

in which the ascription of the title 'Honourable' to Henry Cavendish was described as a persistent delusion, Dr. E. J. Holmyard writes: "This stricture appears to be based upon a misapprehension. It is only within the last hundred years that the title 'Honourable' has been conventionally limited to the children of peers below the rank of marquis, and that it was commonly given to Cavendish is shown both by the admission register of Peterhouse (where he is described as 'Honorabilis Henricus Cavendish') and by the fact that Wilson's 'Life' (London, 1851), written when many of Cavendish's contemporaries were still living, employs the title without comment." Dr. Holmyard, however, will find that the definition of the term given in early reference books (for example, "Encyclopædia Britannica", 3rd ed., 1797) is exactly the same as the one in force to-day, and allows no excuse for the ascription to Cavendish. Cavendish's father, Lord Charles Cavendish, was not a peer, and however loosely the term might have been used and accepted in those days, it seems quite clear that Henry Cavendish had no right to it, and that it was incorrectly applied to his name and has been as incorrectly accepted without question until now.

League of Nations Intellectual Co-operation Organisation

THE International Institute of Intellectual Co-operation (2 Rue de Montpensier, Paris I) has just published the first number of a new monthly *Information Bulletin*, as the official organ of the League of Nations Intellectual Co-operation Organisation, which comprises a committee of the League with its secretariat at Geneva, the Institute in Paris, committees of experts, and national committees. It is a counterpart in English of the Institute's *Bulletin de la Coopération intellectuelle*, most of the contents of which will be summarised in it. This first number contains a review by the director of the Institute of recent developments in this field, special articles on the re-organisation of education in China and on "Moral Disarmament", a summary of the month, reports of meetings held under the auspices of the League's Organisation, and notices of forthcoming congresses. A foreword by Sir Eric Drummond commends it to the notice of all those who are interested in the promotion of international co-operation in art, education, science, and scholarship and believe that its progressive development is an essential condition for the gradual realisation of the principles for which the League of Nations stands. The annual subscription is 10 shillings or 2 dollars: single copies, 1 shilling or 20 cents.

Soil Physics in Relation to Meteorology

DR. B. A. KEEN, of the Rothamsted Experimental Station, discussed "Soil Physics in Relation to Meteorology" at the G. J. Symonds Memorial Lecture for 1932 of the Royal Meteorological Society (*Q. J. Roy. Met. Soc.*, July). This new branch of physics has made it necessary to discard a number of generally accepted explanations of agricultural and horticultural matters connected with the soil. Russian

work on soil classification has, for example, led to the recognition of certain soil groups as a basis for a survey of the soils of the whole world, and it is found that the type of soil formed in any place is dependent not so much upon the geology of the neighbourhood as upon certain meteorological factors, especially temperature and rainfall. Analysis of vertical sections of the soil, or soil 'profiles', shows unmistakably that the amount of percolation of rain water decides whether certain alkaline salts derived from the weathering of rocks shall be washed downwards or not, and it is because of their effect upon percolation that these two meteorological factors are so important. As an offset to this case of underestimation of meteorological influence, Dr. Keen cites a case of overestimation, the subject being the aeration of the soil. The point that had to be explained was how it comes about that the composition of the soil atmosphere is so nearly the same as that of ordinary air, in spite of the fact that most biological activity in the soil tends to absorb oxygen and evolve carbon dioxide. A critical examination of the different processes leading to gaseous exchange between the soil and the atmosphere points to ordinary gaseous diffusion as the principal agent of exchange, meteorological processes being too slow. The rate of diffusion, moreover, is dependent upon total pore space rather than upon the size of individual pores, which would appear to dispose of the idea that 'heavy' soils—those with the smallest particles—are necessarily the most badly aerated. Another important point made in the lecture is that water is not conveyed to the surface of the ground by capillary action from nearly such great depths as had at one time been supposed, from which it follows that the good effect of a surface mulch of loose soil or other material is often unconnected with the reduction of evaporation from the surface.

The Newcomen Society

THE Newcomen Society for the study of the history of engineering and technology has just published its tenth volume of *Transactions*, containing the papers read during the year 1929-30, various notes and contributions, and a subject list of books and pamphlets relating to the history of technology, 1931-32. To mark the completion of ten years' labour, the Council has included in this volume a complete index to the whole of the *Transactions* and also an index to the various bibliographies. Both these indexes should prove of great use. As usual, the papers and notes cover a very wide field, ranging from ancient civilisations to the first steam engine in America and bell-founding; while the printing and illustrations leave little to be desired. The Society's financial position is sound, and the membership has increased slightly; more than a quarter of the members reside in the United States. Each year the Society holds a short summer meeting in the provinces, and it never fails in bringing to light the existence of historical industrial sites or directing attention to the industrial history of the district in which it meets. From time to time it has either taken the initiative or co-operated in the commemoration of the centenaries of

eminent engineers and inventors, and we understand it has already taken steps which should ensure the proper recognition of the centenary of the great Cornish engineer Richard Trevithick, who died in 1833. Trevithick died in poverty at Dartford and lies in an unknown grave, but in 1883, through the action of the Institution of Civil Engineers, a window in his memory was erected in Westminster Abbey. He was one of the most gifted inventors who ever lived, while as an engineer he was the pioneer of the high-pressure steam engine, and this at a time when the authority of Watt, who would have nothing to do with high pressures, was almost world-wide.

