Colloques Internationaux du Centre National de la Recherche scientifique, 14

Méthodes de calcul dans des problèmes de mécanique, Marseille, 30 Mars–6 Avril 1948, Paris, 8–9 Avril 1948. Pp. 105. (Paris : Centre National de la Recherche scientifique, 1949.) 900 francs ; 20*s*.

THE subject of these lectures is more restricted than might be anticipated from their title. The first part of the colloquium was held at Marseilles, where it was hoped to establish a mathematical laboratory, and opened with an appreciation of British methods by J. Valenski (Marseilles). The proceedings consisted chiefly of an exposition of Southwell's well-known 'relaxation method', delivered by D. N. de G. Allen, one of Sir Richard Southwell's colleagues. A later British method, the 'escalator method' of Morris and Head, was explained by T. Vogel (Marseilles) ; it has roughly the same relation to dynamics as Southwell's method has to statics.

In the second part of the colloquium, held at Paris, M. Picone (Rome) dealt with the analysis of periods, a problem of great importance in astronomy, meteorology, statistics and other branches of science. This problem has been studied by H. and Mme. Labrouste (Paris) and by F. Vercelli (Italy). An account of the 'Logobax' machine which can perform the calculations needed in the Labrouste method was given by L. Couffignal (Paris). J. M. Burgers (Delft) discussed some problems of turbulent motions in fluids. L. Malavard (Paris) dealt with calculations by the aid of electric circuits, and their application to hydro- and aero-dynamics. A. van Vijngaarden (Amsterdam) and F. H. van den Dungen (Brussels) dealt with other methods applicable to hydrodynamics. Finally, L. Couffignal discussed in general terms the role of numerical calculation in scientific and technical research.

The organizers deliberately excluded consideration of mechanical and electronic calculating machines on the ground that a subject so vast would require a whole colloquium to itself. H. T. H. P.

Fluorine Chemistry

Edited by Dr. J. H. Simons. Vol. 1. Pp. xvii+615. (New York : Academic Press, Inc., 1950.) 12 dollars.

"FLUORINE", it has been stated by Prof. N. V. Sidgwick, "is in some ways the most interesting of the halogens." Yet the importance, both real and potential, of the element and its compounds has become apparent only in recent years. Extensive and vigorous researches have occurred since 1940, and have rendered obsolete and inadequate the two classical works on fluorine by Henri Moissan and Otto Ruff. For this and other reasons, the publication of a new and thorough treatise on fluorine chemistry is timely and welcome.

The first volume of this work is written by a group of fifteen authors, each dealing with a branch of the subject in which he has personal experience. The inorganic chemistry of fluorine is described in detail by H. J. Emeléus, A. B. Burg, H. S. Booth, J. T. Pinkston, jun., D. R. Martin and J. H. Simons—special attention being given to the halogen fluorides, boron trifluoride and hydrogen fluoride. The preparation of elementary fluorine—now no longer a laboratory curiosity, but an item of industrial production—is dealt with by G. H. Cady. Some theoretical aspects of fluorine chemistry are examined by George Glockler in one of the more speculative chapters.

Perhaps the most fascinating sections of the book are those by L. A. Bigelow, J. H. Simons, T. J. Brice, W. H. Pearlson, and J. D. Park, in which the fluorocarbons and their derivatives are described. This field is potentially one of the most enormous in chemistry, for the fluorocarbons are not only more stable than hydrocarbons, but form large numbers of derivatives.

Altogether, this is an excellent production, authoritatively written. H. A. SKINNER

Practical Dairy Bacteriology

By Prof. Paul R. Elliker. (McGraw-Hill Publications in the Agricultural Sciences.) Pp. ix+391. (New York and London : McGraw-Hill Book Co., Inc., 1949.) 34*s*.

THIS book, as the preface proclaims, is intended for the elementary student. Bacteriological descriptions of the organisms encountered in the production and processing of milk and the manufacture of dairy products are not seriously attempted. The treatment is mainly technological, and in this respect the book can safely be recommended to the operative and to the student in this field. References abound in all the chapters, but these are, with few exceptions, to American publications.

Flamingo City

By G. K. Yeates. Pp. 210+38 plates. (London : Country Life, Ltd. ; New York : Charles Scribner's Sons, 1950.) 25*s*. net.

THIS can fairly be said to be an outstanding bird book. Mr. G. K. Yeates is already well known as a bird photographer ; but this work shows that he can also write very well indeed. His chapters on the flamingo colony of the Carmargue do not exhaust the interest of the book, although they are its highlights. Mr. Yeates writes on the other birds of Provence, and we have an insight of the beauty of their colouring and the attractive feature of their lives in that sun-drenched land which has only two disadvantages—the mistral and the mosquito. The strange habits of the pratincole and the domestic happiness of the brilliantly plumaged bee-eater are told clearly and arrestingly. The mind of the reader is indeed held throughout the chapters of the book, so that the author's disappointments and his most exciting moments are shared.

In a book where the illustrations are of so high a standard, it is difficult to single out any specially for praise ; but the coloured photograph of the flamingo group on p. 158 is truly magnificent. Scarcely less beautiful are the illustrations (p. 62) of the pratincole on the nest, and of the two bee-eaters on the sand (p. 90). The author has interesting things to tell us of the unusual nesting habits of the flamingo. It does not necessarily nest each year, unless the water-level is to its liking. The food of this large and strikingly beautiful bird is not known with certainty. Gallet, who has studied the flamingo more closely than any other living observer, has advanced the novel and bold theory that the bird feeds on putrid mud. This would account for the nesting of the flamingo in a terrain so saturated with salt as to support no apparent life.

The publishers have done their part of the work admirably, and have produced a book which must add distinction to the library of the owner fortunate enough to possess it. SETON GORDON