped that the term "breathing pores" as applied to stomates may eventually disappear even from popular literature. Here and there careless statements and minor errors occur, together with confusion and mislabeling in connection with the illustrations. Perhaps there are no more errors than might be expected in a volume of this size.

The author writes well, with many a happy turn of phrase, and demonstrates that he has mastered many of the aspects of presenting scientific subject-matter to the public, but his zeal and industry have caused him to fall short of his main purpose in this case.

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ANNUAL REVIEW OF PHYSIOLOGY

Annual Review of Physiology. JAMES MURRAY LUCK, Editor. VICTOR E. HALL, associate editor. American Physiological Society and Annual Reviews, Inc., Stanford University P. O., California, 1939. Pp. 705. $5.00.

THE first volume of Annual Review of Physiology—a sister publication to the well-established Annual Review of Biochemistry—comes as a welcome addition to the field of scientific publications. It is the only attempt to present in the English language a survey of contemporaneous work in physiological sciences, and the only publication in any language which accomplishes the task well, in concise and inexpensive form. This, of course, is largely due to the enthusiastic and conscientious efforts of the various contributors, each an authority in the field covered.

It is impossible to give a synopsis of a volume such as this, but mention of a few items selected at random may be allowed. Needham's review of Developmental Physiology calls attention to the importance of bringing embryology into the physiological field. The development of form depends on metabolic changes, and further understanding of embryological changes will be more and more determined by a better understanding of the energetics of cell growth and differentiation and of the chemical and physical excitants concerned. Burton's review of Temperature Regulation is characterized by explicit emphasis on the most significant lines of advance, *e.g.*, the evidence dealing with the more exact localization of the heat-regulating center in the hypothalamus and the highly discriminating power of peripheral temperature receptors. The extensive work of Winton, DuBois, Burton and their associates on ultimate factors concerned in heat loss, and their relation to clinical fevers, climatic adaptation, air conditioning, etc., are all reviewed. Murlin, in a section devoted to Energy Metabolism, gathers together in an authoritative way much new work relating to such old subjects as normal standards of basal metabolism, the importance of racial and hormonal factors, etc.

Bazett reviews the Peripheral Circulation, devoting considerable space to the subject of aortic elasticity. The control of the peripheral circulation by nervous and local metabolites has received renewed attention during the year that has passed, but one wishes it were possible to sift the material more critically. Some overlapping of subject-matter, with a subsequent chapter by Eyster on Heart occurs, a difficulty that will perhaps always exist in the artificial subdivision assigned to reviewers. Eyster's review includes new work on the course of impulses in the heart, electrocardiography, vectorcardiograms, etc. Limitation of space has prevented the expansion of subjects that the reviewer would have liked to see.

Gesell offers a charming review of Respiration, but is too inclined to fit all work into his own mold of thought. Bozler gives a good review of Muscle, and Ivy and Gray of the Digestive System. Newer work seems to relieve the gastric sphincter somewhat of its age-long function of guarding the pyloric gate, and nerves seem to have a subsidiary responsibility for secretion of bile. The reviewers properly stress the difficulty of drawing conclusions from experiments in which nerves are sectioned or stimulated, for, in control of secretion and motility, separate fibers rather than whole nerve trunks are undoubtedly activated. Mann and Bollman edit the complementary chapter which surveys the multifold functions of the liver. Hope is renewed that the moot problem of the fatty liver may soon be completely solved as a result of the application of experimental methods. It emphasizes the need of doing something more than looking at tissues through a brass tube with pieces of glass at its ends.

The contributions that have been made by means of action potentials in our understanding of the activity of nerve, spinal cord and brain are authentically analyzed by Bronk and Brink, Jr., Eccles and H. Davis, respectively. Hinsey reviews the work on the autonomic nervous system in his usual conservative manner, giving particular attention to the importance of the afferent pathways. The new work on posterior root afferents is included.

Homer Smith reviews the newest developments in renal secretion and calls attention to the possible intrarenal regulating mechanism for the control of blood flow, to the possibility of extraglomerular blood supply to the tubules, and to the action of the posterior pituitary and adrenal cortex on renal function.

