

to have better control and regulation of the power, frequency and modulation of broadcasting transmitters all over Europe than has been the case in the past.

In presenting the report summarized above, the Radio Industry Council makes it clear that its proposed solution of the problem is by no means rigid or final, since considerable elasticity is offered in the exact wave-length allocations without affecting the general scheme. It is, however, commended to the earnest consideration of those who are able to influence the future development of broadcasting, in the belief that the present phase in Europe presents a valuable opportunity and, in the view of the British radio engineers represented by the above Council, an obligation to correct past mistakes.

SYNTHETIC RUBBER FROM ALCOHOL

Synthetic Rubber from Alcohol

A Survey Based on the Russian Literature. By Anselm Talalay and Michael Magat. Pp. xiii+298. (New York: Interscience Publishers, Inc., 1945.) 5 dollars.

THIS book is well written and printed, free from typographical mistakes, and generally very readable. It is divided into four chapters. The first chapter deals with the chemistry of the Lebedev process for preparing butadiene from alcohol, the second with the technology of the process, the third with the fundamentals of polymerization, including a sub-section on the technology of sodium polymerization, and the fourth with the physico-chemical properties of the polymer, including a most important section on determining the structure of the polymer. While the book as a whole was a co-operative effort of both authors, Chapters 1 and 2 were mainly the responsibility of A. Talalay and Chapters 3 and 4 of M. Magat. It is to be regretted that a further chapter dealing with Russian experience in handling polybutadiene in the rubber factory was not added. Useful author and subject indexes are appended.

The writing of the book is justified by the fact that so few English-speaking technical men can read Russian. A survey must always suffer from lack of authoritative information, and this book is no exception. While the authors have done a good piece of work in bringing together so much valuable information locked away in journals difficult to obtain and more difficult to translate, the reader has the impression that the authors are no better informed on what real progress has been made in the development of synthetic rubber in the U.S.S.R. than he is himself.

This doubt arising from the reviewing of the work of others is quite frankly expressed in the text by the use of the word 'apparently'. This is really a great virtue on the part of the authors, since less honest writers might have been tempted to identify their own views with those of the original authorities.

It is also regrettable that Russian references to more recent work (most of the references are more than ten years old) are not very numerous.

Attention should be directed to the statement on p. 145: "the Germans soon abandoned this method of polymerisation" [sodium polymerization]. This is,

of course, untrue since the Germans only abandoned it for the production of products which could be made more efficiently by the dispersion technique. Conversely, more attention could have been paid to the reasons why emulsion polymerization offered difficulties in the case of straight butadiene polymerization.

The practical side of the book (that is, the technology of production) deals almost exclusively with the production of butadiene and polybutadiene. This, naturally, is to be expected from the second part of the title of the book. The reviewer is somewhat surprised that the authors have not mentioned in their introduction Smirnov's book, which covers largely the same ground, at least from the technological angle. It is also rather to be regretted that the title (save for the second conditional part) and contents may lead beginners in the field to the wrong conclusion that polybutadiene is the most important rubber produced from alcohol. Buna S (or its analogues) is, of course, the most important synthetic rubber produced from alcohol in the past and present, although there are some indications that polybutadiene may be the most important in the future. This possible misunderstanding might have been avoided by employing a more limited title such as "Polybutadiene Rubber from Alcohol". The authors have, indeed, pointed out that the copolymers with styrene and acrylonitrile are important, but, in the view of the reviewer, with insufficient emphasis. It is true that some specific information regarding the American processes is still restricted, but no one could deny that far more has been published regarding the general position of synthetic rubber development in the United States than in the U.S.S.R.

A considerable amount of the material contained in the theoretical sections of the book is derived from non-Russian sources, and this makes it even more regrettable that more attention was not given to the production of Buna types from alcohol in the early technological sections of the book. A correspondingly large proportion of non-Russian references in the early part of the book would have made this possible.

The book is essentially one for the chemist interested in the development of synthetic rubber. It is feared that the average rubber technologist will find the treatment of the subject too academic. On the whole it is a book to be recommended.

W. J. S. NAUNTON.

PRACTICE AND SCIENCE IN THE SHEEP INDUSTRY

(1) The Merino

Past, Present and Probable. By H. B. Austin. Second edition. Pp. 247. (Sydney: Grahame Book Co., 1944.) n.p.

(2) Sheep

By J. F. H. Thomas. With Chapters by Moses Griffiths, Martin Jones and A. R. Wannop. Pp. 196+44 plates. (London: Faber and Faber, Ltd., 1945.) 15s. net.

THE sheep has golden hooves, and wherever the print of them appears, the soil turns to gold." This old Swedish proverb is quoted by Mr. Austin; Mr. Thomas could equally well have taken it for one