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The Science Museum, South Kensington

THE rapid extension of scientific knowledge and of its application to industry during the past fifty years, and most particularly in the post-War period, has exercised a tremendous influence on our social and economic life. We are not yet able to utilize and control this to full advantage, and therefore its source and development require to be revealed in as comprehensive and comprehensible a manner as possible to those who seek to understand. The Science Museum at South Kensington aims to provide a proper representation, commensurate with its importance, of the scientific and technical aspects of human endeavour and achievement in the national life by means of exhibits which provide a continuous story from the birth of a new idea, expressed in a new material, instrument, or machine, up to its most modern development. It differs from other national museums in that it deals with an aspect of life which is essentially dynamic and rapidly progressive, and its task necessarily becomes an increasingly complex one.

The continuous growth of scientific knowledge and the progressive reduction in the time-lag between its discovery, its application in industry, and its transformation into goods and services available to the public, present a formidable problem to those responsible for recording the process of historical evolution. This is particularly the case since many modern industrial developments have arisen not so much from an independent expansion of one branch as from the interaction of several branches of scientific knowledge, so that sectionalization in presentation is rendered increasingly difficult.

The object of the Museum is in the first place educational. It is inevitable that the community will become increasingly aware of the reaction of

science on its everyday life, and a well-equipped museum is the best means of ensuring an intelligent appreciation of scientific and technical developments and of the benefits which they bestow. It is very important that the Science Museum should keep abreast of these developments, so that the average visitor may see clearly the relation to what has gone before of the devices which he is called upon to use in his normal activities. In performing this function the Museum does a very great service to the industry of the country.

In order to deal with this complex situation, the Science Museum has adopted the practice of combining with its permanent, historical and sectionalized exhibition, exhibitions of a temporary character dealing with special industrial developments of considerable present importance, from which individual exhibits may be withdrawn afterwards for incorporation in the permanent collection. The interest which these temporary exhibitions arouse may be judged from the fact that the most recent one, on Electrical Illumination, was attended by more than a quarter of a million people, while during 1937 the total number of visitors to the Museum as a whole was more than one-and-a-quarter millions. The vast majority of these are not idle sightseers but persons genuinely interested and keen to learn something from what they see, and it would be impossible to over-estimate the educational and inspirational benefit which accrues, particularly to young people, from this visual exposition of scientific and technical development.

It has become increasingly evident, however, that the space available is quite inadequate to enable the Museum to develop in a manner befitting its importance. At the present time the existing collection is badly overcrowded, and it is

not possible to house or display it with the dignity which has been given to our arts and humanities, to find accommodation for objects in store or acquirable which should rightly be exhibited, or to advance towards the creation of several new sections for which there is a pressing need.

In 1911-12 a Committee, under the chairmanship of Sir Hugh Bell, recommended the construction of new eastern and central portions and visualized their completion by 1922; the eastern portion was finally completed in 1928, but no start has yet been made on the centre portion. Even, however, if the latter were available in the form suggested by the Committee, the total space then available would permit of only a partial satisfaction of the present needs, and would, therefore, leave no provision for such natural growth as is to be expected during the next fifty years. The total exhibition space which the Advisory Council of the Museum has estimated to be necessary amounts to some fifty per cent increase over that envisaged by the Bell Committee. It is realized that this estimate is conservative, but it has been kept down to this figure deliberately in order that the collections in the Museum should not exceed what can be usefully displayed in the convenient compass of one building. The Council advocates that the main exhibition galleries should be confined to not more than three floors, a system which has been wisely adopted in both the older and the newer museums of Great Britain and other countries.

These considerations constitute the basis of recommendations which have been put before the Board of Education recently by the Advisory Council, and with the full support of the Federation of British Industries, for a considerable extension of the present space allocation in South

Kensington. The present time is opportune, since the site adjacent to the existing buildings, on which any extension must necessarily occur if decentralization is to be avoided, may soon become available by the project now under consideration for the readjustment and expansion of the Government and collegiate institutions situated on the area between Kensington Gore and Cromwell Road. The calculation of the site area necessary to provide the estimated floor space required, and allowing for the inclusion of some central courts to admit light into the galleries, covers the area enclosed by the Natural History Museum boundary, Exhibition and Imperial Institute Roads, and Queen's Gate, exclusive of the two blocks occupied by private residences and the Meteorological and Post Offices. The acquisition of this site is, in the opinion of the Advisory Council, essential if practical effect is to be given to that long view of the future function and progress of the Museum which its national importance and value to the industry demand.

It is to be hoped, therefore, that the Board of Education will give the most serious consideration and its ultimate endorsement to these recommendations; the value of the Museum as a means of educating the general public and of demonstrating the continuous development of our national resources is becoming increasingly appreciated by industry, and there need be no doubt as to the enthusiasm with which industry would support, and give assistance towards, their full subsequent realization.

The example has been set in Germany by the Deutsches Museum in Munich, and in the United States by the Rosenwald Museum in Chicago; in Great Britain we need not, and should not, suffer as we now do in comparison with them.

Kinetic Theory of Gases

Kinetic Theory of Gases :
with an Introduction to Statistical Mechanics.
By Prof. Earle H. Kennard. (International Series
in Physics.) Pp. xiii + 483. (New York and
London : McGraw-Hill Book Co., Inc., 1938.) 30s.

NEW books on the kinetic theory of gases are rather rare phenomena. The best early comprehensive works on the subject were written in German, by O. E. Meyer ("Kinetische Theorie der Gase", first ed. 1877) and L. Boltzmann

("Vorlesungen über Gastheorie", vol. 1, 1895; vol. 2, 1898); the former book was meant for physicists, and the latter for mathematicians. The second edition of Meyer's treatise, translated into English by R. E. Baynes, was published in 1899, and even now is worth reading. It has not been reprinted, probably because of the appearance in 1904 of the first edition of Sir James Jeans's "Dynamical Theory of Gases".

The expressed aim in Jeans's first edition was "to develop the Theory of Gases upon as exact a