

SCIENCE NEWS A CENTURY AGO

Artesian Well in Paris

IN the *Athenæum* of October 26, 1839, it is stated that: "At a late sitting of the Academy of Sciences M. Arago stated that he had that morning been making some thermometrical experiments at the artesian well at Grenelle, in order to ascertain the temperature at the depth which had already been attained, viz., 483 metres or 1584 feet. When the workmen had reached 466 metres the chalk was of a green colour, indicating the proximity of water. Since then the chalk had become mixed with clay, and of a dark colour, a still stronger indication that the sheet of water which it intended to meet is near. M. Arago used the thermometer of M. Walferdin, and after having taken all the precautions in order that the pressure which at such a height is equal to 50 atmospheres would not injure the bulb, six thermometers of the same kind were successively let down to a depth of 481 metres, care having been taken not to lower them until 36 hours had elapsed since the boring, in order that the heat which this work might have communicated should have subsided. The thermometers were left in the well for thirty-six hours. The heat at this depth was 27° of Réaumur, or 92½° of Fahrenheit, being about 23 metres for each degree of temperature. M. Arago expressed a hope that no water might be found for a hundred metres more, as in that case there would be a permanent hot spring at the very gates of Paris."

The well was ultimately driven to a depth of 547 metres. A monument which existed at this spot was demolished in 1904 and a statue of Pastour erected in its place.

Dye-Wood

THE issue of the *Athenæum* of October 26, 1839, contains the following note: "A method of extracting the colouring matter from wood has been lately employed by a M. Besseyre with much success. He first reduces the woods to very small divisions, and then immediately places them in a closed vessel exposed to a current of steam. When the whole has attained 80 degrees of heat, it is uncovered and watered with several pints of cold water. By means of a tap below the condensed liquid is drawn off, and thrown back upon the chips, and the operation is repeated until the dye has acquired sufficient strength."

Edward Cowper at King's College, London

"ON Monday last," said the *Mechanics' Magazine* of October 26, 1839, "a new and very important class of manufacturing art and machinery was opened to the students of this institution by Mr. Edward Cowper." The objects of the lectures and instruction were to familiarize students with machinery in actual use, and students were to make experiments themselves and also visit factories and works accompanied by the lecturer.

Edward Cowper, who was born in 1790 and died in 1852, was well known for his important inventions in connexion with printing machinery. With Augustus Applegarth (1790-1871) in 1827 he invented the four-cylinder machine which superseded the Koenig machine for printing *The Times*. His son, Edward Alfred Cowper (1820-93), the inventor of the hot-blast stove, was in 1880-81 president of the Institution of Mechanical Engineers.

APPOINTMENTS VACANT

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

ASSISTANT I in the Directorate of Communications Development—The Under-Secretary of State, Air Ministry, Dept. ZA. (B.127), Harrogate, Yorks (quoting B.403) (October 27).

BOROUGH ENGINEER AND SURVEYOR of the Metropolitan Borough of Stepney—The Town Clerk, Municipal Offices, Raine Street, E.1. (October 30).

LECTURER IN PHARMACY in the Department of Chemistry of the Witwatersrand Technical College, Johannesburg—Frank Ross and Co., 9 Fenchurch Avenue, E.C.3 (November 1).

PROFESSOR OF CHEMISTRY and a PROFESSOR OF BIOCHEMISTRY—The Registrar, Indian Institute of Science, Bangalore, India (December 15).

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

ASSISTANTS GRADE I (Ref. A.001), ASSISTANTS GRADE II (Ref. A.002), and ASSISTANTS GRADE III (Ref. A.003)—The Chief Superintendent, Royal Aircraft Establishment, South Farnborough, Hants.

REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

Ministry of Agriculture and Fisheries. Agricultural Statistics, 1938. Vol. 73, Part 1: Acreage and Production of Crops, Number of Live Stock and of Agricultural Workers, and Output and Prices of Agricultural Produce in England and Wales. Pp. 113. (London: H.M. Stationery Office.) 1s. 6d. net. [310]

City of Birmingham. Annual Report of the Mental Hospitals Committee, April 1st, 1938, to March 31st, 1939. Pp. ii+32. (Birmingham: Mental Hospital.) [310]

Transactions of the Royal Society of Edinburgh. Vol. 60, Part 1, No. 1: The Scottish Carboniferous Crinoidea. By James Wright. Pp. 78+12 plates. (Edinburgh: Robert Grant and Son, Ltd.; London: Williams and Norgate, Ltd.) 14s. 6d. [410]

Ollscoil na h'Éireann (The National University of Ireland). Calendar for the Year 1938. Pp. ix+336+648+426. (Dublin: National University of Ireland.) [410]

Other Countries

Smithsonian Institution: Bureau of American Ethnology. Bulletin 124: Nootka and Quilte Music. By Frances Densmore. Pp. xxvi+358+24 plates. (Washington, D.C.: Government Printing Office.) 210 60 cents.

U.S. Department of the Interior: Office of Education. Bulletin 1938, No. 10: Local School Unit Organization in Ten States. By Henry F. Alves, Archibald W. Anderson and John Guy Fowkes. (Local School Units Project.) Pp. xi+334. (Washington, D.C.: Government Printing Office.) 40 cents. [210]

University of Illinois: Engineering Experiment Station. Bulletin No. 312: An Investigation of Wrought Steel Railway Car Wheels. Part 1: Tests of Strength Properties of Wrought Steel Car Wheels. By Prof. Thomas J. Dolan and Rex L. Brown. Pp. 68. 70 cents. Bulletin No. 313: Tests of Plaster-Model Slabs subjected to Concentrated Loads. By Nathan M. Newmark and Henry A. Lepper, Jr. Pp. 54. 60 cents. Bulletin No. 314: Tests of Reinforced Concrete Slabs subjected to Concentrated Loads. By Prof. Frank E. Richart and Ralph W. Kluge. Pp. 76. 80 cents. Bulletin No. 315: Moments in Simple Span Bridge Slabs with Stiffened Edges. By Prof. Vernon P. Jensen. Pp. 106. 1 dollar. Reprint No. 13: First Progress Report of the Joint Investigation of Continuous Welded Rail. By Herbert F. Moore. Pp. 30. 15 cents. Reprint No. 14: Fifth Progress Report of the Joint Investigation of Fissures in Railroad Rails. By Herbert F. Moore. Pp. 34. 15 cents. (Urbana, Ill.: University of Illinois.) [210]

Memoirs of the Faculty of Science and Agriculture, Taihoku Imperial University. Vol. 26, No. 3 (Mathematics No. 40): Beiträge zur Geometrie der Kreise und Kugeln (32). Von Sōzō Matsumura. Pp. 89-134. Vol. 26, No. 4 (Mathematics No. 41): Beiträge zur Geometrie der Kreise und Kugeln (33). Von Sōzō Matsumura. Pp. 135-178. (Taihoku: Taihoku Imperial University.) [210]

U.S. Department of Agriculture. Miscellaneous Publication No. 344: Taxonomy of some Scale Insects of the Genus *Parlatoria* encountered in Plant Quarantine Inspection Work. By Harold Morrison. Pp. 34+11 plates. 10 cents. Technical Bulletin No. 689: Status and Relative Importance of the Parasites of the Hessian Fly in the Atlantic States. By C. C. Hill, J. S. Pinckney and E. J. Udine. Pp. 16. 5 cents. (Washington, D.C.: Government Printing Office.) [410]

Annals of the Royal Botanic Garden, Calcutta. Vol. 14, Part 2: An Account of the Genus *Dioscorea* in the East. Part 2: The Species which twine to the Right; with Addenda to Part 1, and a Summary. By D. Prain and I. H. Burkill. Pp. 425-523. (Alipore: Bengal Government Press.) [410]

Catalogues

A Catalogue of English and Foreign Books and Periodicals on Pure and Applied Mathematics, Physics, etc. (No. 492.) Pp. 38. (Cambridge: Bowes and Bowes.)

Abridged List of Microscopical Preparations: Botany, Zoology, Histology, Bacteria, Diatoms, Textile Fibres, Rock Sections. Pp. 19. (Manchester: Flatters and Garnett, Ltd.)