

impact of science on society), the titles of the sectional presidential addresses, and the principal topics of discussion have already been announced in an article which appeared in *NATURE* of May 9 (p. 766). To these we may now add the series of public lectures and lectures to children. The series is as follows:

PUBLIC LECTURES.

- Lytham St. Annes.* Dr. Olaf Bloch: "The Scope of Photography".
Blackpool South. Dr. W. F. Bewley: "Science and the Glass-house Industry".
Preston. Prof. J. L. Myres: "Who were the Greeks?"
Southport. Sir James Jeans: "Some Recent Advances in Astronomy".
Poulton-le-Fylde. Mr. P. A. Francis: "Applications of Science to Poultry Farming".
Fleetwood. Prof. C. M. Yonge: "Common Shore Animals".
Thornton Cleveleys. Dr. D. F. Harris: "Joy in Scientific Discovery".
Preston. Prof. Allan Ferguson: "Splashes and what they Teach".

LECTURES TO SCHOOL CHILDREN.

- Brigadier H. S. L. Winterbotham: "How Maps are Made".
 Mr. D. Seth Smith: "Favourites of the London Zoo".

Evidently the public lecture, whether to a senior or to a junior audience, is becoming an increasingly important feature of the annual meeting. It is possible that this impressive list of lectures is still incomplete, as applications are

still coming in from some of the East Lancashire towns.

The Evening Discourses, to be delivered by Mr. C. C. Paterson and by Capt. F. Kingdon Ward, will deal with "Science and Electric Lighting" and with "Plant-hunting and Exploration in Tibet". These discourses are open to members only.

Some of the sectional excursions and the social events have already been announced. The Mayor and Mayoress of Blackpool (Alderman W. Newman and Miss Newman) invite members to a reception in the Winter Gardens on Thursday, September 10. The headmaster of Rossall School (Mr. H. G. M. Clarke) will entertain four hundred members at a garden party at the School on Tuesday, September 15. The Rotary Club will hold a luncheon on Thursday, September 10, when the president will address the members and their guests. The Official Service will be held at St. John's Parish Church on Sunday, September 13, when the Right Reverend the Lord Bishop of Blackburn will preach the sermon.

Thirty sectional excursions and visits have been arranged, of geological, botanical, antiquarian, engineering and educational interest. Their range in space is as wide as their range in subject. A visit to the Amusement Park stands cheek by jowl with an excursion to the Lake District, and a visit to the open-air swimming bath hard by an excursion to Garstang, Furness Abbey and the Southport Sand Dunes, Stonyhurst and Rossall, Fleetwood Fish Docks and the Fylde Farms. The members of the Association will indeed have enlarged their experiences by the time that the annual meeting draws to its close.

Obituary

Sir Henry Wellcome, F.R.S.

EARLY on the morning of Saturday, July 25, there passed away, at the ripe age of eighty-two years, a unique personality, whose activities ranged from archaeological and geographical exploration to the creation of a great manufacturing business, and whose interests included such diverse matters as the collection of ancient manuscripts, the social welfare of native races and the provision of funds for fundamental research in those sciences on which the progress of medicine depends.

Sir Henry Wellcome was born in Wisconsin and, as the son of a frontier missionary, spent his childhood among Dakota Indian tribes. A boy whose earliest experiences included that of organizing the casting

of rifle bullets for the defence of a settlement of whites, and of assisting his uncle—a well-known frontier surgeon—in treating the wounded in the Sioux War in Minnesota, was obviously well-equipped for an interesting career. He chose pharmaceutical chemistry as a vocation, and passed a period of study in Chicago and Philadelphia, where he took his diploma. His life-long interest in travel began to show itself at this stage, and he visited most parts of North America and spent some time in South America in the study of cinchona distribution in its native habitat, a subject in which his life-long interest was again manifested in the tercentenary celebration of the discovery of cinchona, which he organized in London in 1930.

Having given full play to the romantic side of his nature in these *Wanderjahre*, Wellcome looked round for a suitable centre for the exercise of his practical bent towards the pharmaceutical side of chemical industry and chose London as his future home, and here in conjunction with the late Mr. S. M. Burroughs he established in 1880 the firm of Messrs. Burroughs, Wellcome and Co. for the manufacture of fine chemicals and pharmaceutical products. The business was a success from the beginning; its products are known all over the world, and in addition to the chief works at Dartford, the firm now carries on operations in New York, Montreal, Sydney, Cape Town, Milan, Shanghai, Bombay and Buenos Ayres and has agencies in most of the world's great commercial centres.

