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Editorial comment

THE CONTINUED REFERENCE in this Editorial Comment to technical conferences and symposia is not accidental. It is rather the outcome of a firm conviction that such meetings do an amount of good far in excess of the superficial benefits which are immediately apparent.

For this reason, although a short summary appears elsewhere in this issue, it may be worth while to ponder upon the results of The Third International Symposium on the Chemistry of Cement.

In the first place, was it worth while? Quite obviously the delegates from overseas thought so or they would hardly have troubled to attend, and conversely by their very presence they made it worth while. Not only did a number of them present papers but many more contributed to the discussion, either verbally or in writing.

It was the first time for fourteen years that an opportunity had been provided for chemists and cement manufacturers to meet formally and informally to exchange information at an international level.

The Symposium in Stockholm in 1938 was the culmination of a period of research which had seen many basic problems of the constitution and hydration of cement resolved. This revealed the need for a great deal of investigation of detailed problems uncovered by the results obtained from work described during the Symposium.

The London Symposium has shown to what extent work has progressed on these problems. With the exception of that which has been done in Eastern Europe and the U.S.S.R. it appeared that no work of importance carried out in the last fourteen years was left unmentioned.

Broadly speaking this work can be divided into three main fields:

> The study of the constitution of Portland and aluminous cements.
>
> Investigations of the processes of setting and hardening of hydraulic cements.
>
> The application of research to chemical engineering problems of cement manufacture and the production of special cements.

Knowledge of the nature of the hydration products of Portland cement has been greatly extended as a result of the work carried out in the past decade in Sweden, the United States and Great Britain which was described during the Symposium.

On the Continent, work seems to have been devoted mainly to the development of special cements.

As far as the constitution of cement is concerned, from the proceedings of the Symposium it would appear that the focus of interest is shifting from studies of phase equilibria to an examination of the minerals actually occurring in commercial cements.

To the observer important advances seemed to have taken place not only in the progress of research but also in the improvement of experimental techniques and the development of new apparatus. Crystallography by

X-ray diffraction, the use of radioactive trace elements and the widespread use of automatic recording instruments are examples. This improvement has not only accelerated research but has allowed problems to be tackled which have in the past defied attack.

In his address at the end of the last session of the Symposium, Dr. F. M. Lea endeavoured to show the direction in which future work might move. It requires only the briefest of glances at his interesting remarks to realise that there is much to be done.

Sir Ben Lockspeiser in opening the Symposium commented on the fact that while there was a great deal of engineering research undertaken on concrete in British universities there did not seem to be any corresponding research on cement. In recent years a greater emphasis has been placed on applied research, an emphasis reflected in this Magazine. Such an emphasis it might be argued is what is called for at the present time, but, nevertheless, it would be foolish and dangerous to exclude fundamental work from research programmes.

With such a promising field for work it is a little disappointing that, with the exception of Birkbeck College, not one university in Great Britain is undertaking any fundamental research into any of the many problems which are confronting the cement industry in this country and abroad.