The Neuroanatomical Basis for Clinical Neurology. Talmadge L. Peele. McGraw-Hill, New York–London, 1954. ix + 564 pp. Illus. $12.50.

As stated in the preface, the purpose of this volume is to present descriptive neuroanatomy with some principles of neurophysiology and their application to clinical neurology. This purpose is achieved admirably. The neuroanatomy is presented in detail, the neurophysiology is that useful to the clinician, and the clinical material is confined to basic symptoms and signs and classical syndromes. The subject matter is discussed by functional systems. In each system the anatomy, physiology, and clinical application are presented successively in that order. Circulation of the brain and spinal cord are discussed fully, giving the space to this subject that it has come to deserve. A brief but adequate section concerning the development of the nervous system is included.

I am pleased that the material is printed in half-page columns. As an aid to those who will use the book as a reference, the chapters are divided into sections under which the chief subjects appear in darker type, making it much easier to find the desired material. The bibliography is extensive and up to date and stresses the clinical aspects. The illustrations are numerous and for the most part excellent. However, the reproductions of the Weigert stained brainstem sections are not as useful to the student as they might be if they had been enlarged further.

The book is ideal for the physician in training in neurology, neurosurgery, or psychiatry, to be used not only as a comprehensive review of the basic anatomy and physiology but also as a reference volume. It appears to be too long and detailed to be used as a textbook for first- or second-year medical students. The plan of presentation, however, makes supervised reading assignments feasible and under such circumstances could serve as a textbook for neuroanatomy and neurophysiology and as an introduction to clinical neurology. Any physician practicing in fields related to the nervous system will find this an invaluable reference book.

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Wool: Its Chemistry and Physics. Peter Alexander and Robert F. Hudson. Chapman & Hall, London; Reinhold, New York, 1954. viii + 404 pp. Illus. + plates. $10.

The dynamic, intellectually independent senior author led a wool research group that included Hudson through seven unusually productive years during which this group made contributions to a remarkable variety of problems of both practical and fundamental interest. Their interpretation of the status of wool research as of early 1952 accordingly merits and repays serious study and is recommended to professional textile research scientists and advanced students. Newcomers to textile research and workers in related fields will find this book valuable for orientation and a convenient introduction to the technical literature. However, it is recommended with certain reservations that will be explained later.

The authors deserve thanks and commendation for having the energy and rashness to attempt a comprehensive account of wool chemistry and physics. Coverage of rate processes within the fiber, sorption and swelling, and acid-base characteristics are especially detailed. Illustrations are abundant and well chosen. (The biochemistry and biology of wool are not discussed, notwithstanding a statement to the contrary on the jacket.) The chemical viewpoint predominates throughout, with the result that electric properties, for example, are treated briefly in connection with various other topics; optical birefringence is mentioned only as occurring; and mechanical properties, such as tensile strength and elasticity, are discussed without reference to representative numerical values. The book is especially valuable for its convenient authoritative account of the research of the authors' own group. More than 10 percent of all references cited are to its work, including a number of interesting results not published elsewhere.

Certain criticisms have been anticipated by the authors. They explain in the preface that the historical development of the various subjects treated has not been attempted. Nevertheless, in various instances, for example in describing sorption, acid binding, and chemical structure, material is cited that is suggested by the authors or is considered by the reviewer to be mainly of historical interest. On the other hand, and in contrast with these citations of pros and cons, the authors give notice that they have set forth their own views of certain controversial subjects even in the absence of conclusive evidence. In most cases, I find no fault with their rather limited application of this policy. However, I feel that the account of wool morphology is unfairly arbitrary at several points, and especially so in describing the "sub-cuticle membrane." This is characterized in different places as "thin" and "relatively thick"; and as "situated between the scales and cortical cells," as possibly not including cells resembling cortical cells (with reference to criticism by Gralén), and as "made up in part of cells" considered on morphological grounds to form "part of the cortex." A less polemic and more useful description of the authors' preparation would be as a chemically resistant part of the cortex of certain fibers.

The book is marred by evidence of haste or carelessness in preparation. There are many easily noted typographic errors, which include faulty cross references to chapter or page or figure and faulty references to the literature, including garbled citations. A smaller number of minor grammatical blunders and apparent slips of the pen occur, such as the characterization of the isoelectric region of wool as a high

*p*H value and of tyrosine as a basic amino acid. The authors do not include themselves in the author index. The subject index has an admirable number of headings, but several additional pages on which significant information is given could have been cited for at least one of these ("urea").