The activities thereby engendered were not enough for Sir Henry Wellcome, and he soon began to use his resources in furtherance of the benevolent and scientific projects he had at heart. He founded at Dartford a club and institute with a park and ground for field sports, and in this and other ways spent large sums in providing technical instruction and means of mental and physical recreation for the staff and work people. In 1894, the Wellcome Physiological Research Laboratories were started, and two years later the Wellcome Chemical Research Laboratories were opened. In 1913 the Wellcome Bureau of Scientific Research was founded with the triple duty of controlling the various research laboratories already in operation, acting as a centre of information on scientific medical matters and to conduct research in biological subjects affecting the progress of medicine. Associated with it are the Entomological Field Laboratories and the Medical Museum, the latter a boon to students and remarkable for the wealth of its pathological material and the ingenuity of its illustrative methods. Sir Henry's latest and most striking gift is the magnificent building of the Wellcome Research Institution, which was described in *NATURE* of December 5, 1931, p. 974, and in which the organizations referred to above, with the exception of the Physiological and the Entomological Field Laboratories, are now housed.

For the greater part of his life, Sir Henry Wellcome had collected books, manuscripts, pictures and materials of all kinds illustrative of the customs and habits of primitive man and the beginnings and progress of pharmacy, medicine and surgery. These formed the nucleus of the Historical Medical Museum organized in 1913 in premises in Wigmore Street, where it rapidly outgrew the accommodation available. Of all his projects for the near future, the one nearest to the founder's heart was probably to see these cherished treasures displayed in the exhibition galleries designed for them in the new building, and it is a matter of keen regret to his friends that he did not live to see the completion of this scheme. Sir Henry's other interests can only be referred to briefly. For some years he conducted personally archaeological explorations in the Upper Nile regions, discovering and excavating several important ancient Ethiopian sites, and since 1932 he has provided funds for the excavations at Tell Duweir (Lachish) of

which an account appeared in *NATURE* of July 18, 1936, p. 135. He gave generously in funds and medical equipment to expeditions for geographical exploration, and his friendship with H. M. Stanley and his deep interest in Africa led among other things to the foundation of the Lady Stanley Maternity Hospital in Uganda, and the establishment in 1900 of Tropical Research Laboratories at the Gordon Memorial College, Khartoum.

In recent years, Sir Henry Wellcome received numerous honours and marks of appreciation of his services to research in medicine and its allied sciences. In 1932 he was elected a fellow of the Royal Society and an honorary fellow of the Royal College of Surgeons. In the same year he was created a knight, and in 1936 he received the Cross of the Officer of the Legion of Honour from the President of the French Republic, and he also had conferred on him, for outstanding services to Spain, the decoration "Comendador de la Orden de la Republica".

By the death of Sir Henry Wellcome, the world loses not only a great, but also an effective giver, for his benefactions were the outcome of a knowledge of the real, but not always obvious, means for the betterment of mankind.

Mr. F. C. Lewis

MR. FRANCIS CHARLES LEWIS was one of five men who unfortunately met their death through an explosion at the Research Department, Woolwich, on July 8. Born at Barry, South Wales, in 1894, he was educated at the Woolwich Polytechnic and Cardiff Municipal Secondary School. He studied at the University College of South Wales and Monmouthshire, Cardiff, graduating B.Sc. (Wales) in 1915. He then joined the staff of Messrs. Nobel's explosives factory at Pembrey, where he later superintended the manufacture of trinitrotoluene. In 1918 he became a member of the Royal Flying Corps, and shortly after the Armistice was appointed technical research chemist by Messrs. British Dyestuffs, Ltd.

In 1921, Mr. Lewis was appointed research chemist on the staff of the Explosives Branch of the Research Department, Woolwich, where his work has been almost entirely concerned with the application of high explosives to the requirements of the fighting services and with improvements in the methods of using these explosives to obtain the highest efficiency. This has included both explosives already in use and new explosives. Research of this type naturally calls for careful precautions in all its stages, and appropriate safeguards are applied to minimize the risks. These precautions have been generally successful, as is shown by the fact that the Explosives Branch has had only one previous fatality due to explosion since it came into existence in 1901.

Mr. Lewis's work has been of great value and his experience of high explosives has greatly assisted in the progress of the work. His loss will be much felt by his colleagues and friends. Mr. Lewis was married in 1920, and leaves a widow and four children.

G. R.