

## SCIENCE NEWS A CENTURY AGO

## Railway Progress in 1839

IN its monthly notes on Railway Progress the *Civil Engineer and Architects' Journal* of July 1839 referred to some twenty British lines. It recorded the opening of the Eastern Counties Railway from Shoreditch to Romford on which the rails had been laid to a five-foot gauge "which without greatly increasing the weight of the engines, gives them great mechanical advantages", and the opening of the London and Croydon Railway. Much work was being done on the Birmingham and Derby Railway; an experimental trip had been made on the Manchester and Leeds Railway on which it was calculated "that the expence of travelling in the third-class carriages, which are open and unprovided with seats, will not exceed one penny per mile"; and a portion of the York and North Midland Railway had been opened. By means of this and other lines it was hoped "a direct communication will be opened next year from Newcastle to London". Two further sections of 12 and 8 miles respectively had been opened on the London and Southampton Railway "leaving only eighteen miles, viz., the distance from Winchester to Basingstoke, to complete the whole undertaking".

## Maskelyne's Observations at Greenwich

THE *Mechanics' Magazine* of July 27, 1839, printed Airy's Report to the Board of Visitors of the Royal Observatory, Greenwich. One section of the report was devoted to the arrangement of the papers at the Observatory. "In my last report to the board," said Airy, "I intimated that it was necessary, before commencing any arrangement of the manuscripts, to divide many of the books into two or more parts. . . . The separation of these parts having been nearly completed, I have been able to proceed with the first step towards arrangement, namely, the marking on the outside of the book the whole of the contents of its interior. From the confused state of some of Dr. Maskelyne's books, this has sometimes been a task of much trouble. . . . I am, however, extremely glad that I have thus been compelled to become acquainted with the system and practice of my predecessors; and my estimation of their judgment and order, as well as their industry has been greatly raised. During the whole, or nearly the whole of Dr. Maskelyne's time, the daily observations of stars are reduced in ledger, and the solstices and equinoxes of each year are discussed, with as great regularity as at the present time; and the same is done with equal regularity, and on a more extended scale, through Mr. Pond's time.

## Mexican Mummies

THE issue of the *Athenæum* of July 27, 1839, contains the following information: "A million of mummies, it is stated, have lately been discovered in the environs of Durango in Mexico. They are in a sitting posture, but have the same wrappings, bands and ornaments as the Egyptians. Among them was found a poignard of flint, with a sculptured handle, chaplets, necklaces, etc., of alternately coloured beads, fragments of bones polished like ivory, fine worked elastic tissues (probably our modern indiarubber cloth), moccasins worked like those of our Indians, bones of vipers, etc. It is unknown what kind of embalming was used for the mummies above-

mentioned, or whether they were preserved by nitrous depositions in the caves where they were found. A fact of importance is stated that necklaces of a marine shell are found at Zacatecas, on the Pacific, where the Columbus of their forefathers probably landed from Hindostan, or from the Malay or Chinese coast, or from their islands in the Indian Ocean."

## The Scales of Fishes

"M. MANDL supports the opinion of M. Agassiz that the scales of fishes may serve as characters for classification; and states that these coverings are not to be considered as simply the production of secretion, but consist of a true organised substance. First, he says, that they are composed of an upper and an under layer; then that the upper layer is composed of longitudinal canals, departing from a centre, which is not always in the middle of the scale; of cellular lines produced by the union or fusion of cells; of yellow corpuscles, similar to those of bones and cartilages, and like them containing salts; of a centre or focus which appears to be the rudiment of the scale; of teeth, which, however, only exist on the terminal edge of the *Acanthopterygii*; thirdly the under layer is formed of fibrous plates, the middle of which are the shortest." (*Athenæum*, July 27, 1839.)

## APPOINTMENTS VACANT

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

ASSISTANT III (ENGINEER) at the Fuel Research Station, East Greenwich—Establishment Officer, Department of Scientific and Industrial Research, 16 Old Queen Street, S.W.1 (quoting J.39/9) (July 24).

ASSISTANT LECTURER IN CHEMISTRY—Registrar, University, Sheffield (July 23).

ASSISTANT MASTER to teach MATHEMATICS—Headmaster, Royal Naval College, Dartmouth (July 29).

ESTABLISHED CIVIL ENGINEERING ASSISTANTS in the Roads Department—Assistant Secretary, Establishment Department, Ministry of Transport, Metropole Buildings, Northumberland Avenue, W.C.2 (July 31).

ESTABLISHED INSPECTORS (10) for the purposes of the Diseases of Animals Act, 1894-1937—Secretary, Ministry of Agriculture and Fisheries, 10 Whitehall Place, S.W.1 (July 31).

ASSISTANT METEOROLOGIST in the Meteorological Service, Posts and Telegraphs Department, Sudan—Controller, Sudan Government London Office, Wellington House, Buckingham Gate, S.W.1 (August 1).

LECTURER IN PHYSICS—Secretary, Technical College, Lansdown Road, Cheltenham (August 3).

JUNIOR SCIENTIFIC OFFICER in the Headquarters Office—Establishment Officer, Department of Scientific and Industrial Research, 16 Old Queen Street, S.W.1 (quoting J.39/11) (August 8).

ASSISTANT INSPECTORS OF ANCIENT MONUMENTS—Establishment Officer, H.M. Office of Works, Westminster, S.W.1 (August 12).

ASSISTANT DIETITIAN—House Governor and Secretary, General Infirmary, Leeds (August 14).

LECTURER IN AGRICULTURAL CHEMISTRY—Registrar, University, Reading (August 14).

LECTURER IN AGRICULTURAL BACTERIOLOGY—Registrar, University, Reading (August 14).

ASSISTANT LECTURER IN BOTANY (Grade III)—The Registrar, University, Liverpool (August 15).

LECTURER IN ANATOMY—The Secretary, University, Aberdeen (August 18).

CHIEF ELECTRICAL ENGINEER and an ASSISTANT CHIEF ELECTRICAL ENGINEER under the Government of Bihar—High Commissioner for India, General Department, India House, Aldwych, W.C.2 (quoting Appt. No. 6/49A) (August 19).

RESEARCH ASSISTANT—Dr. F. Fairbrother, Department of Chemistry, University, Manchester (August 31).

ASSISTANT KEEPER—Director and Secretary, Victoria and Albert Museum, South Kensington, S.W.7 (September 2).

ASSISTANT IN MORBID ANATOMY in the Department of Pathology—The Dean, British Postgraduate Medical School, Ducane Road, W.12 (September 11).

A CHEMIST and a MYCOLOGIST at the Long Ashton Research Station—Secretary and Registrar, University, Bristol.

TECHNICAL ASSISTANT—Secretary, Air Registration Board, Brettenham House, Lancaster Place, W.C.2.