of recent advances in biology, chemistry, or physics which have illuminated the topic. Inevitably, in a work of this kind, under multiple authorship, the extent to which this aim is realized varies considerably. There is similar variation in the matter and manner of presentation of the material discussed.

For example, the contribution on cancer by the editor of this collection surveys nearly 600 papers on clinical and experimental aspects of carcinogenesis in about 100 pages. This compresses a remarkable amount of factual information into the space available and yet even finds room to discuss briefly the speculative and all-embracing concepts of the genesis of cancer arising from the work of Weiss and of Green.

The article by Gofman on arteriosclerosis and hypertension, on the other hand, devotes 50 pages to the narrow limits of discussing changes in the blood lipids, demonstrable by the ultracentrifugal techniques developed by this author and his collaborators, in relation to statistical considerations of the incidence in coronary arteriosclerosis. No new evidence is presented to show a causal relationship between alterations in serum lipoproteins and coronary disease and there is a somewhat polemic discussion of alternate hypotheses such as that of Duguid.

The articles by the pathologists among the contributors, i.e., on the kidney by D. B. Jones, on the anterior pituitary by Agnes Russfield, and on connective tissues by R. M. Wagner, describe the application of the newer staining techniques and histochemical methods to the investigation of disease processes affecting these tissues and attempt the correlation of altered cellular morphology with biochemical changes demonstrated by other methods.

The remaining articles are by physicians. The discussion by Ratnoff on three aspects of hepatic failure, cholaemia, ascites, and haemorrhagic phenomena, is selective rather than exhaustive but excellent in its treatment of modern work in this field. The attempt by Mueller and Vilter to formulate the pathogenesis of the various varieties of macrocytic anaemia in terms of blockage of various metabolic pathways for nucleoprotein synthesis is stimulating though as yet premature in the light of deficiencies in present knowledge in this field. The essay on abnormal haemoglobins by Will adds little to the numerous reviews already available on this topic and is already outdated by the discovery of further abnormal haemoglobins and by other recent work on the pathogenesis of hereditary haemolytic anaemias.

Most of the articles are well-documented, many listing between one and two hundred references each. While these are, as usual, largely to American sources, British work is not overlooked. Although the price of this volume is somewhat high it will serve as a useful reference source to those actively engaged in research on the topics discussed.

KENNETH WALTON.

Histological Technique, 3rd ed. By H. M. Carleton, with the collaboration of R. A. B. Drury. (Pp. xvi + 343; 19 figures. 30s.) London: Oxford University Press. 1957.

The appearance of the third edition of "Carleton," 19 years after the second edition, constitutes a fitting memorial to this distinguished Oxford histologist, who died late in 1956, just after completing the manuscript. In preparing this edition, the author had the benefit of collaboration with a pathologist, Dr. R. A. B. Drury, and a short foreword has been added by Professor Sir G. Roy Cameron.

Many pathologists—and even more pathological technicians—will have had a nostalgic attachment to the old "Carleton," which was for so many of us the bible which guided our first attempts at histological technique. For many years now, however, our old editions have rested more and more on the shelf as it has been necessary to use other sources for the newer techniques—both empirical and histochemical—which are gradually adding to, or replacing, the older methods. It is natural that we should look carefully at this new edition to see if the revisions effected can re-establish the volume's overall usefulness in the pathological laboratory.

We find that the volume ranges over an enormous field. It deals not only with tissue preparation, sectioning and staining, but also with the theory and practice of microscopy including dark-ground illumination, fluorescence microscopy, and even electron microscopy. When one adds that there are chapters on injection methods, histochemical techniques, methods for a great variety of special tissues, cells, cell structures, bacteria, and parasites, and that the volume remains a relatively small and convenient one, it is perhaps redundant to point out that the treatment of many of these subjects is superficial. For example, the periodic-acid-Schiff technique (not indexed in its own right) is given barely half a page for a description of the procedure and its significance; and the important methods for tissue enzymes, such as the phosphatases and esterases, are completely omitted.

But these are carping criticisms, for no volume of this size and price could have met the requirements of the advanced worker as well as the novice. This new revision brings "Carleton" back to its place as an eminently suitable guide for the technician up to his final examination in histological technique and for the pathologist in his earlier exploits amongst routine methods.

T. CRAWFORD.

Handbook of Histopathological Technique (Including Museum Technique). By C. F. A. Culling. (Pp. x + 446 + index; 79 figures. 45s.) London: Butterworth. 1957.

New technical methods are constantly being evolved, and Mr. Culling's book contains detailed accounts not only of the older and already stan-

dardized methods but also of many others developed during the past 10 years. It is divided into an introductory section on the cell and methods of examining cells (nine pp.) and further sections on fixation, processing, and section cutting (70 pp.), stains, impregnations, and mountants (160 pp.), special procedures, including autoradiography and micro-incineration (11 pp.), museum technique (27 pp.), and the microscope (55 pp.). Each section includes an appropriate amount of information on the theories underlying the techniques recommended.

