

structures, and planning and construction of airfields. Mr. Everard, Mr. Anderson and Mr. Sutherland Campbell, the authors of the first of these papers, pointed out that underground railways provide a second plane of traffic with the highest known capacity for handling large crowds. They can handle more than 100,000 people per rush hour in two directions of traffic at an average speed of 20-25 m.p.h. The figures of journeys by public transport per year per head of population were given as: Paris 400, New York 462, London 500. No large-span railway bridge has been built in Great Britain since the Forth Bridge (1890). The greatest problem in connexion with railway bridges in Britain is their maintenance, the railway executive being responsible for a total of more than sixty-two thousand bridges. Mr. Leighton and Mr. Guthrie Brown discussed the port facilities of Britain and the great contribution engineers have also made to the handling of bulk cargoes like grain, seeds, coal and petroleum. There are now thirty-two major dry docks in the world, ten of which are within the British Commonwealth. Any forecast of future dry docks is linked with the average increase in the size of commercial vessels, particularly if the tendency of an increasing ratio of beam to length continues. Mr. G. T. Bennett, in his paper on road safety and planning, quoted an estimate that the total cost to Great Britain of road accidents was £100 millions in 1946, without accounting for losses due to delay on the roads. He pointed out that Great Britain depends for prosperity largely upon the exploitation of its geographical position, the short distances between ports and centres of industry favouring entrepot trade and exports. He advocated strongly the investment of capital in road improvement to cheapen production costs.

Mr. H. J. B. Manzoni, Mr. H. F. Cronin and Mr. D. M. Watson read three papers on the related topics of public-health engineering, water supplies and sewage disposal. Mr. Manzoni reviewed the insanitary state of most towns and cities in the early part of the last century and the great advances which have been made since then. He gave an indication of the magnitude of the problem of refuse disposal by quoting the figure of 14 million tons as the annual quantity of refuse collected by local authorities in England and Wales just before the Second World War. He also referred to the problem of district heating. This is the most economical method for a large estate of houses in which the whole of each house is heated; the cost is greater, however, than the cost of coal fires to heat only one, or at most two, of the rooms in each house.

Papers on engineering education and training which were read at the Conference have already been reviewed separately in *Nature* of July 7, p. 14.

E. K. FRANKL

## THE MUSEUMS ASSOCIATION

### ANNUAL CONFERENCE

THE fifty-seventh annual conference of the Museums Association was held in Belfast during June 18-22 under the presidency of Mr. S. D. Cleveland, deputy director, City Art Gallery, Manchester. The theme of the Conference in this Festival Year was "The Museum as Mirror of British Achievement in Art and Science". About three hundred delegates attended, including representatives of the

French museum movement, and others from Unesco, and from Australia, Canada, Mauritius, Egypt and the United States.

The presidential address, on "Association Reflections", was a survey of the activities of the Association since 1939. Mr. Cleveland reviewed in some detail the work carried out by museums and art galleries during the difficult war years, and felt that, despite the handicaps, the period was a stimulating one in the museum movement. With regard to the future, Mr. Cleveland considered that, in adopting a constitution more in keeping with the present policy of the Association as primarily a professional organization, the present standards of curatorship necessary for a public service would be maintained and indeed improved.

Mr. J. A. S. Stendall, director of the Museum and Art Gallery, Belfast, after outlining the history of museums in Northern Ireland, described the modern display methods adopted at Belfast during the past few years. The material has been re-arranged so as to tell a story, colour effects have been used lavishly, and fluorescent lighting is combined with the earlier tungsten lamps. Reference was made to the projected museum of Ulster life and tradition which is to be established in the grounds of Belfast Castle.

Dr. D. Dilwyn John, director of the National Museum of Wales, recalling the theme of the Conference, reminded the audience that "a mirror reflects things outside itself and thus museums do mirror British achievements which are not in themselves museum achievements". As an example he took a specimen of *Glossopteris*, a fossil fern from the Antarctic, collected at the side of the Beardmore Glacier by Wilson when returning with Scott from the South Pole. Eventually the specimens were found and shown in the British Museum (Natural History). The fern proved the existence in former times of a great southern continent. But the fossil has another value, for it reflects and mirrors a great British achievement.

Dividing the work of museums into display, curatorial activity and study, Dr. John showed how present display methods consist of starting with the familiar and gradually passing step by step to the less well-known. The safety and preservation of rare specimens are among the most important of curatorial activities, while from the study of great natural history collections springs new knowledge and understanding. Dr. John stressed that a museum man, working in a natural history museum, may be led on from his fundamental work to considerations of the widest interest and to problems which are world wide.

Dr. F. Sherwood Taylor, director of the Science Museum, London, considered that local museums should show illustrations of the physical sciences even if only as temporary displays. He considered that experiments are preferable to static apparatus and stressed that museums should not attempt what has already been demonstrated in schools. He also felt it more desirable to illustrate local industries rather than the simple laws of physical sciences.

The Conference was of particular importance in that it not only reflected the continued progress of museums in their recovery from war damage and re-organization, but also demonstrated the new aims and ideas, techniques and activities which are now evident, and which have greatly stimulated popular interest in, and change of outlook towards, the function of public museums and art galleries.