states. The various porphyrias are well surveyed, with chapters on possible modes of treatment and on the pharmacological effects of porphyrins. The approach is often personal and considerable illustrative use is made of cases which have come under Professor Vannotti's own observation.

The weakness of the work lies in its arrangement. The new material covering recent work has been added, usually at the end of chapters, without integrating it with existing material. It is thus possible to find outmoded theories in one part of a chapter and more recent work refuting it later on with no cross-reference (e.g., Fischer's theory that the more carboxylated porphyrins are detoxication products is stated without qualification on p. 7 and refuted in a brief discussion of recent isotopic work only on p. 31). It is thus unwise to make use of isolated sections; chapters must be considered as a whole. A few footnotes by the translator help, but they are not adequate to replace the desirable greater integration of the text or, if this were impracticable, at least more adequate cross-references.

The translator has been careful not to superimpose his own views and has provided a most faithful translation. It is perhaps excessively loyal to the original to maintain some of the Continental usages, such as lactoflavin for riboflavin.

One of the most valuable features of the book is the extensive bibliography. One of the weaker features is the somewhat inadequate index. But the work as a whole remains a most valuable prime source for those interested in porphyrin metabolism.

C. E. DALGLIESH.

The Distribution in Human Blood Groups. By A. E. Mourant; with Foreword by H. J. Fleure. (Pp. xxi+438, 42s.) Oxford: Blackwell Scientific Publications, 1954.

It is less than 40 years since the Hirszfels discovered that the frequency of ABO blood groups varied in different nations. This discovery started off an enormous amount of work on the distribution, first of the ABO blood groups, but soon also on that of the MN groups and later still particularly that of the Rhesus blood groups.

This book is the first which is a completely comprehensive survey of the data widely scattered in the literature. It complements the work on the genetics of the human blood groups, *Blood Groups in Man* by Race and Sanger, which has recently appeared in its second edition. Nevertheless there is a succinct and useful survey of blood group inheritance and it is elaborated to show the anthropological significance of the different blood group systems: ABO, Rhesus, MNS, Lewis, P, Lutheran, Kell, Duffy, Kidd. Other simple genetical systems such as the sickle cell trait or the ability to taste phenylthiocarbamide are rightly promoted to "honorary blood groups" and are fully discussed. Detailed surveys of geographical distribution are dealt with in separate chapters: northern and central Europe, Africa south of the Sahara, the Mediterranean area, Asia, Indonesia, Australasia,

and America. There are chapters on hybrid and migrant populations, on the blood grouping of animals, and of bones and tissues ("blood group archaeology"). All this amounts only to the first half of the book and is summarized in a brilliant chapter, "Attempt at a Synthesis," which is headed appropriately by a quotation from Walter de la Mare:

"Strange prodigy is man. Of so short stay,
Yet linked with Vega and with Nineveh.
Time—space: what matters it how far away,
In this strange hall of mirrors through which
we stray?"

Recently evidence has been forthcoming that simple genetical characters such as the ABO groups or the sickle cell trait may have a selective value protecting against some diseases and causing others. As the balance between advantages and disadvantages will depend on surroundings we may obtain here a new insight in the formation of the human races. It is of particular interest that the distribution of some blood group systems such as Rhesus and MNS is fairly uniform over whole continents, whereas the ABO blood groups show wide variations within comparatively small areas.

The second half of the book contains chapters on laboratory procedures and calculation of gene frequencies. A detailed bibliography of some 1,700 references is then presented which alone will make this book an outstanding work of reference. There follow maps of the world and of Europe showing the distribution of various blood group genes on the principle of isobars. This manner of presentation is quite new and produces fascinating surveys at a glance. This is followed by 26 blood group frequency tables and an exhaustive list of the frequencies of the sickle cell trait. At the end there are three indices, one topographical, one zoological to the bibliography, and one general to the text.

This scholarly work will be a useful guide for all pathologists to a special aspect of blood group serology—at present not yet of practical importance but already intriguing and theoretically fundamental. It will be an indispensable work of reference to those who are specialists in the field.

H. LEHMANN.

The Laboratory Diagnosis of Leptospirosis. By J. W. Wolff. (Pp. xiv+98; 5 illustrations. 27s. 6d.) Springfield, Ill., U.S.A. Charles C. Thomas, Oxford; England: Blackwell Scientific Publications, Ltd. 1954.

