

the undertaking, and Sir Arthur Hunter Palmer has accepted the office of President. The exhibition is to be opened on May 5, and will remain open for about three months. Its objects, as described in the prospectus issued by the acting Commissioner in London, are: "To promote and foster industry, science, and art, by inciting the inventive genius of our people to a further improvement in arts and manufactures, as well as to stimulate commercial enterprise by inviting all nations to exhibit their products, both in the raw and finished state. Samples of the products for which this and the other Australasian colonies have become famous will be exhibited, with a view to increase the development of their natural resources."

THE French Congress of Medicine is to be held during the Easter holidays of 1898 at Montpellier, under the presidency of Prof. Bernheim, of Nancy. The questions proposed for discussion are: (1) The clinical forms of pulmonary tuberculosis, (2) microbic associations and mixed infections, (3) therapeutic use of organs with internal secretion.

THE novelty of the idea of trying to reach the North Pole in a balloon seems to have worn off to some extent, so that there is a good chance now for a new suggestion. For this one has not had very long to wait, since the latest seems to be to make the attempt in a submarine boat. There is, however, as far as we know, no one at present who is going to make this perilous journey; but it is only the idea that has been suggested. The author of this is M. G.-L. Pence, and his views on the subject will be found in the *Revue Scientifique* (No. 12). Evidently this method of reaching the pole was brought home to him after having read that Nansen had found no shallow soundings above a certain high latitude. Relying on this fact and another, viz. that the polar seas are not entirely covered with ice throughout their length and breadth, but are here and there open to some extent, he suggests that the submarine boat could then often emerge to the surface to make observations and recoup fresh air. There seems, however, to be no suggested difficulty about finding the necessary pools; it is true that he mentions electric search-lights *pour reconnaître les écueils ou îlots sous-marins*, but it would be distinctly awkward for those on board if no openings were found. The navigation also would not be an easy matter, since we know very little about the variation of the compass in these regions. The writer, M. Pence, seems, however, to be aware of the fact that greater progress must be made in the building and management of submarine boats before any such attempt could be seriously carried out; but it appears to us that the proper place for such a boat would be in deep water, especially free from shallows and ice, and not rendered incapable of rising to the surface by the intervention of ice perhaps yards thick.

THE additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus rhesus*) from India, presented by Mr. W. J. Drake; two Brown Capuchins (*Cebus fatuellus*), from Guiana, presented by Mr. Walter Hammond; a White-crowned Mangabey (*Cercocobus athiops*), a Diana Monkey (*Cercopithecus diana*) from West Africa, presented by Captain B. Parmeter; two Chacma Baboons (*Cynocephalus porcarius*) from South Africa, presented, respectively, by Mr. Herbert Blair and Mrs. Matcham; a Black-headed Lemur (*Lemur brunneus*) from Madagascar, presented by Mr. T. Cubitt; a Lioness (*Felis leo*) from Arabia, presented by Mr. C. A. Osborne; three Chipping Squirrels (*Tamias asiaticus*) from Washington State, U.S.A., presented by Mr. Alfred E. Speer; four Common Quails (*Coturnix communis*) from North Africa, presented by Mr. J. Rooney; a Tawny Owl (*Syrnium aluco*), British, presented by Mr. C. A. Lowes; a Little Grebe (*Tachybaptus flaviatilis*), British, presented by Mr. Howard Bunn; two Salt-water Terrapins (*Clemmys terrapin*) from North

America, presented by Master and Miss Wilcox; two Dwarf Chameleons (*Chamaleon puntilus*) from South Africa, presented by Mrs. Robinson; a Common Hare (*Lepus europaeus-albino*), European; a Two-wattled Cassowary (*Casuarus bicarunculatus*) from the Aroo Islands, a Naked-throated Bell Bird (*Chasmorhynchus nudicollis*) from Brazil, a Levaillant's Cynictis (*Cynictis levaillanti*), a White-crested Touraou (*Corythaix albobristata*) from South Africa, three Maguari Storks (*Ciconia maguari*) from Chili, deposited; a Spotted Cavy (*Calogenys paca*) from South America, a Viverrine Cat (*Felis viverrina*) from India, an Ariel Toucan (*Ramphastos ariel*) from Brazil, purchased; two Pumas (*Felis concolor*), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