Applied physiology is reviewed by Dill. This is restricted to such fields as muscular exercise, high tem-

perature, low and high partial pressure of oxygen, etc. One wonders whether the term Applied Physiology should be allowed to be preempted for such a narrow field. The applications of physiology to medicine must not be forgotten and should form a topic for discussion in future reviews.

H. Evans gives his usual complete and lucid discussion of certain Endocrines—Gonads, Pituitary and Adrenals. In the great whirlpool of real and apparent contradictions, it is always refreshing to have Evans aid us in regaining another hold on the problems.

In conclusion, an ample index of authors and subjects covering 52 pages adds greatly to the value of the work as a reference medium. The sphere of usefulness of the Annual Review of Physiology should be large. A casual reading of any section—or of the whole volume for that matter—provides the reader with a good perspective of the trends that recent investigations are taking. The style is terse, crisp and pleasingly devoid of useless verbiage; but nevertheless reads like a connected narrative.

The reader who cares to delve deeper into particular problems is provided ample opportunity for doing so. The preface states that the aim is to furnish breadth rather than depth of information. But, correctly used, depth is there, too. Each section contains sufficient references to serve as leads for other work, past and present, so that the doubting reader need not necessarily accept the interpretations of contributors. However, the latter, on the whole, seems to be fair and impartial, but generally can not be regarded as overcritical. The question remains whether categorical statements of discoveries claimed or a little more separation of wheat from chaff is the more desirable form of review.

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REPORTS

SCIENTISTS AND THE PRESS

A COMMITTEE of the Boston and Cambridge branch of the Association of Scientific Workers, consisting of five scientists and three journalists, has examined in some detail problems of science news reporting. The following statement has been prepared in the hope of stimulating consideration of this matter, and eliciting comment and criticism.

Arrangements for reporting scientific work in the press are at present largely haphazard. The selection of science news is left almost wholly to journalists, who obtain it from a variety of sources, competent and otherwise. In these circumstances science reporting is inevitably scattered, superficial and centered about prominent personalities. Frequently it has been grossly inaccurate, or so poorly designed as to be almost certainly misleading.

Yet many scientists believe that wider and more dependable distribution of scientific information should benefit both science and the public. It should help to educate a large body of laymen in scientific objectives and accomplishments. It should mobilize aid for research, by interesting individuals and industrial organizations and by enlisting popular support for the governmental maintenance of science projects. Widespread and accurate news reports should help to counteract the flood of pseudo-scientific commercial propaganda in our newspapers; and equally the pronouncements of a few individuals who are popularly supposed, not always justly, to speak for science as a whole. Science is but one of many social activities, and particularly in a democracy the public should be kept well informed of its methods and purposes. Such knowledge constitutes a strong defense both of the public and of the future of free scientific activity.

Occasional scientists, however, feel that science should be withheld from newspapers, that they distort it in fact and spirit. In this light the recipients of newspaper publicity are sometimes regarded with suspicion and disapproval. Yet this position grows increasingly weaker. If only because the scientist can not control newspaper accounts of his work, which often appear without his knowledge or cooperation, the stigma sometimes associated with publicity is unreasonable and dangerous.

This is perhaps the crux of the matter. Scientists can neither suppress nor restrict science news. Usually they do not initiate it. Yet they are held responsible for it by the public and by many fellow scientists. A policy of passive resistance in the past has helped only to produce a chaotic press which seriously injures science and the individual worker.

A positive alternative is for scientists to recognize in the press a valuable agency for liaison with the public, and to attempt through active cooperation to improve its effectiveness. Such an approach admittedly offers difficulties. Important steps toward their solution already exist in Science News Service, the American Chemical Society News Service and similar institutions created by scientists; and the press has cooperated to a degree by employing specialists in science news, such as those who form the Association of Science Writers. But such agencies can use only what they are given. The general problems of initiation and critical supervision of science news can be solved by scientists alone.