

SCIENCE NEWS A CENTURY AGO

William Murdock (1754-1839)

ON November 15, 1839, William Murdock, the colleague of Boulton and Watt, died at his house, Sycamore Hill, Handsworth, at the age of eighty-five. He was buried in Handsworth Church, and his bust by Chantrey was placed there side by side with the memorials to Watt and Boulton. Murdock was born at Lugar, Ayrshire, on August 21, 1754, and after being trained as a millwright by his father, in 1777, at the age of twenty-three, entered the famous Soho works, Birmingham. In 1779 he was sent to Cornwall as an erector of pumping engines, and he remained there until 1798. Much of the success of the firm in the county was due to him. He was a man of fine physique, cool-headed, frugal, ingenious and resourceful. In those days only the principal parts of the engines were made at Soho and much remained to be done at the mine. Boulton spoke of Murdock as the finest erector he ever saw. In Cornwall, too, at Redruth, Murdock made his historic little model steam vehicle, and carried out his pioneering work on gas lighting. The latter formed the subject of a contribution by him to the Royal Society in 1808, for which he was awarded the Rumford Medal.

Returning to Soho in 1798, on the dissolution of the partnership of Boulton and Watt and the assumption of office by the sons of the founders two years later, Murdock became the presiding mechanical genius at the works, and during the next twenty years made notable contributions to mechanical engineering. The manufacture of gas-lighting plant was taken up in earnest and Soho may well be regarded as the cradle of the gas industry. Murdock also furthered the application of compressed air to machinery, constructing air motors and pneumatic lifts. His inventions included the sun and planet motion, cast-iron cement, a rotary engine, an improved boring machine, and the long D slide valve.

The United States Coast Survey

IN its column of Weekly Gossip, the *Athenæum* of November 16, 1839, said: "We are glad to learn that at length some progress has been made in the survey of the coast of the United States of America—a subject of great interest to all maritime nations. So far back as 1807, a law was passed on the recommendation of Jefferson, authorizing the President to cause a survey of the coast of the United States . . . owing, however, to the external relations of the country at that period, the survey was, for a time, deferred . . . In 1832, however, it was recommenced with increased vigour. . . . From the report of the Superintendent, it appears that the work is completed throughout that part of the coast and adjacent waters lying between the eastern extremity of Long Island Sound, to the neighbourhood of Long Branch, New Jersey; and the necessary triangulations to pursue the survey have extended southerly to Cape May and northerly to Mount Carmel in Connecticut."

Ferdinand Rudolph Hassler, to whom the project was largely due, was born at Aarau, in Switzerland, in 1770 and, having made his mark as a mathematician, was engaged on a trigonometrical survey of his native country. Removing to America, in 1807 he was made professor of mathematics at West Point, and in the same year he submitted plans for a survey of the American coast. He died while directing the survey on November 20, 1843.

APPOINTMENTS VACANT

APPLICATIONS are invited for the following appointments on or before the dates mentioned:

DIRECTOR OF THE GEOLOGICAL SURVEY—The Secretary, Civil Service Commission, 45 Upper O'Connell Street, Dublin (November 21).

ASSISTANT IN THE DEPARTMENT OF PHYSIOLOGY—The Secretary, University College, Dundee (November 30).

LECTURER (WOMAN) IN MATHEMATICS—The Principal, Training College, Lincoln.

REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

Experimental Researches and Reports published by the Department of Glass Technology, the University, Sheffield. Vol. 21, 1938. Pp. iv+342+27 plates. (Sheffield: The University.) 7s. 6d. [1610]

National Central Library. 23rd Annual Report of the Executive Committee, 1938-39. Pp. 77. (London: National Central Library.) [1810]

The Journal of the Institute of Metals. Vol. 64. Edited by S. C. Guilan. Pp. 428+37 plates. (London: Institute of Metals.) [1910]

Metallurgical Abstracts (General and Non-Ferrous). Vol. 5, 1938. (New Series.) Edited by S. C. Guilan. Pp. viii+1036. (London: Institute of Metals.) [1910]

The National Smoke Abatement Society. Tenth Annual Report 1939-40. Pp. 12. (Epsom: National Smoke Abatement Society.) [2310]