THE RECENT SOLAR ECLIPSE.—Prof. H. Geelmuyden communicates to *Astr. Nachr.*, No. 3378, some of the observations made at this eclipse. M. Schroeter, of the Observatory of Christiania, noted the time of the arrival of the shadow from his station near Vadsö as 16h. 57m. 0.5s. Central European time, with an error of ± 0.5 s., the end of totality occurring at 16h. 58m. 41s. with a possible error of several seconds. He remarks also of the "peu d'obscurité" during totality. In spite of the clouds, he says he could read and write without difficulty at a distance of 50 cm., and could follow the seconds hand on the face of his chronometer, placed at a distance of 1.4 metres. This, however, was not the experience of the observers across the Varanger Fjord on the island at Kiö. The eclipse, as observed there, was described by general consent as an exceedingly dark one, and the timekeepers, with stop watches and chronometers, all required some kind of artificial illumination. M. Mohn, who was in Finmarken to inspect the meteorological stations, was situated at Bugönes, on the southern side of the Varanger Fjord. He remarks that during totality he could read the smallest letters of a journal. One of the fortunate observers, M. Lous, was stationed near Bodö on the summit of a mountain, Hegmotind (lat. $67^{\circ} 25'$, long. $14^{\circ} 58' E.$ of Greenwich, height about 500 metres). He used a small telescope by Plössl, aperture 26 mm., magnifying 14 times. After totality was over he made a sketch of the corona, from which the following description has been gathered. The angles referred to below are measured from the top in the ordinary way.

From 350° to 50° and around 180° the size of the corona was $16'$. From 50° to 130° or 140° there was an extension of $30'$, divided by a radial suppression between 80° and 90° inclined towards the inner corona. From 280° to 350° were two tufts meeting at their bases nearly at 310° , and both pointed at their exterior edges; the largest extension of one was $36'$ between 290° and 300° , the other rose to $50'$ between 330° and 340° . The latter was nearly vertical. These red prominences were seen at 75° , 100° , and at 280° , the last being visible to the naked eye. The above numbers are only approximate.

One of the party of astronomers who went out to Japan to observe the eclipse, has communicated an article to the *Times*, from which we make the following summary. Akkeshi Bay was the spot finally settled upon for making the observations, this place being situated on the island of Yezo, and lying somewhat to the north of Kushiro. H.M.S. *Humber* conveyed the party thither, and on their arrival they found that there were already five ships anchored in the bay, including the flagship *Centurion*. On landing it was discovered that Prof. Schaeberle, accompanied by Mr. Charles Burckhalter and two amateur astronomers, had already taken up their positions at a tea-house in the village, the instruments having been set up in the garden. Prof. Schaeberle's 40-foot telescope "was propped up against a rock, which seemed to have been providentially placed there for him." Our *confères* determined to follow their example, and they consequently established themselves at another tea-house, and "we never saw reason to regret this choice." Prof. Shin Herayama was similarly situated about a mile away in a third tea-house. Passing over the description of the erection of the instruments, and other facts mentioned in the article, we come to the following account of the eclipse. "All, in fact, went well, and even merrily, until the fatal day, which was gloomy throughout. The sun did show himself at noon, and at intervals afterwards, but twenty minutes before totality the clouds shot down finally. Not a vestige of the corona was seen. The sky grew suddenly dark, of course,

and we had the seconds of totality properly counted, in the faint hope of a break in the clouds, but nothing came of it, and the brightening sky soon told us that all was over."

COMET GIACOBINI.—The following ephemeris for the ensuing week is a continuation of that previously given, the elements remaining the same. September 5 is taken as the unit of brightness:—

| 1896. | h. m. | | δ | log Δ | B. |
|--------------|-------|------|------------|------------|---------|
| Sept. 23 ... | 17 | 59.3 | ... -10 58 | ... 9.7255 | ... 1.6 |
| 25 ... | 18 | 6.4 | ... 11 22 | | |
| 27 ... | 18 | 13.9 | ... 11 47 | ... 9.7088 | ... 1.8 |
| 29 ... | 18 | 21.9 | ... 12 11 | | |
| Oct. 1 ... | 18 | 30.4 | ... 12 36 | ... 9.6919 | ... 1.9 |

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

A POST-GRADUATE course of Bacteriology has been established at the University of Sydney, New South Wales.

IT is announced that Prof. F. F. Jerisman has resigned the chair of Hygiene in the University of Moscow.

MR. W. R. BOWER has been appointed Lecturer in Physics and Applied Mechanics at the Huddersfield Technical School.

PRESIDENT G. T. WINSTON, of the University of North Carolina, has been elected President of the University of Texas.

Science states that by the will of the late Martin Brimmer, of Boston, Harvard University, on the death of Mrs. Brimmer, is to receive the sum of £10,000.

THE six buildings of the New York State Veterinary College of Cornell University have, according to Science, been completed, and the fitting-up of the laboratories and museums is taking place.

