several large ventral herniæ after its use by other surgeons, and in other cases of recurrent calculi where this incision had been previously employed I have found the upper segment of the rectus atrophic, owing to division of its nerve supply.

The intestines below having been packed off and the gall-bladder drawn upwards and outwards, the peritoneum of the edge of the gastrohepatic omentum is divided, and the ducts are carefully dissected. Usually the three ducts—cystic, common hepatic and common bile—are easily identified; no structure whatever must be divided until all three have been identified. The cystic duct is now divided and clamped; the cystic artery, identified and distinguished from a loop of the right hepatic artery, ligatured and divided. The clamp is slipped from the lower end of the cystic duct, a dissector inserted down it and the duct slit up. It is the usual custom to close the cystic duct and to explore the common duct through a separate incision. As a rule the slitting up of the cystic duct is preferable. Only one opening is made in the duct, and, when it is sutured, no stump can be left to form a new pouch like a gall-bladder—a complication which I have seen in three cases. The only condition in which a separate opening is necessary in the common duct is when the cystic duct is very long and opens into the ampulla. When the cystic duct has been slit up, a pair of very fine forceps is passed downwards, any stone removed (figure 3*c*), and the forceps then passed through the papilla and opened as widely as possible, so as to dilate fully the opening of the duct. This I regard as the complete operation which is desirable in every case and only to be shortened in those patients who are bad operative risks. Since the routine use of this procedure I have not met with any symptoms due to spasm of the sphincter of Oddi. In a few cases a stone may be so firmly impacted in the ampulla that it cannot be displaced upwards and withdrawn by forceps. A transduodenal approach with incision of the papilla may then be necessary.

The next question is that of drainage of the common duct. The usual indications for this procedure are: (1) great dilatation of the common duct; (2) recurrent calculi; (3) soft pigment calculi; and (4) pus in the ducts. If the forceps can be passed freely into the duodenum and dilated, many of these cases may be left without drainage. In other words, internal is substituted for external drainage, and I generally only drain externally a duct which contains purulent bile. For drainage I never use a T-tube; its withdrawal is likely to injure the duct, and its use is never necessary. If the bile is very infected, a smooth rubber tube should be inserted up towards the hilum of the liver. If the infection is less, the tube may be passed downwards towards the duodenum, in which case some bile may pass downwards alongside it. The tube should always be fixed in position with a fine intestinal catgut suture and the duct closed round it. It should not be withdrawn until the tenth day. The gall-bladder is now removed, the cut edges of the peritoneum of the gastrohepatic omentum sutured over the stump of the sutured cystic duct or round the tube, and the suturing continued upwards to unite the edges of the gall-bladder bed. Whether the common duct is drained or not, a tube should always be inserted down to Morison's pouch, for in some cases small accessory ducts open directly into the gall-bladder and may discharge a small quantity of bile. This tube can usually be removed in twenty-four to forty-eight hours.

The results of operation show that the impaction of a stone within the common duct must always be regarded as a serious complication. Most of my fatal cases have had symptoms suggestive of liver failure, and it is for this reason that I advocate early operation before the hepatic damage has advanced to a severe degree.

Reviews

MINOR SURGERY AND THE TREATMENT OF FRACTURES (HEATH, POLLARD, DAVIES): FOR THE USE OF HOUSE SURGEONS, DRESSERS, AND JUNIOR PRACTITIONERS. Twenty-second Edition.—By G. Williams, M.S., F.R.C.S. With a Chapter on 'The Administration of Anæsthetics' by H. N. Webber, B.Chir., D.A. 1940. J. and A. Churchill, Limited, London. Pp. viii plus 472, with 283 illustrations. Price, 12s. 6d.

Dr. Christopher Heath was born two years before Queen Victoria came to the throne, and at the age of twenty-six he wrote the first edition of this book, which has been the bible of three generations of house surgeons and dressers and is now brought up to date ready to serve a fourth. The book was known as Heath and Pollard in the reviewer's student days, for Bilton Pollard took over the editorship when Dr. Heath died in 1905, and since then the book has passed through ten more editions under the editorships of Mr. Morrison Davies and the present editor. It has also been translated into Chinese.