Other Countries

Berzelius-Porträtt. Illustrerad beskrivning på Kungl. Vetenskapsakademiens uppdrag utgiven av Arne Holmberg. Pp. xvi+52+32 plates. (Stockholm: Kungl. Vetenskapsakademiens.) [1610]

Indian Forest Records (New Series). Entomology, Vol. 5, No. 2: On the Biology of *Calopepla leayana* Latr. (Chrysomelidae, Col.) and the Possibilities of Control. By P. F. Gartlwaite. Pp. v+237-278+2 plates. (Delhi: Manager of Publications.) 1.12 rupees; 2s. 6d. [1610]

Osiris, Vol. 7: Lettres inédites de Newton. Par Jean Peiseneer. Pp. 523-556. (Bruges: St. Catherine Press, Ltd.) [1610]

Nyasaland Protectorate: Geological Survey Department. Colonial Development: Water Supply Investigation. Progress Report (No. 8) for the Year 1933. Pp. 22+4 plates. (Zomba: Government Printer.) [1610]

Annual Report of the Public Health Commissioner with the Government of India for 1937. Vol. 1, with Appendices. Pp. viii+345. (Delhi: Manager of Publications.) 3 rupees; 5s. [1610]

U.S. Department of Agriculture. Circular No. 529: Food Habits of Prairie Dogs. By Leon H. Kelso. Pp. 16. 5 cents. Leaflet No. 186: Domestic Mosquitoes. By F. C. Bishop. Pp. 8. 5 cents. (Washington, D.C.: Government Printing Office.) [1610]

Proceedings of the United States National Museum. Vol. 87, No. 3063: The *Hederelloidea*, a Suborder of Paleozoic Cyclostomatous Bryozoa. By Ray S. Bassler. Pp. 25-92+16 plates. Vol. 87, No. 3070: New Turrilitid Mollusks from Florida. By Paul Bartsch and Harald A. Rehder. Pp. 127-133+plate 17. (Washington, D.C.: Government Printing Office.) [1710]

Transactions of the San Diego Society of Natural History. Vol. 9, No. 14: Three New Worm Snakes of the Genus *Leptotyphlops*. By Laurence M. Klauber. Pp. 59-66. (San Diego, Calif.: San Diego Society of Natural History.) [1710]

Bulletins of the Zoological Society of San Diego. No. 15: A Further Study of Pattern Dimorphism in the California Ring Snake. By L. M. Klauber. Pp. 24. (San Diego, Calif.: Zoological Society of San Diego.) [1710]

New Zealand: State Forest Service. Annual Report of the Director of Forestry for the Year ended 31st March 1939. Pp. 37+22 plates. (Wellington: Government Printer.) 1s. 3d. [1910]

Annual Report of the Indian Central Jute Committee for the Year 1933-39. Pp. iii+123. (Calcutta: Indian Central Jute Committee.) [2310]

Journal of the Indian Institute of Science. Vol. 22A, Part 13: Crop Response to Chemical Oxidisers. By C. R. Harihara Iyer and R. Rajagopalan. Pp. 171-178. 12 annas. Vol. 22A, Part 14: Influence of Manganese and Iron Salts on the Oxidation of Organic Matter and Release of Plant Nutrients. By C. R. Harihara Iyer and R. Rajagopalan. Pp. 179-202. 1.12 rupees. (Bangalore: Indian Institute of Science.) [2310]

Industrial Research Bureau. Bulletins of Indian Industrial Research, No. 14: Indian Refractory Clays. By H. Crookshank. Pp. vii+63. (Delhi; Manager of Publications.) 1.6 rupees; 2s. [2310]

Annual Report for the Year 1933 of the South African Institute for Medical Research. Pp. 96. (Johannesburg: South African Institute for Medical Research.) [2310]

Catalogues

Association Books, including some from Kelmscott Manor: Miscellaneous Recent Purchases also Botany, Gardening. (Catalogue No. 280.) Pp. 50. (London: Dulau and Co., Ltd.)

Brush-Koela Gas Producers. Pp. 4. (Loughborough: Brush Electrical Engineering Co., Ltd.)