

tests for the detection and measurement of instability, notably the gas evolution test of Farmer, and a number of tests for the measurement of the acidity of the products of instability by the use of electrometric methods, or of suitable indicators.

The final section of the book deals with revised methods for the examination of raw and finished materials, and thermochemical data additional to those in vol. 2 are given in an appendix.

The book is well printed, well indexed, contains few errors or misprints, and can be confidently recommended to all those who are interested in explosives, professionally or otherwise.

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The Rayon Industry

Cellulose Acetate: its Manufacture and Applications. By A. G. Lipscomb. Pp. xii + 304. (London: Ernest Benn, Ltd., 1933.) 21s. net.

IT is difficult to keep closely in touch with the development in those branches of industry which become successful and popular at a particular time, because the technical discoveries are either obscured in the form of patents or explained in special journals which are seen only by the few. Hence it is not until some expert considers it advisable to disclose his knowledge in book form that a general perspective of the subject can be obtained by the outsider. This is particularly true of the cellulose acetate industry and its applications in the form of rayon and elsewhere, and Mr. Lipscomb's effort is sure of a receptive public. It is written from a dual point of view, aiming both at giving a complete account of the manufacture of cellulose acetate from its raw materials, including a full account of the up-to-date methods of making these, and also at summarising the very considerable patent literature: a list of these patents is included in a special index.

The rayon industry has not yet made up its mind whether it should properly belong to the textile or to the chemical industry, or to both. It would be rational merely to make the acetate and spin it, but, on one hand, the processes involved in the recovery for re-use of the chemicals required make it attractive to make these chemicals as well, whilst on the other, there is the temptation to dye and do much else with the rayon, even to the making of dyestuffs. In some quarters the view is gaining ground that it is more economic in this and analogous industries to restrict the

number of operations than to enter too far into the chemical industry, except on a large scale.

The book follows normal lines in the treatment: commencing with an historical section, a description of modern views of the structure of cellulose and its acetate follows, after which the practical side is stressed. The details are sufficient to be of material help in initiating and running a factory, the chapter under this heading being clearly written. Nothing that is of interest in connexion with cellulose acetate is omitted, so far as we have been able to judge, and the latest plant for special purposes, such as active carbon for solvent recovery and the Suida process for acetic acid recovery, are adequately described. The book should be of immediate use to all who are active or seek for information in this field.

Some Ancestral Fossil Mammals

British Museum (Natural History). Catalogue of the Pontian Carnivora of Europe in the Department of Geology. By Dr. Guy Ellcock Pilgrim. Pp. vi + 174 + 2 plates. (London: British Museum (Natural History), 1931.) 15s.

AT the time of publication of Darwin's "Origin of Species", Prof. Albert Gaudry, of Paris, was collecting and studying a large series of remains of fossil mammals from an Upper Miocene or Lower Pliocene freshwater deposit at Pikermi, near Athens, in Greece. He soon recognised that, although the animals represented by his fossils were closely similar to those inhabiting the warmer parts of the Old World at the present day, they differed in several small respects and seemed to include some links between animals which are now very distinct, and others which might be the ancestors of our modern animals. Between 1862 and 1867 he published his results in a classic volume entitled "Animaux fossiles et géologie de l'Attique", which was the first attempt on a large scale to describe and arrange extinct animals from the point of view of an evolutionist. Since Gaudry's pioneer work, nearly similar groups of fossil mammals have been found in Spain, Hungary, Macedonia, the Black Sea region, Persia, Mongolia, eastern China, and India; while apparently contemporaneous deposits in North America have yielded several closely allied genera and species. These mammals constitute the fauna which is now generally known as Pontian, and they include