The methods, for diagnosing leptospiral infection by laboratory means, which are described in this book have been used for the very extensive work which has been done in Amsterdam during the last quarter of a century. During all this time Dr. Wolff has been one of the leaders in applying them to leptospiral diseases in Indonesia and in the Netherlands. The separate aspects of the practical work are clearly laid out in full detail: microscopical demonstration of leptospirae in dark-ground preparations, in stained films and stained sections; culture, animal inoculation, and serological tests. The

pitfalls of identification are shown as in the risk of confusion in dark-ground preparations of protoplasmic threads for leptospire; also, most sensitive methods are described like the use of careful centrifugation of the plasma from oxalated blood to concentrate leptospire for microscopical examination. In serology the author uses living cultures for the observation of agglutination and lysis by active serum, but he states that the end-point of agglutination of killed leptospire (which is the method usually adopted in Great Britain) is practically as high as the end-point of lysis of living organisms. In this country the formalin used to kill leptospire is made less harmful to the antigen by adding pyridin to it (Burke, V. (1933), *Amer. J. Path.*, 9, 915).

Dr. Wolff indicates the proper method of examination for the different stages of a leptospiral infection and gives a synopsis and table of the very valuable work on serological differentiation of 36 types of leptospire by himself and Dr. J. C. Broom which was published recently. There are also brief accounts of the epidemiology of the infections caused by 24 types. There is a good index. This is a clearly written, authoritative, practical handbook on a group of infections of man and animals about which knowledge is rapidly expanding throughout the world.

J. M. ALSTON.

Biochemical Investigations in Diagnosis and Treatment.

By John D. N. Nabarro. (Pp. x+299; illustrated. 25s.) London: H. K. Lewis.

The rapid development of chemical pathology in recent years has opened up a very wide field in which both physicians and clinical pathologists need guidance if full advantage is to be taken of recent discoveries in diagnosis and treatment of disease. Dr. Nabarro's book sets out to clarify these developments from the point of view of the young physician.

The many subjects covered comprise water and electrolyte metabolism, calcium and phosphorus metabolism, protein and nitrogen, carbohydrate and fat metabolism, diseases of the gastro-intestinal tract and of the liver, investigation of renal function, the cerebrospinal fluid, the endocrine glands, vitamins and poisons, with an extensive series of tables of normal values of blood, urinary and faecal constituents.

The matter comprised in the book is well up to date, but treatment of different subjects is uneven: for instance, the chapters on electrolyte metabolism and on the endocrine glands contain much information which does not occur in the older books, and should be very helpful both to the physician and the general pathologist.

On the other hand, much of the chapter on carbohydrate metabolism is old "textbook stuff" which is familiar ground to the majority of readers: the two rare conditions, Von Gierke's disease and galactosaemia, mentioned in this chapter should receive fuller treatment if the article is to be of assistance to the clinical patholo-

gist, and it would be helpful if selected references could be given to important work on such conditions: as it is, all four references at the end of the carbohydrate chapter refer to general textbooks or monographs on diabetes.

The arrangement of the book where the first seven chapters deal with the metabolism of different groups of substances and the remainder of the book largely with the biochemical changes met with in diseases of various organs, necessarily leads to a good deal of duplication. The Fanconi syndrome, for instance, is referred to in six different places, yet it is difficult anywhere to get a comprehensive idea of what is meant by the Fanconi syndrome. The index is also twofold, dealing with, first, an index of investigations, and, secondly, an index of conditions: one complete index would probably be more convenient.

Details of laboratory tests are not given, except in cases where it is necessary for the physician to collect suitable specimens, where instructions as to collection are given. However, in some cases the instructions are insufficiently precise: for example, in the pyruvate tolerance test (p. 242) it is mentioned that blood should be transferred to ice-cold trichloro-acetic acid as quickly as possible—but how much blood and how much acid are not specified: either instructions as to blood taking should be omitted entirely or should be complete.

The series of tables of normal values divided into those "usually undertaken in hospital laboratories" and those "not usually undertaken" should be very useful for reference.

The main criticism is that this book falls between the two stools of the new and the old: a decision has to be made whether this is to be a general elementary textbook, in which elementary discussions of all types of biochemical investigation are included, or an introduction to recent advances in chemical pathology, in which case much of the elementary matter already covered in other books could be omitted and greater attention given to more recent work. In this latter case, more references might well be included.

E. N. ALLOTT.

At the meeting of the Joint Committee of the Association of Clinical Pathologists and Association of Clinical Biochemists, it was reported that vials of freeze-dried serum suitable for biochemical investigation will be ready for distribution some time in April. This material has been prepared by Messrs. Glaxo, and an analysis has been carried out by members of the Joint Committee. A mean of the analyses will be included with each sample on a separate piece of paper. It will be distributed by Messrs. David Keeler, Ltd., of 39, Wigmore Street, London, W.1, price 4s. 6d. per vial, postage extra. This is the actual cost price of the material.