he promotion of "science, literature, or art." is are incorporated or affiliated with it, and include stitute, the Philosophical Institute of Canterbury, Institute, the Wellington Philosophical Society, on Association for the Promotion of Science and resenting all the leading provinces of New Zealand. membership amounts to 600, and includes all the ists residing in different parts of the several pro- Institute possesses a museum, laboratory, and h, with the work therein, are so organised and e benefit of the general public that they constitute n an important "Technical College," located at formidable, but, we hope, friendly rival to the ished "University of Otago," which aims at long other things, an eminent school of applied college is also the head-quarters of the Govern- al Survey, the chief members of the staff of which to the Technical College, the lectures being of neral and practical. The former include natural gy and botany, with their relations to physical geo- ology) and the elements of experimental science istry, and mineralogy). The practical is, in the ained to mineralogy and chemistry. Since the Institute was established, in 1867, it has published four bulky annual volumes, containing papers ientific kind, many of which contain substantial to science. All this promises well for the future colony.

ceived part I of vol. ii. of the "Transactions of Geological Society," embracing the period be- ber 1869 and April 1872. It contains a number ting and valuable papers on the geology of various otland, including one by Sir Roderick I. Murchi- ucture of the North-West Highlands, said to be ical paper written by Sir Roderick.

, of Paris, comments in *Les Mondes* of December Lallemande's paper on the blue colour of the at- which it was attributed to a change of refrangibility l absorption of the chemical or ultra-violet rays. ollas, in an article in *Les Mondes*, attributed the the Lake of Geneva and other waters to the ex held in solution, which is brought down by reams from the strata through which they pass. servations since have induced him to believe that r of all the water of the globe is due to the same ur everywhere always contains more or less of to evaporation from the water of the earth, the porated always contains a greater or less quantity ne insoluble particles. Silex, says M. Collas, is t common insoluble substances in nature, and ration, performs the same function in the blue sky s it does in the blue waters of the earth. He be- y is confirmed by the intense blue of southern vaporation is so much greater than in the colder

n has often been debated whether flies eat the s, or merely carry it away accidentally on their The question would appear to be set at rest by t the last meeting of the Scientific Committee of ricultural Society by Mr. A. W. Bennett, in which the result both of his own observations and of Müller, that the microscopic examination of the ptera belonging to the order Syrphidæ, shows in large quantities of pollen-grains, especially of g to the order Compositæ. Entomologists had

expressed a doubt as to whether it were possible for insects possessed only of a suctorial proboscis to devour such solid bodies as pollen-grains; but Müller believes that the transverse denticulations found in the valves at the end of the proboscis of many Diptera are especially adapted for chewing the pollen-grains, and for dividing the threads by which the grains are often bound together.

MR. FRANK BUCKLAND, writing to the *Times*, announces the birth in London, of a young rhinoceros (*R. sumatrensis*). The event took place at the Victoria Docks, on board the ship in which the mother had just arrived from Singapore; she, along with a male, having been captured by the natives of Malacca; the latter, however, died during the voyage. The young thing has been removed to the house of Mr. Rice, one of the owners of it and its mother, and we believe is getting along famously. We hope the "cockney rhinoceros," as Mr. Buckland calls it, may thrive as well as the young hippopotamus in Regent's Park, and not be permitted to cross the Atlantic, as, it seems, there is some danger of its doing, unless the Zoological Society secure it and its mother for their collection.

THE number of candidates for the ensuing matriculation examination of the University of Madras is 1,565, and the number of candidates for the first arts examination, 242.

JUDGING by the prospectuses which have fallen into our hands we cannot help concluding that the ladies of Glasgow are being well provided for in the way of lectures in the ensuing winter. No fewer than four courses are announced for their behoof. First, we have Dr. John Young, the Professor of Natural History in the University of Glasgow, with a course of sixteen lectures on his own special subject, and by means of which he proposes to give his auditors a comprehensive account of the animal kingdom, by selecting and dilating upon special and judiciously chosen types of animal structure, and their position in geological time. Next comes Mr. Edward Caird, the Professor of Moral Philosophy, with the same length of course, on the History of England, the range to be considered extending from the first period of English History to the time of Edward I., when the settlement of the principles of the Constitution was effected. This course will be open to gentlemen as well as ladies. A third University course of sixteen lectures is also announced, and will be open to gentlemen only, the lecturer being Mr. John Ferguson, M.A., Assistant to the Professor of Chemistry. These will be evening lectures, and, of course, the subject will be Elementary Chemistry. The Professors of Chemistry and Natural Philosophy in Anderson's University, apparently by way of supplementing the courses of biological and historical lectures of Profs. Young and Caird, have each commenced a course of twelve lectures for ladies, to be delivered in the Corporation Galleries, Dr. Thorpe taking Elementary Chemistry, and Prof. Forbes making Heat his special subject. These four courses of lectures for ladies will all be given at the same hour, but on different days, so that very zealous lady students may attend them all.