The most serious limitation of this book presumably is not the authors' fault. Since the completion of the manuscript, wool research has seen many extremely interesting developments that would demand a place in a new edition. These include a great variety of evidence of differences among parts of the cortex; further information on the nature of the epicuticle; studies showing individual wool fiber differences in structure, mechanical properties, and composition; detailed description of the formation of wool fiber structure at the microscopic level; determination of amino acids that occur in wool with free alpha carboxyl groups; and, indeed, additional data applying to almost every section.

In spite of these limitations, this book is a valuable supplement and companion to other recent textile handbooks because of its different coverage and viewpoint.

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Sovereign Reason. And other studies in the philosophy of science. Ernest Nagel. Free Press, Glencoe, Ill., 1954. 315 pp. $5.

> Scientists are not uniformly the best interpreters of their procedures and their theoretical discoveries. . . . The philosophy of science which practicing scientists profess on ceremonial and other occasions when they discuss the broader significance of their enterprise . . . is often but an echo of philosophical ideas uncritically acquired in their youth. [p. 15]

The scientific public will therefore welcome the availability, in a single volume, of these 16 previously published essays on the logic of science by one of the most technically competent and noted contemporary philosophers of science.

In examining the views of C. S. Peirce, J. Dewey, A. N. Whitehead, B. Russell, A. S. Eddington, H. Reichenbach, and B. Blanshard, Ernest Nagel devotes particular attention to four paramount issues: (i) the articulation of the relationships between the abstract, theoretical concepts and objects of science to the materials of ordinary, familiar experience; (ii) the interpretation and "justification" of the probable inferences that furnish the warrant for the conclusions of empirical science; (iii) problems generated by the perennial quest for a total view of the universe; and (iv) the social determinants and social consequences of scientific activity, and the bearing of these findings on systems of individual and social value.

At a time when large-scale attempts are being made to persuade the American public that a theological renaissance is a sufficient or a necessary theoretical basis for the preservation of democracy in a technologic age, it is particularly useful to have this author's essay on "Malicious philosophies of science," which gives a telling refutation of the shoddy argumentation underlying such attempts and presents a vigorous defense of secular naturalism. He writes:

> . . . during periods of social crisis . . . spokesmen for institutional and philosophic theologies find a ready audience for a systematic disparagement of the achievements of empirical science. Ideas which the advance of knowledge had partially driven underground during periods of fair social weather, are then insolently proclaimed as panaceas for public and private ills. [p. 18]
>
> Knowledge of biology and hygiene are indeed not sufficient for an adequate conception of the moral life; but if one may judge from the historical functions of some philosophic and theologic ideas in perpetuating economic inequality and human slavery, and in sanctioning the brutal shedding of human blood, neither is a knowledge of philosophy and theology. [p. 34]

Space permits only one critical remark. Although Nagel takes issue with Whitehead's definition of the points of mathematical physics by the method of "extensive abstraction," he concedes to Whitehead that "points so defined have all the requisite mathematical properties" (p. 40). I have shown recently [*British J. Phil. Science* 4, 215 (1953)] that the philosophic defects of Whitehead's method issue in *mathematical* inadequacies. On page 39, last line, the term *with* should read *without,* and there are typographic errors on pages 13, 29, 32*n,* 38, 63, 85, 92, 96, and 299.

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New Books

Einführung in die Energetik und Kinetik biologischer Vorgänge. W. Bladergroen. Wepf, Basel, Switzerland, 1955. 368 pp. F. 28.

The Technique and Significance of Oestrogen Determinations. Memoirs of the Society for Endocrinology, No. 3. P. Eckstein and S. Zuckerman, Eds. Cambridge Univ. Press, New York, 1955. 96 pp. $3.75.

Fundamental Formulas of Physics. Donald H. Menzel, Ed. Prentice-Hall, New York, 1955. 765 pp. $10.65.

Plastics Tooling. Malcolm W. Riley. Reinhold, New York, 1955. 123 pp. $2.50.

Die Submikroskopische Struktur des Cytoplasmas. Protoplasmatologia, vol. II, A2. A. Frey-Wyssling. Springer, Vienna, 1955. 244 pp. $10.10 (Subscriber's, $8.10).

The Viking Rocket Story. Milton W. Rosen. Harper, New York, 1955. 242 pp. $3.75.

The Continuum and Other Types of Serial Order. With an introduction to Cantor's transfinite numbers. Edward V. Huntington. Dover, New York, ed. 2, 1955. 82 pp. Cloth, $2.75; paper, $1.

Bird Recognition. No. III. James Fisher. Penguin Books, Baltimore 11, 1955. 159 pp. $0.85.

Almost Periodic Functions. A. S. Besicovitch. Dover, New York, 1955 (Reissue of ed. 1, published by Cambridge Univ. Press). 180 pp. Cloth, $3.50; paper, $1.75.