*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.

WILFRED H. WARD
Western Utilization Research Branch, Agricultural Research Service, USDA

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.

ADOLF GRÜNBAUM
Department of Philosophy, Lehigh University

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.