in his particular field. In the locomotor system we were pleased to see that bones, joints and muscles were considered as one unit. The important ancillary subjects of histology, embryology, surface anatomy and radiological anatomy have received adequate treatment throughout and yet are not obtrusive. What is even more important is that they have been so arranged that the student is able to build around them his knowledge of structure and function.

It appears to have been the deliberate policy of the authors to omit all references to the literature, which is perhaps disappointing. It should be borne in mind, however, that the book was written primarily for the medical student, who will need to get a firm grasp of the fundamentals of the subject before permitting himself to read more widely. Of course, there are sins of omission and commission, as is inevitable in the first edition of a book of this magnitude; but they are minor faults and can be corrected without difficulty.

We would not wish to close this review without congratulating the publishers. They have taken the long view, which in these difficult days requires courage, and have spared no expense in producing a book of which they must be justly proud. The skill of A. K. Maxwell, the greatest medical artist of his day, augmented by that of the less-experienced but equally gifted Frank Price, has been given full scope, and the many beautiful illustrations are a work of art and a joy to behold.

We feel that "Hamilton's Anatomy", or whatever it may come to be called, will be welcomed by teachers and students alike. It has undoubtedly broken with tradition and will fill a definite need. We predict that it is in for a long innings.

C. F. V. SMOUT

MATHEMATICS OF PHYSICS AND CHEMISTRY

Physical Mathematics

By Chester H. Page. Pp. x+329. (Princeton, N.J.: D. Van Nostrand Company, Inc.; London: Macmillan and Co., Ltd., 1955.) 42s. net.

Special Functions of Mathematical Physics and Chemistry

By Prof. Ian N. Sneddon. (University Mathematical Texts.) Pp. viii+164. (Edinburgh and London: Oliver and Boyd, Ltd., 1956.) 10s. 6d. net.

BOTH these books are concerned with mathematical physics; but they are about as different from each other as any two books could be in their approach to the subject.

Dr. Page is chiefly concerned to understand how what we call a theorem in applied mathematics is nearly always closely associated with some physical phenomenon. It is as if he is almost thinking physically, and certainly his choice of title 'Physical Mathematics' is a far more appropriate one than the more conventional 'Mathematical Physics'. But Prof. Sneddon writes almost as if he were a pure mathematician. Those very functions, such as Hermite's and Legendre's, which arise spontaneously for Dr. Page as he wonders what would happen to a physical wave equation if it were expressed in particular types of co-ordinate, are described by Prof. Sneddon merely as the solutions of a differential equation about the origin of which no one need greatly concern themselves.

Both books are well written, and are suitable for about the same level of mathematical attainment—final-year honours or first-year postgraduate in a normal British university. But on account of the difference in approach, Page's book is more easy to read, and many of his subtler points, such as the use of the Dirac delta function in Poisson's equation, appear almost physically inevitable (as perhaps they are). Sneddon's pages are more filled with equations, with asymptotic forms and conditions for convergence, with recurrence relations and generating functions.

There is just the same difference in the central themes which unify each separate book. Page speaks of variational methods and integral equations, Gauss's theorem and eigenvalues: he has an excellent discussion of Green's functions. On the other hand, Sneddon speaks of the various confluences in the hypergeometric equation from which almost all the particular differential equations (Legendre, Bessel, Hermite and Laguerre) are derived. Yet both books have something important to say, and they say it well. It is hard to avoid the conclusion that the inevitable limitations of space in the 'little blue' Mathematical Texts have made Sneddon's book a bit more congested than he, or his readers, would have desired. Some parts of it do have the appearance of a compendium of useful results. Dr. Page, on the other hand, with more space at his disposal, can afford to be almost chatty: "You will recall . . ." is how he begins one paragraph.

As a result of these differences there is almost no direct overlapping in the contents. The only one of Sneddon's chapter headings which even appears in the index of Page's book is the last and shortest, on the delta function.

It is seldom entirely fair to describe books of this kind, which cover a wide range, in a single phrase. But if I were pressed to do so, I should say that Page was concerned to see the structure of mathematical physics—in a word, to understand it: and Sneddon wanted to have a good collection of tools, which would be very useful when there was a job to do, even though they had their existence quite independently of this particular job.

Such is the difference between these two books. Whether it arises from the fact that Dr. Page is consultant to the Director of the U.S. National Bureau of Standards, and Dr. Sneddon is professor in a university mathematics department, I do not know. But I do know that anyone reading both books would be well equipped both to understand and to handle the mathematics of theoretical physics.

C. A. COULSON

ANTIBIOTICS

Antibiotics Annual, 1955–1956

Edited by Dr. Henry Welch and Dr. Felix Marti-Ibañez. Pp. xviii+994. (New York: Medical Encyclopedia, Inc.; London: Interscience Publishers, Ltd., 1956.) 10 dollars.

THE American Antibiotics Symposium seems now to have become firmly established as an annual event. The papers read at the Symposium are collected in the "Antibiotics Annual", the third volume of which presents the contributions to the meeting held at Washington, D.C., in November 1955. This volume affords a useful indication of the recent trend of research in antibiotics.