Book Reviews

DIAGNOSTIC TABLES FOR THE COMMON MEDICAL BACTERIA

By S. T. Cowan and K. T. Steel. (Pp. 16, 1 figure. 5s.)

London: Cambridge University Press. 1962.

This article appeared in the *Journal of Hygiene (Camb.)* (1961, 59, 357), has been reprinted, and is now on sale at bookshops. The implications of this method of dealing with the increasing, and often indiscriminate, demand for off-prints deserves consideration.

As the title of the paper suggests, it consists mainly of a series of tables giving those reactions which are of value in the classification of organisms causing disease in man and animals; in addition the reactions of many non-pathogenic organisms, which may be confused with the pathogenic, are also listed.

The classification of bacteria is a difficult subject, both from the technical side and from the interpretative side. The authors are to be congratulated on having collected and collated in this short article a wealth of recent information which hitherto has appeared only in original papers. The authors state that the 'intelligent use of the tables demands technical skill, and sensitive but specific methods for the individual tests'. I would agree with these words, and add that the tables can be used only by those who have knowledge of the methods and experience in their interpretation for the purpose of classifying bacteria.

Two main tables are given: the first, using eight characters, gives the major divisions of the Gram-positive, and the second, using five characters, the major divisions of the Gram-negative, bacteria. The 17 subsidiary tables give the tests by which the various groups and species can be determined. These tables should be used in conjunction with the text. Certain difficulties arise in the use of the tables, for example, stage 1 diagnostic table for Gram-positive organisms shows those reactions given by the *Staphylococcus* and *Micrococcus*; the heading of Table 1a states that the two have been combined; one is left wondering why they were separated in the first table. Then again stage 1 diagnostic table for Gram-negative organisms places group names one below the other starting with Neisseriaceae, Enterobacteriaceae, followed by *Klebsiella*, *Pasteurella* and other italicized names; this layout might suggest that these italicized genera are within the family Enterobacteriaceae. and though this is true of two groups, it is certainly not true of the majority.

Some confusion is caused by the use of the name *Klebsiella pneumoniae*, as the reactions given in this paper are very different from those listed for *K. pneumoniae* in a previous publication on the classification of Enterobacteriaceae (Cowan, 1956); also the names *K. aerogenes* and *E. aerogenes* should be explained for those who are not abreast of the most recent changes in nomenclature. In the text there appear observations which are not integrated into the article as a whole; in fact

the general impression is that the mass of information would be more easily understood if the text had not been so condensed. The determinator, which is useful for comparing sets of reactions and was devised by the authors, is described.

Many organisms of various types can be isolated from specimens coming to the clinical pathologist and often it is necessary to classify such organisms in order to decide whether or not they belong to pathogenic groups. It is not the purpose of the article to discuss which groups are pathogenic, as this must be decided with a full knowledge of the circumstances. Nevertheless this paper used with the knowledge of the various techniques and sometimes with the help of original papers will enable a classification to be made.

Cowan, S. T. (1956). *J. gen. Microbiol.*, 15, 345.

JOAN TAYLOR

IONIZING RADIATION By George Tievsky. (Pp. xix + 156;

63 figures. \$8.00.) Springfield, Illinois: Charles C. Thomas. 1962.

In the words of the blurb 'the physical aspect of radiation, radiation biology, and genetics are discussed so that they are readily understandable to those with little or no background. This is not the usual didactic presentation but rather an easy-to-read, fascinating story of ionizing radiation'.

On the whole this seems a fair assessment. In a subject loaded with emotional bias Dr. Tievsky has made an objective though somewhat 'glossy' survey. The 150 pages include the history, physics, and dosimetry of radiation, a section on genetics, including Mendel, mutation, and molecular structure, and a description of the natural and artificial radiation hazards, their quantitative assessment and relative importance. Inevitably the approach is superficial but both the presentation of the material and the opinions expressed are well balanced. If the section on hazards from diagnostic radiology seems somewhat longer, that is perhaps correct, since this is the largest source of avoidable radiation. The chapter on radiation and the law is not directly applicable to Great Britain but such a chapter would in any event be out of date by the time it came to be printed.