The book has had many imitators, some more pretentious and many remarkably good, but none have replaced this book in the reviewer's esteem and the reason is not by any means a sentimental one.

The big event since the last edition has been the introduction of sulphanilamides, but, as the editor points out, it is too soon to be sure how far their introduction has modified the procedure for the treatment of septic wounds; so he decided not to make any radical changes on this account, as it is too early to be dogmatic.

Another section where advances have necessitated revision is in the subject of anæsthesia.

The book is still one of the best twelve-and-six-pence worth that the student entering on his term in the out-patient departments and surgical wards can purchase.

A SHORT TEXTBOOK OF SURGERY.—By C. F. W. Illingworth, M.D., F.R.C.S.Ed. Second Edition. 1939. J. and A. Churchill, Limited, London. Pp. x plus 707, with 12 plates and 189 text-figures. Price, 21s.

In these days of specialization it takes a great deal of courage to write a textbook on general surgery. Yet the student must have his textbooks, and, to look at it from his point of view, if he is expected to acquire a certain degree of general knowledge on surgery, which is only one of many subjects in his curriculum, surely he can expect an experienced surgeon to be able to broaden his own knowledge sufficiently to write a textbook that will cover the student's requirements.

The author of this textbook is fully conscious of the difficulties of his task; he modestly and very neatly defines the limits of his ambition when he says, 'the most I can hope is that my neurology will satisfy the urologists, my gynæcology the orthopædists'.

The author's courage and industry have been rewarded for he has produced a book that will have an immediate appeal to the student and if he assimilates the contents intelligently he will not only satisfy his examiners, but will have acquired a very sound grounding in surgery that will stand him in good stead when he goes into general practice, or form a firm foundation on which to build special surgical knowledge, should he wish to take higher examinations in surgery.

As this is a second edition, no special criticism of the contents is necessary. No material changes have been made, for the first edition only appeared a year ago.

It is a book very well suited to the requirements of the student in this country and practitioners will find it a useful book of reference.

MINOR SURGERY.—By R. J. McNeill Love, M.S. (Lond.), F.R.C.S. (Eng.). 1940. H. K. Lewis and Company, Limited, London. Pp. vii plus 369, with 155 illustrations. Price, 12s. 6d.

THIS is a new 'minor surgery'. The author has followed very much the orthodox lines, except that he has pressed into his service a number of collaborators, about which he has given the reader very little information, beyond their names at the beginnings of the chapters they have contributed. In these days of specialization, it is perhaps as well to have the teachings of a number of experts, even on a limited subject like this; skilful editing has ironed out any unevenness in the various contributions.

There are other books which cover the same range of subjects and it is difficult to judge between them. This book, however, is a very satisfactory one. It is easy to handle and slips into the pocket, it provides as complete a guide to practice in the casualty and surgical out-patients as a dresser or house surgeon could wish for, and the price is very reasonable.

The illustrations are numerous and where necessary they are in colour, the binding is strong and is innocent of the varnish which is such a joy to the tropical cockroach, the methods described are practical, and the teaching sound.

RECTAL SURGERY: A PRACTICAL GUIDE TO THE MODERN SURGICAL TREATMENT OF RECTAL DISEASES.—By W. Ernest Miles, T.D., F.R.C.S. (Eng.), F.R.C.S.I. (Hon.), F.A.C.S. (Hon.). 1939. Cassell and Company, Limited, London. Pp. xi plus 359 with 105 illustrations. Price, 17s. 6d.

IN his preface the author has stated with modesty that this book 'is nothing more than a record of my personal interpretation of the various problems presented to me by rectal disease and of the methods of treatment which experience has proved to be most efficacious'. It is precisely for these reasons that this little handbook will be readily welcomed by the practising surgeon and the senior student, for the name of Mr. Ernest Miles is linked with notable contributions in this branch of surgery.

