

in the light of recent discoveries, to point out an accurate scientific procedure, whether operative or other, according to the character of individual injuries, and to urge the general practitioner, as well as the surgical specialist, to the study of methods which, as experience indicates, have given the best results.

As a consequence of experience gained during the war, the treatment of gunshot and other wounds of bones has been revolutionised, because the distinction between aseptic fractures with unbroken skin and those breakages of bone which have been exposed to infection has been fully grasped. The authors insist that much of the old teaching as regards the treatment of fractures still holds good, as, for example, Lucas-Championnière's dogma as to early mobilisation and gentle massage being valuable for restoring contour and function in fractures of shafts and joint-ends of bones. They urge the critical, intelligent, and frequent examination of fractures instead of a too absolute reliance on radiographic interpretations by inexperienced laboratory workers. The illustrations so very necessary in a descriptive book of this nature are, without exception, excellent, and will be found a great help in following the text. Indeed, it is the most complete and comprehensive book on a very important branch of surgery that we have yet seen and it may be regarded as one of the few good results of the world-war.

The Raw Materials of Perfumery: Their Nature, Occurrence and Employment. By E. J. Parry. (Pitman's Common Commodities and Industries.) Pp. ix + 112. (London: Sir Isaac Pitman and Sons, Ltd., n.d.) 3s. net.

DURING the last half-century perfumery has in part become a branch of synthetic organic chemistry. Many of the odoriferous constituents of natural perfumes (e.g. vanillin and heliotropine) are prepared synthetically in a pure state, and some substitutes (e.g. "artificial musk," trinitrobutyl xylene) for natural perfumes are now in use. The rare natural perfumes such as musk have not yet been produced in the test-tube. With the production of the materials, however, the perfumer's art has made only a beginning and much depends on the skilful blending of the constituents. Mr. Parry has given a simple and interesting account of his subject. It is non-technical, and perhaps might have included a little more of the chemistry involved. The latter is of so complicated a character that it would perhaps not have been intelligible to the ordinary reader. The address of the president of the Chemical Section of the British Association last year (NATURE, October 20, 1921, p. 243) shows, however, that something can be done in this direction.

Handbuch der biologischen Arbeitsmethoden. Edited by Prof. Dr. Emil Abderhalden. Lieferung 45, Abt. 5, *Methoden zum Studium der Funktionen der einzelnen Organe der tierischen Organismus.* Teil 7, Heft 2, *Sinnesorgane.* Pp. 197-260. (Berlin und Wien: Urban und Schwarzenberg, 1921.) 28.80 marks.

THE section on the analysis of sounds in Prof. Abderhalden's extensive "Handbuch" is written by Dr. E. Budde. It contains accounts of the use of mechanical integrators for the analysis of a periodic curve, and of the method of calculating the terms of the Fourier

series from ordinates at regular distances apart. Tables are given to facilitate the calculation when seventy-two ordinates are measured per period. It is not often that so many ordinates are taken, but when it is necessary or desirable the tables will save much time and trouble.

A Course of Practical Organic Chemistry. By Dr. T. Slater Price and Dr. D. F. Twiss. Third edition. Pp. xiv + 239. (London: Longmans, Green and Co., 1922.) 6s. 6d.

IN this edition minor alterations have been made to bring the subject-matter up to date. The methods of preparation of typical organic compounds and the quantitative analysis of compounds of carbon, hydrogen, nitrogen, the halogens, sulphur, and phosphorus, are well described. The scheme given for the identification of "an organic compound" is too incomplete to satisfy ordinary requirements, and could usefully be extended in future editions. Mixtures should also be considered.

Letters to the Editor.

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The Langley Machine and the Hammondsport Trials.

THE leading articles in NATURE of November 3 and January 26 last appear to have missed the point of my discourse on the Langley Machine and the Hammondsport Trials. My paper was written to expose a fallacy in which officials of the Smithsonian Institution had used their great opportunities for imposing upon the public a false belief that the Langley machine had been flown in 1914.

The leading articles in NATURE, instead of making any denial of the charge that vital changes were made in the Langley machine at Hammondsport before any flight was attempted, contend that my "paper tends to give an erroneous impression of the importance of the part played by the Wright Brothers" in the producing of the first man-carrying aeroplane. NATURE suggests that it was Langley who did the laborious work of preparing the scientific data upon which the first aeroplane design was based, and that the Wright Brothers merely contributed the system of wing warping—the final step or "keystone"—in the problem of flight. The writer of the articles in NATURE refers to Sir Richard Gregory's book "Discovery," from which he makes two quotations.

I agree with the author of "Discovery" that many great inventions are based upon pure science, and that often the person who receives the credit for an invention is the one who has added some mechanism which turns the scientific knowledge of another to practical use. In the facts in regard to the invention of the aeroplane, however, the author of "Discovery" and the writer of the leading articles in NATURE are in error. The real truth of the discovery of flight is that the Wright Brothers first established a scientific basis for aeroplane design; they then invented the mechanical means for putting this scientific knowledge to practical use. The spectacular nature of the latter has blinded the public to the importance of the former.