

## EDUCATION IN INDUSTRY

IN a paper presented to the summer meeting of the Association of Technical Institutions at Scarborough in June, Mr. T. H. Hawkins dealt with the industrial problems which had arisen out of part-time day release classes for young workers in industry. Part-time day release, he said, had been tried in practice and proved by experience and there was now no need to argue the cause for its necessity. Sufficient experience had been gained so that an assessment could be made from which the policy for future development could be elaborated.

Apart from the considerable difficulties of the administration of part-time day release classes, three main types of human difficulties arose. The first was from the point of view of young employees, many of whom cannot see why they should be forced, even for one day a week, to return to a place from which they had recently so mercifully escaped; some youths even prefer to stay at their jobs without pay to attending day release classes with pay. Since these adolescents are often the ones most requiring some supervision at a difficult time in their lives, Mr. Hawkins suggested that all classes should be of a compulsory nature.

From the management side the supposed antagonism of many industrialists towards part-time day release is often because they cannot see the link between general education and the young person's job in industry. They are ready to provide facilities for young people in their charge to attend classes of a technical nature; but cannot see what English or current affairs has to do with making boys or girls into better workers. Now that day release classes have been going some years, however, it is interesting that many managers have changed their minds about the value of these classes after seeing the beneficial effect they have on young people. Headmasters and teachers in part-time day release classes could do much to help departmental managers to see that part-time day release classes do connect with jobs by using many more illustrations than they do from local industries. In this connexion teachers could help themselves by being prepared to spend some of their vacations on training courses in different works.

From the industrial side the person who has most to do with the arrangement of part-time day release classes is the industrial education officer, and the particular difficulties which he sees are the way in which subjects are tackled in general education classes and the lack of suitable courses of a vocational nature for apprentice grades. In general education classes the more intelligent young people are dealt with quite adequately, although there is room for considerable experiment on how to deal with young people who are attending classes on one day a week only. With the less intelligent students, many of whom will have come from the lower classes of the secondary modern schools and may be near-illiterate, it is probable that subjects as such should be discontinued. The day release class teachers should work to an overall plan, but should be prepared to modify their daily programme according to the particular interest of the moment.

The industrial education officer is also concerned with the lack of suitable courses for apprentice craftsmen. Hitherto the emphasis in our technical institutions has been too much on providing suitable courses for the technician and not nearly enough on

providing suitable courses for the craftsman. Recent suggestions for the upgrading of certain technical colleges and the launching of a Royal Institute of Technology may cause the craftsman to be even more overlooked and, as Mr. Hawkins pointed out, it should be always remembered that for every graduate in a works, there are about ten men for maintenance work of a routine character. Despite the comprehensive programmes prepared by the City and Guilds of London Institute, there are still no suitable courses for apprentice maintenance fitters, blacksmiths, pipe-fitters and other important maintenance crafts. The industrial education officer is also concerned because commercial apprentices cannot be deferred from National Service at the age of eighteen like other apprentices; on this point the Ministry of Labour and National Service shows a marked inability to adapt itself to changing needs and even to act in conformity with public utterances of Ministers like the President of the Board of Trade, who is continually stressing the need for an expansion of commercial staffs in industry. Mr. Hawkins also dealt with the difficulties caused by interference with production and the fact that the 1944 Education Act makes no reference to the question of who should pay the wages of students taking day release classes, as well as difficulties peculiar to certain industries.

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## CRYSTALLOGRAPHY IN SPAIN

THE official recognition in 1947 of the International Union of Crystallography was followed by the formation of national committees in a number of countries. The Consejo Superior de Investigaciones Cientificas appointed a Spanish National Committee in 1949, and announced its adherence to the International Union. This demonstrated to Spanish crystallographers the urgent necessity for the strengthening of contacts between the various laboratories and individual research workers within Spain itself. They decided, therefore, to form a Spanish Crystallographic Association, to include pure crystallographers and also chemists, physicists, engineers and others working with X-ray or electron diffraction methods.

The first meeting of the Asociación Española de Cristalografía was held in Barcelona this summer during July 5-8. During the conference the following committee was appointed to hold office for the next two years: *President*, Prof. F. Pardillo; *Vice-President*, Dr. L. Rivoir; *Treasurer*, Prof. G. Martin Cardoso; *Secretary*, M. Abbad; and *Ordinary Member*, Dr. J. L. Amorós.

The proceedings included visits to the Crystallographic Laboratory in the University of Barcelona, and to the Museum of Mineralogy and Geology, established in the fine buildings originally used for a national exhibition. There was an excursion to the Montserrat range; this was only an interlude, however, in the more serious business of the day, which was a visit to the salt mine at Cardona, now worked mainly for potassium chloride. The scientific proceedings included two evening lectures given in English by Prof. K. Lonsdale, who had been invited to attend from Great Britain by the Consejo Superior de Investigaciones Cientificas and by the Association. These were on "Neutron Diffraction" and on "Thermal