It is of no little credit to the author that in a volume of this size, consisting of fifteen chapters, hardly anything of importance has been omitted. It is true that this monograph should not be regarded as a textbook, but as a practical guide and *vade mecum* it has no equal. Desperate diseases may require heroic measures and the greatest surgical skill and courage are called for in the treatment of carcinoma of the rectum. The evolution of the radical abdomino-perineal operation is a case in point. Unfortunately there is a tendency to-day to revert to less radical measures, chiefly with a view to minimizing the rate of mortality. In the hands of Mr. Ernest Miles it has been brought down to the neighbourhood of ten per cent, a great achievement. Anorectal fistulæ comprise a subject beset with many difficulties well known to the practising surgeon, owing to the disastrous consequences of some operative methods. These will be remedied, in a great measure, by the anatomical classification and the rational operative measures advocated by the author. Another noteworthy feature of this book is the clear exposition of differential diagnosis.

The printing, get-up and illustrations are all excellent. An adequate index is appended. We strongly commend this book to the notice of the general practitioner for he cannot afford to be without it.

P. N. R.

THE STUDY OF ANATOMY.—By S. E. Whitnall, M.A., M.D., B.Ch. (Oxon.), M.R.C.S., L.R.C.P., F.R.S. (Canada). Fourth Edition. 1939. Edward Arnold and Company, London. Pp. 124

THERE is little doubt that this revised and enlarged edition will be welcomed by all concerned with the study of human anatomy, *i.e.*, both students and teachers.

The book consists of seven chapters of which the first two are mainly devoted to outlining 'the principles' of the subject and 'the practical methods' of study. These two chapters should be read and re-read by every medical student before beginning his own studies of the human body by dissection, if he is to avoid unnecessary memorization of the details. The third and fourth chapters are intended chiefly for teachers on whom lies the most onerous task of directing the student along the proper lines of study most conducive to the realization of essentials of anatomy and of infusing life into the study of the dead.

The fifth and sixth chapters are concerned with directions on 'general reading' and a very useful hint to the younger students in the matter of selecting good 'books' for their studies of human anatomy, as well as such other general books as have stood the test of time for widening their outlook and imagination. In the last chapter will be found not only a very selective list for reference but also a very wholesome suggestion of subjects for collateral reading by students and special studies by more senior students and teachers.

In these days of the crowded medical curriculum, it is difficult to give more than a limited time to any subject. To derive, therefore, the maximum benefit from limited studies of such a fundamental, yet essentially such a vast, subject as anatomy, it should of necessity be a well-designed and methodical procedure from the very beginning, so that the work may be arranged to enable one to obtain a thorough grasp of main facts, and carry the essential knowledge thus gained throughout the course of one's professional studies.

We most strongly commend this book to all medical students and teachers, and, we are confident that a perusal of this book will widen the outlook of the reader, who will have reason at the end of his studies to be grateful to the learned author for such an excellent production.

The publishers' task in the matter of the format, printing and paper has been uniformly satisfactory.

S. C. S.

PATHOLOGY: AN INTRODUCTION TO MEDICINE AND SURGERY.—By J. Henry Dible, M.B. (Glas.), F.R.C.P. (Lond.), and Thomas B. Davie, B.A. (Cape.), M.D. (L'pool.), M.R.C.P. (Lond.). 1939. J. and A. Churchill Limited, London. Pp. x plus 931, with 374 illustrations including 8 plates in colour. Price, 36s.

THE publication of an entirely new book on pathology is an important event and teachers in all medical schools where the English language is used will be, or should be, very interested; by this we do not mean only teachers of pathology but of medicine and surgery, for, as the authors of this book emphasize, pathology should be taught as an introduction to medicine and surgery.

The highest aim of medical science should be kept always before the student, and he should be taught to think in both directions; not only must he look forwards from the pathological processes of the active stages of the disease, which he can visualize, either to the stage of repair of the organ or limb, which he still has to visualize, or to the final stage of disease which he can see in the post-mortem room or operating theatre, but also backwards to the process of invasion by the pathological agent, and still further back to the epidemiology of the disease, to the conditions which effect the contact of the human organism with the causal agent or which make the former susceptible to