

determined by M. Tresca that one-half of the motive power generated by steam was really transferred to a distance of above one kilometre from the furnace. The motive power which has been utilised for farming land can be employed for excavating, or executing any description of work.

THE carrier-pigeon service is now in full operation in France, and has been placed under the direction of the head of aerial communication. The number of birds fed by the Government is 6,000. These pigeons are located in Paris and twelve other large fortified towns. A number of soldiers and officers have been taught the art of pigeon breeding, and carriers are constantly sent from place to place. The Minister of Public Instruction and the Minister of Agriculture have established prizes for pigeon races.

THE strong interest recently awakened in Owens College, Manchester, has been shown in a desire on the part of some of his admirers to do honour to the founder. This has taken the form of a memorial window, which is to be erected in St. John's Church, near the College; and the donors have commissioned Mr. W. G. Taylor, of Berners Street, to carry out the work, which will be completed towards the end of next month. At the foot of the three lights are the words "Ars, Religio, Scientia," symbolised by subjects illustrating music, charity, and astronomy. The arms of the College and of John Owens occupy the bases of the side lights.

ONE of the new Cardinals, Haynald, Archbishop of Kalocsa in Hungary, is eminent as a botanist, as we learn from the *Gardeners' Chronicle*, and is probably the first botanist who has ever held so exalted a rank.

THE Sanitary Institute of Great Britain has issued a very satisfactory second Annual Report.

WE note that Dr. W. G. Farlow, for the past five years Assistant Professor of Botany at the Bussey Institution, Harvard University, has been appointed Professor of Cryptogamic Botany in the University proper. This is the first professorship in this important and difficult department established in the United States. The laboratory for instruction and research in the lower cryptogamia is now established at Cambridge.

FOR the schools of California, "A Popular Californian Flora; or Manual of Botany for Beginners," has (in part) been lately published by Mr. Volney Rattan, teacher in the Girl's High School, San Francisco. A second part will complete it. It is restricted to plants of the San Francisco region, extending north to Mendocino County, south to Monterey, and west to the foot hills of the Sierra Nevada.

"CINCHONA CULTURE IN BRITISH INDIA" is the title of a useful pamphlet by Surgeon-Major G. Bidie, Superintendent of the Madras Central Museum, being one of the Museum Popular Lectures of the season 1878-9.—We have received a separate copy of a paper "On Pollen," by Mr. M. S. Evans, read before the Natal Microscopical Society on November 18 last.—The Fifth Report of the Boulder Committee of the Royal Society of Edinburgh contains notes on a considerable number of boulders in Scotland, with numerous illustrations.—West, Newman, and Co. publish a monograph by Mr. P. H. Gosse, F.R.S., on "The Great Atlas Moth of Asia (*Attacus atlas*, Linn.)," with a coloured plate of its transformations.—We have received a very favourable Report of the Condition and Progress of the Davenport (U.S.) Academy of Natural Sciences, which is now in its eleventh year, and doing good and varied work.—"On the Lancashire Coal Fields," is the title of a paper by Mr. C. E. De Rance, reprinted from the *Proceedings* of the Geologists' Association.—A fourth edition of Bloxam's "Laboratory Teaching" has been issued by Messrs. Churchill. The most important alteration is the introduction of the formulæ repre-

senting the various chemical compounds described in the notes in the tables.

THE additions to the Zoological Society's Gardens during the past week include a Grey-cheeked Monkey (*Cercocebus albigena*) from West Africa, presented by Mr. Robert Surry; a Patagonian Sea Lion (*Otaria jubata*) from the Falkland Islands, presented by Mr. F. E. Cobb; a Roseate Cockatoo (*Cacatua roseicapilla*) from Australia, presented by Mr. Head; a Blue-winged Green Bulbul (*Phyllornis hardwickii*) from India, presented by Mr. A. Jamrach; two Horned Lizards (*Phrynosoma cornutum*) from Texas, presented by Mr. E. Loder; a Javan Fish Owl (*Ketupa javanensis*) from Java, a Ceram Lory (*Lorius garrulus*) from Moluccas, three Abyssinian Guinea Fowls (*Numida ptilorhyncha*) from Abyssinia, a Nicobar Pigeon (*Caloenas nicobarica*) from the Indian Archipelago, a Victoria Crowned Pigeon (*Goura victoriae*) from the Island of Jobie, a Mace's Sea Eagle (*Haliaeetus leucorhynchus*) from India, two Black-tailed Godwits (*Limosa melanura*) twelve Common Widgeons (*Mareca penelope*), European, purchased; a Cheetah (*Felis jubata*) from Africa, two Bactrian Camels (*Camelus bactrianus*) from Central Asia, deposited; two Black Swans (*Cygnus atratus*) from Australia, received in exchange; two Chinchillas (*Chinchilla lanigera*), a Black-necked Swan (*Cygnus nigricollis*), bred in the Gardens.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

FROM No. 6 of the *University College School Magazine* (London) we see that the editor's post is not altogether a pleasant one, though the number is very creditable. The U.C.S. Scientific Society seems in a healthy condition. In connection therewith we notice that a series of sixteen lectures are to be given during this term on the Science of Daily Life. We trust they will be well attended.

FROM the Report for 1878 of the Rugby School Natural History Society we learn that it is fairly flourishing. The entomological, geological, and archaeological sections have been vigorous, though the workers in each are fewer than they should be. Altogether there does not seem to us to be that hearty interest in the Society among the boys that conduces to complete success; all the more reason, therefore, for the real working members keeping up their work with unflagging zeal and doing their best to enlist the sympathy and help of the indifferent. A satisfactory observatory Report from Mr. Seabroke is appended.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, May 1.—"On the Origin of the Parallel Roads of Lochaber, and their bearing on other Phenomena of the Glacial Period." By Joseph Prestwich, M.A., F.R.S., F.G.S., &c., Professor of Geology in the University of Oxford.

Of the various hypotheses that have been brought forward since the time of Macculloch and Dick-Lauder in 1818, to account for the origin of the Parallel Roads of Glen Roy, the one so ably propounded by Mr. Jamieson, in 1863, has been most generally received and adopted.¹ It is a modification of the views originally expressed by Agassiz, to the effect that the barriers of the lakes—to the shore action of which both the above-named geologists attributed the "roads," but were at a loss to account both for the formation and removal of barriers—had been formed during the glacial period by glaciers issuing from Glen Treig and Glen Arkaig, supplemented by others from Ben Nevis. The subsequent determination, by the Scotch geologists, of an intermediate milder period succeeded by a second cold period, led Mr. Jamieson, with whom the pre-glacial and glacial deposits of Scotland had been a subject of especial investigation, to conclude that the extension of these two places took place during the second cold period, which he thinks was of little less intensity than the first, and that, while the glacier from

¹ Darwin's well-known paper, in which he considered the "roads" to be old sea-beaches, appeared in the *Philosophical Transactions* for 1839. This marine hypothesis was afterwards earnestly advocated by R. Chambers and Prof. Nicol, but is no longer held by its distinguished author.