THE MUSEUMS ASSOCIATION

THE sixty-sixth annual conference of the Museums Association was held in the city of Stoke-on-Trent during July 4–8, by kind invitation of the Corporation and University College of North Staffordshire. Dr. W. E. Swinton, of the British Museum (Natural History), presided over some 330 delegates.

The conference was warmly welcomed at this its first visit to Stoke by the Lord Mayor, and in his presidential address Dr. Swinton dwelt on the present plight and difficulties of the museum movement. He welcomed increased grants made by the Treasury to the national museums, and the provincial museums through the scheme administered by the Victoria and Albert Museum. He also looked forward to the founding of further regional councils based on the existing prototype in the south-west of England. Dr. Swinton deplored the absence of travelling museums in rural districts, for they had been so eminently successful in the United States, and he felt convinced that they would supply a real need in Britain. Dr. Swinton, taking his text from the underground geology in the area, then discussed the injection of art and science into industry and the way in which literature and the arts had influenced the industrial life of the city.

The presidential address thus paved the way for the main discussion of the conference, which concerned itself with the relations of museums and industry, introduced by Sir Colin Anderson, Mr. Ian Cox, Mr. John Moores and Sir John Wedgwood. All speakers agreed that with the competition of television and shop displays the standard of exhibition in museums should be high and modern in outlook. It was also felt that the displays should be stimulating and give pleasure as well as instruction. Curators should study the methods of salesmanship. In the same way that no shop would freeze its windows, museums must be prepared to change their displays as often as possible. Museums, on their part, can do much to stimulate new designs and help to maintain high standards of craftsmanship.

Another important discussion concerned the purchase of art objects for museums. The speakers included Sir Anthony Blunt, Dr. Trenchard Cox, and Messrs. G. L. Conran, Terence Mullaly and Hugh Scrutton. It was generally agreed that directors should make more frequent contact with the London market, although even then purchases were to a great extent a matter of chance with either local or national opportunities. It was also stressed that rare and expensive objects should not be the desiderata of museums but they should endeavour to create an individual character.

At the annual general meeting it was decided to increase institutional members on the Council from three to six and to request nominations for these from regional organizations.

Dr. D. B. Harden (London Museum) was elected president and Mr. Phillip James was confirmed in his office as secretary. It was decided to hold the next conference at Plymouth during June 19–24, 1961.

Social functions included an informal reception at Keele Park by invitation of the University College, a reception and dance by invitation of the Lord Mayor and tours of the Arnold Bennett country, the Potteries, Kedleston and Dovedale. Official visits were also made to the local museums.

THE BRITISH STEEL CASTINGS RESEARCH ASSOCIATION

THE progressive growth of one of the youngest research associations was marked recently by the open days held during June 28–30 by the British Steel Castings Research Association at its Research Station in Sheffield. The open days were attended by 546 representatives, principally from member companies and from users of steel castings.

The opening of the Association's Research Station was noted in these columns (*Nature*, **180**, 221 ; 1957). Within three years the Association has found it necessary to add a further 10,000 sq. ft. to its accommodation, while its staff has increased in this period from forty-nine to seventy-six. The increased accommodation has provided substantially more space in laboratories devoted to chemical analysis, metallurgy, sand testing and mechanical testing. The machine shop has been correspondingly enlarged, and new laboratories have been provided for radiography and the handling of isotopes used in investigations employing radioactive tracers and for the analysis of gases in steel. The experimental foundry has also been enlarged to the extent of 50 per cent in floor area, providing floor space for the installation of a 56-lb. vacuum melting furnace, for pilot plant studies of dust and fume collection equipment and for the study of foundry plant and equipment on a scale approximating to that of installations in production foundries. The total cost of the extensions together with the equipment installed therein has been £60,000, bringing the total cost of the Research Station to £165,000 within a period of four years. The present income of the Association is a little more than £100,000 per annum. The number of steel foundries in Great Britain is not large, and the present subscription income represents an average subscription of £1,000 a member. That the Association can maintain such a high level of subscription and has, in fact, recently increased the subscription rate by nearly 10 per cent is indicative of the importance that the industry attaches to its co-operative research.

The demonstrations of the Association's work, which were on show at the open days, illustrated very well the point that many of the problems associated with the production of steel castings are non-metallurgical in character. A large proportion of the research effort is concerned with moulding materials and with the interactions that occur at high temperatures between molten steel and the sands and

other refractories from which moulds are made. One of the Association's major problems has been to evolve quantitative techniques for the measurement of such phenomena as the friability of moulding sands on drying, the erosion of moulds that occurs when molten steel flows over the surface, the penetration of molten steel into the interstices between sand grains and the 'flowability' of moulding sands, that is, the ease or difficulty with which they may be compacted in narrow pockets, etc. Techniques have been evolved for these and similar measurements; for example, it has been possible, by using a test casting in which a controlled air pressure is applied to the liquid steel, to synthesize in a casting only 15 in. high the ferrostatic head experienced at the bottom of a casting 20 ft. in height. This technique has greatly facilitated the study of the penetration of liquid steel into moulding materials.