An Empire Museum Survey

AMONGST many topics dealt with by Sir Henry Miers in his fourth presidential address to the Museums Association was that of an Empire Museum Survey. A few years ago the possibility of so great a venture would have occurred to no one; now the Survey itself is far advanced towards accomplishment, thanks to the initiative and energy of Sir Henry Miers himself. It began with the Carnegie United Kingdom Trust survey of the museums of the British Isles; it was continued with rapidity when the Carnegie Corporation of New York, in addition to all it is doing for the United States, expressed its willingness to expend certain funds allocated for expenditure within the British Empire (exclusive of the British Isles) upon such a scheme. In 1931, Sir Henry Miers and Mr. Markham visited 121 museums and galleries in Canada; early this year they visited all the museums they could discover in the Union of South Africa and in Rhodesia, as well as many others encountered on the return journey by Khartoum, Cairo, and Port Said. This year also a survey of museums in British possessions in the Mediterranean Sea was carried out by Alderman Squire and Mr. Herdman. So that in a year, from June 1931 until June 1932, two-thirds of the Empire Survey has been completed; and now there remain only to be tackled the Commonwealth of Australia, Tasmania, New Zealand, the West Indies, and a few almost inaccessible places like the Falkland Islands.

Mississippi Floods

THE disastrous floods in the Mississippi basin in the spring of 1927 have led to various suggestions for preventing their recurrence. These are critically examined by M. O. Messerly in a paper entitled "Les Travaux de défense du Mississippi" in *Matériaux pour l'étude des calamités*, No. 3, année 1931 (1932). Several of the proposals would probably lead to effective defence, but are not feasible on the score of cost. The construction of reservoirs on the tributary streams would be useful but very expensive. In industrial districts, however, such reservoirs would have a local use, in addition to their protective value. Setting back the embankments along the lower reaches, if done on a large enough scale, would help considerably, but is scarcely practicable. Dredging of the bed would be effective, but only if continuous and on a very large scale. Afforestation might help in checking the flow of rainfall to the rivers, but even vast schemes might afford only small relief. In any case, the effect would not be felt for a generation or more. The most practical measures seem to be the raising and

strengthening of the embankments at certain places, the construction of new drainage channels parallel with the main stream, and the straightening of the river in places to facilitate the flow of water.

Duck Decoy Ponds in Europe

SCIENCE Service (Washington, D.C.) publishes a Berlin message concerning the slaughter of migratory ducks by decoy ponds in Europe. In Germany there are at present eleven decoys, with an average annual catch of 40,000 ducks; in Denmark two, with an average of 12,000; in Belgium four, average not stated. England is said to have twenty-one, capturing about 600 ducks; and Holland to have the greatest number of decoys, 145, having an average yearly catch of 300,000 ducks—a number until now suppressed in the interest of the Dutch canning industry, which has built up a profitable export trade upon the proceeds of the decoys. The finding of ringed birds shows that the ducks caught in Holland come largely from Scandinavia and Finland, and the fear is that the supply will eventually fail under this serious annual drainage. The open season lasts from July 27 until Feb. 14, or even March 13, and a shortening of this period would have a good effect, but it is said that the Dutch Government is unwilling to interfere with a profitable home industry. Nevertheless, an effort will be made at the International Conference, to have the open season reduced to a period from Sept. 15 until Jan. 31.

Bibliography of Newcastle-upon-Tyne Local Records

As all interested in bibliographical matters no doubt know, Newcastle-upon-Tyne possesses an excellent public library, rich not only in the books generally found in such institutions, but also particularly in works of local interest. Having regard to the fact that Newcastle-upon-Tyne and the district of which it is the centre have taken such a prominent part in the invention and the development of technical methods and appliances of great industrial importance, it is obvious that these records of local doings necessarily appeal to a far wider public, and the librarian, Mr. Basil Anderton, has done well in publishing a "Catalogue of Local Records". The catalogue falls into two main divisions, namely, an author list and a subject list, together with certain appendixes which are perhaps of more strictly local interest. The subject list will probably be the one that will be more generally consulted, and it contains material of the greatest value, especially to the historian of matters of technological or sociological import. It need scarcely be said that in a coal-mining centre like Newcastle-upon-Tyne, maps of the coal mines and royalties of the surrounding district play an important part, and give information of the utmost value to students of the development of the coal-mining industry. The catalogue appears to be very well executed, is well printed and published, and will form a valuable and useful addition to British bibliography.

Progress of the Ordnance Survey

THE Report on the Progress of the Ordnance Survey for the year ending March 31, 1932, directs attention to the steadily increasing sale of small-scale maps, particularly the one-inch scale. This is no doubt due