IN the Owens College Zoological Laboratory, Mr. Gamble will conduct an evening class on British Marine Zoology. Demonstrations of the structure, life-histories, and methods of capture of examples of the chief groups of animals found in the British seas, will be given at each meeting.

SIR PHILIP MAGNUS, Director of the City and Guilds of London Institute, Mr. Gilbert Redgrave, of the Science and Art Department, Mr. Smith, of Keighley, and Mr. W. Woodall, M.P., who were colleagues on the Royal Commission on Technical Education which reported in 1883, are at present engaged in an unofficial tour of inspection of exhibitions, schools, and factories in Germany.

THE following appointments abroad have taken place:—Dr. C. Winkler to the chair of Nervous and Mental Diseases, and Dr. Lobry van Froostenburg de Buijn to that of General and Pharmaceutical Chemistry, each at Amsterdam; Dr. E. Lesser as Extraordinary Professor of Dermatology at Berlin, Dr. Chermak to the chair of Comparative Anatomy and Embryology at Jurieff (Dorpat), Dr. L. Niemilovicz to be Ordinary Professor of chemistry, Dr. Wenzel von Sobieranski to be ordinary professor of Pharmacology and Pharmacognosis, Dr. Andreas Obesut to the chair of Anatomy, and Dr. Prus to the chair of General and Experimental Pathology, each at Lemberg.

THE prospectus of day and evening classes in connection with the South-west London Polytechnic Institute during the coming session has just been issued, and contains all necessary information respecting the fourteen sections into which the general scheme of work may be divided. The Institute was opened rather less than a year ago, but already 1400 students have availed themselves of its great educational advantages. Judging from the well-executed illustrations in the prospectus, the various laboratories and workshops are well arranged and fitted with latest appliances. Hitherto the work of the Institution has mainly taken place in the evening, but on September 29 a new departure is to be made, and it will from that time be open to day students in mathematics, mechanics, mechanism, architecture and building construction, drawing-office work, electrical technology, physics, chemistry, and applied art. The objects of the day classes are: (1) To give that preparatory training which will fit students over fifteen years of age for practical work in the factory or engineer's shop, or prepare them for colonial life. (2) The education of pupils from middle-class and other schools, who are preparing for a higher technical and scientific course of instruction, such as is provided at the Central Technical College, Exhibition Road.

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SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, September 14.—M. A. Chatin in the chair.—On an exceptional rainbow, by M. Berthelot.—On the stability of the rods employed as provisional bench-marks in levelling of precision, by M. C. Lallemand. Small errors are introduced into accurate levelling by the slight settling down of the temporary wooden bench-marks. It is shown that these errors can be readily distinguished from errors due exclusively to accidental causes. The error due to settling is practically a linear function of the time elapsing between successive measurements on the same rod.—On the tornado observed at Paris on September 10, 1896, by M. A. Angot. The cloud, seen from a distance of about 1000 metres, was in obvious rotation, the direction being from right to left, in the opposite direction to the hands of a watch; the rotation was also accompanied with an ascending movement, easily traced by watching an isolated piece of cloud. Not the least remarkable point was the absolute sharpness and small size of the destructive zone, at a comparatively small distance from which the wind velocities were quite normal. The slight fall of the barometer, preceding the disturbance, was no greater than would occur during an ordinary rain shower.—On the same, by M. J. Jaubert. The direction of rotation could be determined from the direction of the trees torn down by the passage of the tornado, and was from right to left. The direction of translation was in a straight line from south-west to north-east; with a velocity of at least 40 to 50 metres per second.—On the simultaneous presence of laccase and tyrosinase in the sugar of some mushrooms, by M. G. Bertrand. Both these ferments were found in the extract from *Russula cyanoxantha*, and *setens*.—Stability of blood rendered incoagulable by extract of the leech, by MM. Bosc and Delezenne. Two specimens of blood from the same animal, taken before and after intravenous injection of extract of leech, and placed side by side at a temperature of 20° to 22° C., show a marked difference in their rates of putrefaction, the second specimen decomposing much more slowly than the first. This result cannot be due to any special antiseptic action of the extract, since numerous species of bacteria can be readily cultivated in it. It is shown that active amœboid movements of the white corpuscles continue in the treated blood at the ordinary temperature, and hence it appears probable that putrefaction occurs only in dead blood, in which there are no living leucocytes. It is also possible that the extract from the leech may provoke secretions by the leucocytes which augment the bactericidal action of the blood.—New adaptation of the muscles of the leg after recovery from a club-foot, by M. Joachimstal.—On the sulphide of magnesium, and on some salts of alumina, by M. Bignan.

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