

recording on wire, tape or a drum is semi-permanent. Mr. G. E. Thomas described a magnetic-drum system in use in Manchester, and Mr. A. Tutchings spoke of some work in progress at the Telecommunications Research Establishment.

When a sub-routine is incorporated in a programme, it is often necessary to modify some of the orders according to their location in the main programme. Mr. Wheeler described how this is done at Cambridge; at the time the sub-routines are taken into the machine, the orders are modified by means of a sequence of 'co-ordinating orders'. Dr. Kilburn and Prof. M. H. A. Newman explained a different system used in the machine at Manchester, where an extra adding circuit is associated with the control system in such a way that one of two numbers (as the programmer may choose) can be added to the numerical part of each order (the address) before it is executed.

Much of what has been said about electronic machines applies also to relay machines; but since a single relay can carry a number of contacts, and since problems of interaction are not so serious as with

valves, more elaborate circuit arrangements are possible without increasing the size of the machine unduly. On the other hand, relays suffer from contact bounce and from transient faults caused by dust between the contacts.

Miss K. H. V. Britten (British Rubber Producers' Research Association) presented, on behalf of Dr. A. D. Booth (Birkbeck College, London), a paper on relay machines, and described the automatic relay calculator which is now nearly completed. This is a parallel binary machine with a magnetic-drum store, and is notable for its small size; it contains only about eight hundred high-speed relays. Numbers contain twenty binary digits and a sign digit. Dr. A. van Wijngaarden described a somewhat similar machine under construction at the Mathematische Centrum at Amsterdam. Dr. S. H. Hollindale gave some information about a relay machine being built at the Royal Aircraft Establishment. This is a true decimal machine, using stepping switches for the registers, and has a floating decimal point. Another relay machine, under construction in Sweden, was described by Mr. G. Kjellberg. M. V. WILKES

NEWS and VIEWS

Newcastle upon Tyne and District

IN preparing a handbook for members of the British Association attending the Newcastle meeting, the local committee has reverted to the older scheme of a publication embracing all aspects of natural history and botany as well as industries of the city and district entertaining the Association. "The Scientific Survey of North Eastern England", which is to be given to each member attending the meeting, is most successful and should find ready acceptance. Physiography, geology and climate are specially notable, while iron and steel, shipbuilding and engineering, of course, command full notice. Broadly speaking, the area covered is Northumberland and Durham, with the northern part of the North Riding of Yorkshire, which Prof. G. H. J. Daysh, who writes an introductory note, points out is a clearly defined region with a character and individuality of its own, though with great and contrasting interests within its boundaries. At least two new towns, Newton Aycliffe and Peterlee, fall within the programme of development of the region. The survey is well documented and has adequate maps, including an ingenious one showing forms of rural and urban buildings in the area.

Sir Gilbert Blane (1749-1834)

GILBERT BLANE was born at Blanesfield, Ayrshire, on August 29, 1749. After studying at Edinburgh and graduating M.D. at the University of Glasgow in 1778, he sailed to the West Indies in 1779 as private physician to Admiral Lord Rodney. His ability and coolness in action won him the Admiral's friendship and the appointment of physician to the Fleet. On his return to London he was elected physician to St. Thomas's Hospital. When Blane was a boy of four, James Lind recommended the use of fresh fruit and vegetables for the prevention of scurvy. At forty-seven, Blane, as commissioner for sick and wounded seamen, succeeded in getting Lind's pioneer suggestion officially adopted by the Admiralty. The disease at once disappeared from the

official sick-returns. Other naval reforms effected by Blane were the ventilation and cleansing of ships, the supply of soap and medical necessities, and the introduction of hospital ships to take the place of shore hospitals. He also advised on quarantine legislation, on the prevention of prison fever, and on many other public health problems. He became a baronet in 1812 after his return from Walcheren, where he had arranged for the transport of the sick following government acceptance of his advice to withdraw the disease-stricken troops from that unhealthy island. Physician-in-ordinary to George IV, and a Fellow of the Royal Societies of London and Edinburgh, his most important book was "Observations on the Diseases Incident to Seamen" (1785). Blane's health began to fail in 1821, and he died on June 27, 1834. Because of his austerity he was nicknamed "Chilblain"; but in the annals of history he lives as the 'Father of Naval Medical Science', whose memory is honoured by the Royal College of Surgeons in the annual award of the Blane Gold Medal.

Standardization

AT the recent forty-eighth annual general meeting of the British Standards Institution, the president, Lord McGowan, referred to the greatly increased interest during the past year, both by industry and Government, in the extension of voluntary standardization on a national basis. Under the chairmanship of Sir Ernest Lemon, the investigations by the committee for standardization of engineering products, which was set up by the Ministry of Supply, have substantiated the view, long held by British industry, that the principles under which the British Standards Institution works are effective and can be considerably extended. The Anglo-American Productivity Council has recently stressed the importance of standardization and simplified practice, and Lord McGowan submitted that there is probably no more effective means for increasing productivity. Another significant development during the past year has been the co-operation of the great nationalized