Much attention has been given to the development of mould paints and washes, and new formulations based on the dispersion of refractory particles in alginate suspensions have been developed which produce paint films that do not crack on drying or when molten steel is poured into the mould. These are a considerable advance on commercially available washes and are being applied on an increasing scale in the foundries of the Association's members.

The engineering section of the Association devotes considerable effort to studies of plant and equipment used in foundries and is actively engaged on investigations of factors affecting the performance of moulding machines and shot-blasting equipment. Studies are also being made of both wet and dry methods for the reclamation of used foundry sand. Here the problem is to remove from sand grains the layer of dead bonding clay to enable the sand to be re-bonded for cores and moulds.

From its inception the Association has always maintained a lively interest in problems relating to industrial health in foundries. Its recent activities have included the development of an exhausted fettling bench which combines control of fine dust with a substantial reduction in noise pressure-level when castings are cleaned with pneumatic chipping hammers. These benches are now being made by two manufacturers.

Studies are also being made of atmospheric pollution from foundry steel-making furnaces, and a survey has recently been completed of the fume emission of arc furnaces varying from 30 cwt. to 80 tons capacity and from side blown ('Tropenas') converters.

The Association attaches considerable importance to liaison with its member companies, and they are regularly visited by senior members of the staff to discuss aspects of the Association's work ripe for development and also to advise on technical problems arising in production. Conferences and discussion groups are also organized both on a national and a regional basis, and during the past year an average of eight representatives per member company participated in these meetings. The Association also organizes short training courses for representatives of members on subjects such as moulding sand control, steelmaking techniques, etc. During 1961 a training course is to be organized on work simplification in foundries.

The seventh annual report of the Association has recently been published, and in presenting this to the annual general meeting on June 28, Dr. R. Hunter (Clyde Alloy Steel Co., Ltd.), the chairman of the Association's Council, invited members' attention to notable features of the report. He directed special attention to the expanded programme of liaison with industry referred to above and also to the establishment of a joint committee, the Steel Castings Development Committee, between the Research Association and the trade association, the British Steel Founders' Association. The function of this Committee is to disseminate data designed to promote the greater use of steel castings, and the Research Association has in hand a substantial programme of work for this Committee to determine properties of steel castings on which data are now lacking. A useful start has also been made in the provision of lectures and lecture material for presentation to engineering societies and engineering departments of technical colleges. A. H. Sully

CULTURE, SOCIETY AND HEALTH

During June 1–3, 1960, the Division of Anthropology of the New York Academy of Sciences and the Research Institute for the Study of Man jointly arranged a conference on culture, society and health. Among the many interesting papers was one dealing with cancer frequency and socio-cultural factors and another which examined the frequency of coronary artery disease in population groups. The study of socio-cultural factors in cancer was carried out by Walter B. Quisenberry, Division of Preventative Medicine, State Department of Health, Honolulu.

The population of Hawaii is made up of approximately 35 per cent Japanese, 23 per cent Caucasians, 18 per cent Hawaiians and part-Hawaiians, 12 per cent Filipinos, 6 per cent Chinese and 6 per cent others such as Koreans, Samoans, and Puerto Ricans.

Quisenberry's investigations showed that the incidence of stomach cancer is highest in Japanese men. There are probably many socio-cultural factors such as dietary habits which play a part in causing this. Primary cancer of the liver, however, is most frequent in Filipino men. Filipino men probably eat foods which are higher in carbohydrates and lower in protein and vitamin B_1 than those of other ethnic groups.

Filipino and Japanese men have the lowest incidence of lung cancer in Hawaii; Japanese men and Filipino men have probably smoked fewer cigarettes over the years than Caucasian men. The Caucasian breast cancer rate is five times the Japanese rate; Japanese women have been slower in giving up the nursing of children than have the Caucasians. Cancer of the large intestine is more frequent in Caucasian women than in any other ethnic groups; the diet habits and, perhaps, the bowel habits of Caucasian and Japanese women are different.

Cancer of the prostate gland is about nine times more frequent in Caucasian men than in Japanese men; the socio-cultural factors which may be responsible for this great variance in incidence of prostatic cancer may be related to differences in love-