A wide range of staining methods is described, almost always simply and adequately, and often with added details, small in themselves but important in practice, that clearly reflect the author's own experience in the laboratory. Several useful tables are included, amongst them a stain solubility chart, buffer tables, and schemes for identification of lipid and P.A.S.-positive materials. The section on the microscope includes descriptions of the compound, dark-ground, fluorescence, polarizing, phase-contrast, and interference machines, and even a short note on the electron microscope. Though 55 pages long, this section makes available in one place much information that has otherwise to be sought in several. The chapters on museum technique will be useful to workers in many laboratories. The manufacture of perspex specimen jars is not difficult (though finding time may be!); the clear instructions here, combined with a visit to some laboratory already making jars, should bring it within the range of any competent technician.

In a text almost innocent of misprints (there is one on p. 292, second last line) it is surprising to find so many errors in proper names: Perl's for Perl's (throughout, including the frontispiece), Grubler for Grüber (throughout), Heiffor for Heiffer (pp. 89-91, though correct in index), McNanus for McManus (in bibliography, though correct in text), Hutchinson for Hutchison (in index and bibliography, though correct in text), and a misrendering of Dr. A. G. E. Pearse's name in the bibliography. In figure 31 the legends for posterior horn and posterior root have been transposed.

A few further points might merit attention in a second edition. The corrosive effects of mercuric chloride on metal (p. 27) can be resisted by containers of "monel" metal available for use in automatic tissue processing machines. Gelatin embedding may be useful for uterine curettings (p. 79), but there should rarely be difficulty with ordinary paraffin techniques. The section on knife sharpening (pp. 95-97) could usefully include some mention of the flat disc or turntable type of sharpener so widely and successfully used in the U.S.A. The statement (p. 217) that fixation is not critical for the demonstration of fibrin does not apply to the picro-Mallory methods: the best results follow two to three weeks' fixation in mercuric chloride. Enough has by now been discovered about mast cells to make obsolete the statement (p. 294) that "the function of these cells is not known": and it is an over-simplification to say that the epidermis consists of two layers (p. 332).

Perfect sectioning of the eye is sufficiently difficult to warrant greater technical detail than there is on pp. 335-6: equatorial bisection, as recommended here, is usually a less valuable preliminary cut than two slices that "take off the top and bottom," leaving the whole of the cornea, lens, and optic nerve in one flat circular block.

In general, however, this is a book that well deserves a place on the shelves of any histopathological laboratory. Indeed, a laboratory would do well to have two copies, one for reference, the other for borrowing, for the author has had in mind the needs of candidates for the final examination of the I.M.L.T. It has clear type, a pleasing format, and a waterproof, acid-resistant binding.

W. W. PARK.

The Biologic Basis of Cancer Management. By Freddy Homburger. (Pp. xviii + 354; 39 tables, 10 figures. 75s.) London: Cassell. 1958.

The title of this book is promising. So is its dedication, "To Gin," and so also are the forewords, three of them, by a pathologist, a research worker, and a surgeon.

In the preface which follows, the author explains how the book came to be written; in reply, it seems, to questions put to him as a "cancer co-ordinator." He is disarmingly modest about the wisdom of writing it: "the idea of the biologic basis of cancer management was indeed rejected by a publisher because of the opinion of eminent consultants that no one person could write such a book." Unfortunately they were right.

In the first place the title is very misleading. Thus 126 pages are devoted to the aetiology of cancer compared with four to the principles of surgery. The principles of radiotherapy receive 10 pages but contain only a scant reference to the variable radiosensitivity of tissues and their derived tumours. McWhirter's treatment of breast carcinoma is mentioned but not discussed, nor is any estimate attempted of the true value of early surgery or of periodic check-ups in the detection of early cancer.

By deleting the word "management" perspective is restored but many weaknesses remain. Over-condensation has led to superficiality and in places also to imbalance. Two pages on the relation of smoking to lung cancer contain no relevant figures and no mention of Wynder and Graham or Doll and Bradford Hill. This enables Dr. Homburger to remain securely on the fence—perhaps he is a heavy smoker. Elsewhere we have sentences such as: "It appears from the rate of cancer incidence that about 20% of the population are susceptible." To what? to the present level of environmental carcinogens? and in what life-span? The sentence is either a tautology or untrue, since, as the author points out further on, if we live long enough 80% of us will develop cancer of the prostate.

In addition there are far too many errors; "megakaryocytes" for "megaloblasts" on p. 141 is a glaring example, and table 8 is full of them.