A CERTAIN Dr. A. Wolfert publishes an extraordinary article "in *Petermann's Mittheilungen*, Das Nordlicht eine weder magnetische noch electrische Erscheinung." The aurora, it appears, is neither electrical nor magnetic, but is the result of the reflection and refraction through the earth's atmosphere of the sun's rays remaining over from the summer!

AT the first ordinary meeting of the Pathological Society of Dublin, for the present session, held on Nov. 30, the President, Dr. George H. Kidd, announced that the subject chosen by the Council for competition for the gold medal, to be awarded to the best essayist in 1873, was "The Diagnosis and Pathology of Abdominal Tumours."

SCIENTIFIC SERIALS

THE *Geological Magazine* for November (No. 101) commences with a note on the forms of valleys and lake-basins in Norway by Mr. J. M. Wilson, in which the author draws attention to a connection which he has observed between the configuration of the surface of the country and the disposition of the principal planes of division of the rocks, this disposition apparently altering with the windings of the valleys. His notion appears to be that masses of rock have been torn away by glacier action until a divisional plane offering a minimum resistance to the passage of the ice was exposed.—The second article is the conclusion of Mr. Alfred Tylor's paper on the formation of deltas and on the evidence and cause of great changes in the sea-level during the glacial period, in which the author describes at considerable length the structure of the Delta of the Po (which is illustrated by sections of numerous artesian borings in Venice), and refers also to those of the Mississippi, Ganges, and Volga, in support of his views as to the peculiar curves formed by the surface of these deposits, his hypothesis of the former occurrence of a general "Pluvial" period, and his belief that during the glacial period there was an actual subsidence of the sea, due partly to its contraction by cold and partly to the abstraction of large quantities of water to form the enormous deposits of ice and snow in the colder regions. He also indicates the curves produced generally by denudation and deposition.—Mr. John Hopkinson describes some new species of Graptolites from the South of Scotland, including representatives of the genera *Dendrograptus*, *Graptolithus*, *Diplograptus*, and *Dicranograptus* from the Llandeilo rocks of Lanarkshire and Dumfriesshire; and a species of the anomalous genus *Corynoides* from the latter district. This paper is illustrated with a plate.—From Prof. Hall, of Albany, we have a note on the relations of the Middle and Upper Silurian (Clinton, Niagara, and Helderberg) rocks of the United States, written in opposition to Mr. A. H. Worthen, and in support of the generally received opinions upon this subject. The paper, although to a certain extent controversial, furnishes a useful summary of this department of American geology.—Mr. H. B. Woodward publishes a note on the Midford Sands, which he seems inclined to regard as truly transitional between the Upper Lias and the Inferior Oolite, and from this takes occasion to hint that the Keuper, Lias, and Oolites may be looked upon as one conformable series, the divisions or stages of which are to a certain extent arbitrary. The number concludes with the completion of Prof. Nordenskioid's account of his expedition to Greenland in 1870.

Poggendorff's Annalen der Physik und Chemie, No. 9, 1872, contains two mineralogical papers, one by Vom Rath, on Anorthite, being a crystallographic study of the Naples collection; and the other by Dr. Lasaulx on Micromineralogy (second of a series), and treating of the metamorphic phenomena in protogine, granite, &c.—W. Stille discusses mathematically the theory of the boomerang's motion; and a paper by F. Braun treats of the influence of rigidity, fixture, and amplitude on the vibrations of strings; figures being given, showing the traces made by a feather (attached to the string), on a smoke-blackened cylinder, under varying conditions of the kind mentioned. F. B. Hofmann describes the spectral phenomena of phosphuretted hydrogen and of ammonia, and his paper is connected with one by F. Hoppe-Seyler on the production of light by atomic motions. Two of the Royal Society's papers, and one or two articles on chemical subjects make up the rest of this number.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, Dec. 12.—"On the Structural Composition of Urinary Calculi." By H. Vandyke Carter, M.D.

"A Contribution to the Knowledge of Hæmoglobin." By E. Ray Lankester. According to the author the distribution of hæmoglobin may be summarised as follows:—

1. In special corpuscles.
   - *a.* In the blood of all vertebrates, excepting *Leptocephalus* and *Amphioxus* (?).
   - *b.* In the perivisceral fluid of some species of *Glycera*, of *Capitella*, and *Phoronis*.
   - *c.* In the blood of *Solen legumen*.
2. Diffused in a vascular or ambient liquid.
   - *a.* In the peculiar vascular system of the Chætopodous

BUCKLAND