There are a few minor irritations; thus in a figure designed to illustrate the possibility of radiation injury to the gonads, the male figure appears to be totally emasculate, but with a black blob in each femoral triangle. Mostly, however, the illustrations are good, and a useful glossary and bibliography rounds off a book which can be recommended for the tyro as a useful introduction to its subject.

N. G. TROTT

coagulation and its disorders by the chemical isolation of so-called 'pure' clotting factors. A good deal of the argument centres on whether this has been done by Seegers and others who have tried to reproduce this work, and on the validity of the resulting conclusions.

The orthodox 'coagulationist' and routine haematologist will experience great difficulty with Seegers' terminology. He employs a system of nomenclature based on his own knowledge and experience with pure products. He does not readily concede common ground with the accepted international system of coagulation nomenclature or other pseudonyms widely used. He does not identify factor VII with autoprothrombin I because he states that he does not know what factor VII is.

The chapters on antithrombins, clot retraction, and his re-examination of the original cases of several of the recognized coagulation disorders make fascinating reading. The constant variation between the third and first person and the somewhat irrelevant admixture of philosophical quotations from the poets are, however, very distracting in a scientific work of this type. An example of his dogmatism is his rejection of the validity of the two systems of prothrombinase production. On this he writes:—

'In 1955 the concept arose, first in Oxford, that there are two different systems for the generation of prothrombinase in the body. I do not think there can be systems for generation of what does not exist; namely, prothrombinase.'

The statement which often recurs that Marcoumar has no effect on factor IX (autoprothrombin II) is hard to accept.

This is a useful, informative book for those interested in coagulation chemistry but its value to the general reader must be very doubtful.

L. POLLER

ELECTRON MICROSCOPY *British Medical Bulletin*. (Pp. ix + 179-254; 32 plates. 35s.) London: British Council. 1962.

This survey of current knowledge and developments in electron microscopy in relation to medical science is warmly recommended to all pathologists. Inevitably its

appeal will be more directly to academic workers who can discern possibilities of assistance with research problems, but it is equally fascinating to indulge in hypothetical extrapolation of the observations reported and consider where they can and will reach into the realm of diagnostic pathology. E. H. Mercer's account of the cancer cell, M.S.C. Birbeck's study of melanocytes, and the particularly beautiful work of S. J. Holt and R. M. Hicks on enzyme localization all have obvious links with hospital pathology, but it is perhaps unfortunate that the opportunity was not taken to survey the successful studies on human renal biopsies.

Microbiologists are particularly well served by excellent accounts of virus structure (M. A. Epstein), the viruses of tumours and warts (A. F. Howatson), virus structure studied by negative-staining techniques (R. W. Horne and P. Wildy), and bacterial structure (Audrey M. Glauert). These and many other topics cannot fail to provide interest and enlightenment, not only to those with access to electron microscopes but also to all who habitually use more modest instruments.

T. CRAWFORD

CORRECTION

The review of a book entitled 'Ionizing Radiation' and published in the *Journal* for September, 1962 (*J. clin. Path.*, 15, 488) was written by H. E. M. Kay and not by N. G. Trott.

THIRD SYMPOSIUM ON ENZYMES IN CLINICAL CHEMISTRY

A symposium on multiple molecular forms of enzymes and their use in clinical diagnosis will be held at the New Academic Hospital, Ghent, Belgium, on Saturday 27 April 1963. The meeting will begin at 10 a.m. and end at about 6 p.m. Fee (including lunch) 100 Belgian francs (about 15s.). Readers interested in attending this meeting or in making a short communication are asked to write to: R. J. Wieme, Laboratory of the Medical Clinic, University of Ghent, Pasteurdreef 2, Ghent, Belgium.