comparison of them with the undoubted conventionalised figures of the Spanish Third Group paintings seems open to the objection that there is by no means an exact similarity, and, moreover, that the latter are very possibly of a much later date. However, these are points that further finds will no doubt elucidate.

It only remains once more to congratulate Dr. Obermaier on his book, and the Hispanic Society of America on having been the instrument of introducing it more fully to English readers. M. C. B.

Fluid Velocity and Pressure.

The Measurement of Fluid Velocity and Pressure. By J. R. Pannell. Edited by R. A. Frazer. Pp. vii+135. (London: E. Arnold and Co., 1924.) 10*s.* 6*d.* net.

TO a large extent this book is a product of the advent of aeronautics, and its preparation would not have been possible fifteen years ago. The author passed through the period during which no accurate means existed of measuring the velocity of fluids, and was intimately associated with the history of the needs of such methods as he describes. At the present moment, the calibration of anemometers depends on a solitary series of absolute measurements at the National Physical Laboratory, part of which was conducted by the author himself. The work of Stanton on wind pressure in 1903 was the first contribution to the production of the tube anemometer illustrated on p. 13; its establishment as a satisfactory standard followed the formation of an Aeronautics Department, and the development then reached the stage at which a skilled workman can reproduce the instrument so accurately as to give speed within one per cent. without special test.

Many other anemometers, including those established in aeronautical practice, are described together with manometers and balances for the measurement of fluid pressures. In the description of one of the manometers —p. 92—the short statement occurs that "the horizontal tubes are filled with a solution of distilled water and common salt of density 1·07 . . . " and no reference is made to the lengthy inquiry made by the author before this solution was decided on. In the early days of the use of tilting manometers of the Chattock type, distilled water was tried, with the result that renewal was necessary after each fortnight or three weeks. The glass work had then to be thoroughly cleaned. As a result of Pannell's efforts the period between cleansings was raised to a year or more and the operation of cleaning greatly facilitated. In this and in much of the material in the book under review there is just that precision of detail which is helpful to newcomers and will enable them to get to work quickly and safely.

Pannell lost his life when the airship R38 failed, whilst applying his knowledge of instruments to research, and together with his colleagues the author has left a record of which one is proud and of which this book is one item. The volume can be confidently recommended as an excellent statement of available methods of measurements in the motions of fluids, whether the application be in aeronautics, hydraulics, ventilation, or any other of the branches of engineering.

L. BAIRSTOW.

Our Bookshelf.

Soil Management. By Prof. Firman E. Bear. (Wiley Agricultural Series.) Pp. vi+268. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1924.) 10*s.* net.

THE work under notice is a text-book dealing with the application of scientific facts and principles to the practical management of the soil, and is written for the use of students in agricultural colleges who have already taken courses in chemistry, botany, geology, and physics. The requirements of crops and the properties of soils are discussed in the first ten chapters, which are followed by four chapters on the utilisation of the resources of the soil by cultivation operations, crop rotations, etc. The remainder of the book is concerned chiefly with the economic use of fertilisers and of lime. The nitrogen problem is treated with the thoroughness that would be expected from Prof. Bear, who has devoted much time to this question. It is a very common practice in the United States to purchase only phosphatic fertilisers and to depend on the air for nitrogen; on soils which have been cultivated for many years, such a system necessitates the well-managed introduction into the rotation of frequent leguminous crops for green-manuring, and the author is rightly insistent that every effort should be made to utilise such natural nitrogen-fixing agencies to the fullest possible extent for the maintenance of soil fertility.

The illustrative data are taken mainly from American sources, but the application is by no means confined to American conditions. It may, however, be questioned whether the book is not on the whole too advanced for students who "have little or no need for the course except as it may be useful to them in practice or in understanding practice." Certainly the average British student of this type will find it rather stiff reading; but his American cousin is perhaps different. C. T. G.

The Bombyliidæ of the Ethiopian Region: Based on Material in the British Museum (Natural History). By Mario Bezzi. Pp. viii+390: 46 text-figs. (London: British Museum (Natural History), 1924.) 32*s.* 6*d.*

THE Bombyliidæ are a large and highly interesting family of Diptera, and the present monograph forms an important contribution to our knowledge of these insects. In placing the preparation of the volume in the hands of Prof. Bezzi, a wise choice has been exercised,