

When Bell died, substantial progress had been made in overcoming these difficulties and the practice of pharmacy had been set upon a path of development which subsequent events had shown to be sound. In the evening Mr. Hughes gave a review of Jacob Bell's life and work at the Society's House in Bloomsbury Square, where a commemorative exhibition was held during the following week.

Charles Cagniard de la Tour (1777-1859)

CHARLES CAGNIARD DE LA TOUR (or Cagniard-Latour), who died one hundred years ago on July 5, 1859, was a distinguished engineer and physicist, who also made original contributions to chemistry and to medicine. Born in Paris on March 31, 1777, he attended the Ecole militaire de Rebaix and the Ecole polytechnique and qualified as *ingénieur-géographe*. In 1811 he was appointed to the Ministry of the Interior, and eight years later was created baron for supplying the Hôpital St. Louis and the Usine Royale with gas-lighting. He was elected to the Paris Academy of Sciences in 1851. His name is specifically attached to two inventions—a blowing machine and a siren. The former, the *cagniardelle*, is an Archimedean screw, immersed obliquely in a tank of water and rotated in a direction opposite to that required for raising water. The siren, for determining the number of vibrations corresponding to a sound of any particular pitch, was extensively used for signalling on ships. Cagniard de la Tour also experimented on the mechanism of voice production ("Considérations et expériences diverses sur la voix humaine", 1837). In 1822-23 he studied the effects of heat and pressure on liquids and determined for each liquid a definite temperature (later called the critical temperature), above which it did not remain liquid in spite of the highest attainable increase of pressure. These investigations were continued and extended by Faraday. With Theodor Schwann in Germany he originated the germ theory in 1837 by his discovery that yeast consists of a mass of globules which are vegetable in nature and that it is responsible for fermentation ("Mémoires sur la fermentation vineuse"). This theory was promptly abandoned two years later when Liebig insisted that the process was purely chemical, but was resurrected by Pasteur in 1856.

British Space Research

IN reply to a question in the House of Lords on July 29, Lord Hailsham said that in their recent visit to the United States to discuss co-operation in the field of scientific research in space using earth satellites, Prof. Massey and his small team of experts had had most valuable and fruitful discussions with the National Aeronautics and Space Administration. As a result it is proposed the British scientists will prepare instruments for satellites to be placed in orbit by the use of the *Scout* vehicle which the National Aeronautics and Space Administration is developing for use in connexion with civil scientific research. Several vehicles might be involved over three to four years. These proposals have been approved by the Government subject to the conclusion of formal arrangements. Information regarding these programmes and their results will be made available to the international scientific community. Both the British and the American groups regard this project as a valuable development in scientific co-operation. Meanwhile, the arrangements for design studies of British launches, announced by the Prime Minister, are unaffected.

Canadian Committee on Space Research

THE National Research Council of Canada has formed an Associate Committee on Space Research jointly with the Defence Research Board. The new Committee will have co-ordination duties and will advise on international co-operation. Scientific subjects to be studied will include geomagnetism, the aurora, meteorology, cosmic rays, radiation from the Sun, and chemical composition of the upper atmosphere. This Canadian work, now in hand, may be enhanced by series of high-altitude rockets carrying measuring instruments. The new Committee will be particularly useful to Canadian university groups interested in research in the upper atmosphere. They will have an opportunity to design their own experiments, and to build instruments for the nose cones of rockets. The rocket range at Churchill will probably be used. Canadian and American groups have already been co-operating in maintaining this range. The new Committee includes members from a number of Government departments and agencies, and from universities with research teams in related fields. The secretary of the Committee is Mr. B. D. Leddy, National Research Council, Ottawa 2.

The Dragon Project

THE first meeting of the International Board of Management of the high-temperature reactor project of the Organization for European Economic Co-operation (*Dragon*) was held recently at the Atomic Energy Establishment, Winfrith, Dorset, where the reactor experiment is to be built. Dr. Sigvard Eklund, of Sweden, was elected chairman of the Board for the current year, with Sir John Cockcroft, of the United Kingdom, as vice-chairman. Sir John was succeeded in this office by Sir William Penney on July 1. The Board appointed Mr. C. A. Rennie, of the Atomic Energy Research Establishment, Harwell, as chief executive of the project. The Board, which includes representatives of the signatories of the *Dragon* Agreement, namely, Austria, Denmark, Belgium, France, Germany, Italy, Luxembourg, The Netherlands, Norway, Sweden, Switzerland and the United Kingdom, considered and approved a broad programme of work and a budget for the financial year, 1959-60, on the basis of preparatory work by a General Purposes Committee under the chairmanship of Dr. J. Gueron (Euratom).

The Scripps Institution of Oceanography

THE Scripps Institution of Oceanography has announced its intention to send two ships on an ambitious oceanographic and geophysical investigation of the western Pacific Ocean and eastern Indian Ocean to last six months between February and August 1960. Particular attention will be paid to studies of the sea floor, and to areas such as the Java trench, where previous work has posed specific problems. The programme will include dredging, coring, measurements of heat flow, seismic, magnetic and gravity surveys, studies of the interchange of carbon dioxide between sea and air, and sampling for radioisotopes and trace elements. The biological programme will consist of plankton sampling and mid-water trawling as well as dredging. The memorandum received from the Director of the Scripps Institution says that visiting scientists and suggestions as to subjects for examination will be welcomed.