is required is given in a directly usable form. The equations necessary for expressing relationships are given, but when one meets *p*H, *p*K, activity, ionic strength, free energy and redox, formal potentials, buffer solutions, Flood's diagram, overvoltage, distribution coefficient, indicator theory, redox indicators, and pages of equations connecting free energies with various concentrations of oxidants, ions, and complexes, the thought that some knowledge of physical chemistry would be desirable is sure to arise.

The subject matter is logically presented. Binding, printing, paper, and the arrangement of tables, graphs, and illustrations are good. There are minor errors but I saw none worthy of mention. Both the scheme for analysis and the theory necessary for understanding it differ much from those found in the textbooks commonly used in the United States.

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An Introduction to Human Biochemical Genetics. H. Harris. Eugenics Laboratory Memoirs, XXXVII. Cambridge Univ. Press, New York, 1953. 96 pp. Illus. $2.75.

Because of the difficulties inherent in the study of genetics in humans, knowledge in this area is somewhat less precise than that accumulated through observation of other organisms. On the other hand, in some aspects of genetics, the study of humans has suggested fruitful approaches to be applied to other organisms. This is particularly true of biochemical genetics, since Garrod, studying some diseases which appeared to be "inborn errors of metabolism," was one of the first to see that genes might act through their control over biochemical functions. Since his time, the advent of ever more refined and precise methods for studying the chemical aspects of bacteria, fungi, tissues, and body fluids in humans and animals have made biochemical genetics of considerable scientific importance.

In this book Harris has provided an excellent introduction to this field, which is useful to physicians and medical investigators who would understand genetics, and to geneticists who would see how genetic principles might apply in the biochemistry of health and disease. The book is not long and is certainly readable. Chapters II, III, and IX are especially valuable to the nongeneticist, since they review with great clarity the principles of genetics as they apply to human populations. In Chapter II is a discussion of gene frequencies, the significance of consanguinity, and some of the methods for the analysis of data. In Chapter III Harris discusses the difficult question of heterogeneity of apparently homogenous and simple characters, and in Chapter IX he takes up the problem of variability in manifestation of inherited characteristics. Under this heading are mentioned differences in manifestation in the two sexes, and quantitative differences and variations within and between families. If one understood what modified the expression of a characteristic in one individual as opposed to another, therapeutic approaches might suggest themselves. The other chapters present well-chosen illustrative material and avoid the use of conditions that are not reasonably well understood.

The format of the book and the diagrams and other illustrations are all well done. This is an important book, illustrating the conception that gene action, in order to be understood with maximum precision, will have to be expressed in biochemical terms.

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General Theory of High Speed Aerodynamics. vol. VI. *High Speed Aerodynamics and Jet Propulsion.* W. R. Sears, Ed. Princeton Univ. Press, Princeton, N. J., 1954. xiv+758 pp. Illus.+plates. $15.

This large volume presents discussions of a great variety of problems in high-speed aerodynamics by a number of different authors, each of whom has himself made important original contributions to one or more aspects of the field. This has inevitably resulted in a certain lack of logical structure for the volume considered as a whole. However this defect, if it be one, is more than compensated by the fact that the same subject is frequently considered by several of the authors; the resulting differences in approach and viewpoint are extremely illuminating and helpful to the understanding of the phenomena treated in this multiple fashion. The editorial task of cross-referencing must have been a formidable one, but it has been excellently and very completely accomplished.

The material covered is somewhat less broad than the title would imply since, with very few exceptions, the diffusion of both shear and heat are neglected, and the flows considered are treated as adiabatic. Many of the topics are, for the first time, presented in a unified and comprehensive manner, and there is a considerable amount of new material that has not before appeared at all. Accordingly the volume should be of great interest and value to the rapidly growing group of workers, teachers, and students in the field. The extensive bibliographies at the end of each section should also prove very useful.

Titles and authors of the various sections of *General Theory of High Speed Aerodynamics* are (A) "On the foundation of high speed aerodynamics" by Th. von Karman, (B) "Mathematical aspects of flow problems of hyperbolic type" by K. O. Friedrichs, (C) "Small perturbation theory" by W. R. Sears, (D) "Supersonic and transonic small perturbation theory" by Max Heaslet and Harvard Lomax, (E) "Higher approximations" by M. J. Lighthill, (F) "Plane subsonic and transonic potential flows" by Y. H. Kuo and W. R. Sears, (G) "The method of characteristics" by Antonio Ferri, (H) "Supersonic flows with shock waves" by Antonio Ferri.

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