

with whose pioneer's work in British marine zoology he was in active sympathy. A devoted husband, an exemplary parent, a true friend, whose advice was always sound, and whose criticism was as well founded as it was frank, he passes from us in the heyday of life. His life furnishes a noble example of independent manliness, and of enthusiasm for the spread of truth and the cause of scientific advancement.

NOTES.

WE learn from the *Revue Générale des Sciences* that M. d'Abbadie, late President of the Paris Academy of Sciences, has asked the Academy to accept a considerable gift in the name of his wife and himself. The donation consists of the Abbadia estate (Basses-Pyrénées), having an annual revenue of twenty thousand francs, and one hundred shares in the Bank of France, representing a capital of four hundred thousand francs and an annual income of fifteen thousand. By the deed of gift, these properties will not fall to the Academy until after the decease of the donors. Two of the principal clauses and charges of the legacy are as follows:—(1) The Academy may establish on the Abbadia estate any researches or laboratories, except those devoted to vivisection. (2) An observatory must be established at Abbadia, in which a catalogue of five hundred thousand stars can be made, the work to be completed in 1950. In order to reduce the expenses which this stipulation carries with it, the work may be confided to some religious order. The Academy has nominated a commission to examine the conditions of this munificent donation, and has expressed its deep gratitude to M. and Mme. d'Abbadie. It is not too much to say that this feeling is shared by all men of science.

THE following men of science have been elected Fellows of the Reale Accademia dei Lincei:—In mathematics, Prof. L. Bianchi and Dr. G. D'Ovidio; chemistry, Dr. G. Ciamician and Prof. D. Mendelejeff; botany, Profs. E. Strassburger and N. Pringsheim; agriculture, Dr. F. Cohn. Dr. E. Bertini has been elected a correspondent in mathematics; E. Millosevich in astronomy; A. Abetti in mathematical and physical geography; and O. Mattirollo in botany.

THE *Tymer* announces the death of Prof. M'Fadden A. Newell, Superintendent of Public Instruction of the State of Maryland, U.S.A. He was educated at Trinity College, Dublin, and the Royal College of Belfast, and went to the United States in 1848. He was Professor of Natural Science in the Baltimore City College from 1850 to 1854, and occupied the same chair in Lafayette College, Pennsylvania, from 1854 to 1864. In 1865 he was appointed President of the Normal School of the State of Maryland, succeeding, three years later, to the position of State Superintendent of Public Instruction, a post he held for a quarter of a century. In connection with Prof. Crury he published a series of text-books entitled the "Maryland Series," and his Annual Reports, in twenty-five volumes, are held in high esteem.

WE regret to record the death of Father R. P. Vines, Director of Belen Observatory, Havannah.

A DISASTROUS cyclone swept northwards along the Atlantic seaboard of the United States on August 29. At Savannah, Georgia, property to the value of millions of dollars has been destroyed, and news of great loss of life and property is reported from Brunswick, Georgia, and further south, while the town of Tybee has been completely wrecked. It is reported that the storm traced out a path marked by devastation across Georgia and South Carolina to Charlotte, in North Carolina, and thence to the east coast again to Petersburg, Virginia.

The city of Savannah presents a scene of wreck and ruin surpassing even the effects of the great storm of August, 1881. For eight hours the wind rushed through the city with terrific force and swept down houses as if they were packs of cards. Nearly every house in the city has suffered some damage, and the streets have been rendered quite impassable by the wreckage.

A REUTER'S telegram from New York states that a cyclone passed over that part of the Atlantic coast on August 23, in the direction of the New England States, and left its marks over a region around New York extending over an area of fully a thousand miles. A rainfall of 3.82 inches in twelve hours was measured, and is said to be the highest ever recorded by the local signal service.

THE next meeting of the French Association for the Advancement of Science will be held at Caen, with M. Mascart as president. M. E. Trélat will preside over the meeting to be held at Bordeaux in 1895.

IT has been finally arranged that the Congress of the Photographic Society and Affiliated Societies shall be held on October 10, 11, and 12. All the arrangements will be completed in a few days, and a full programme will be circulated as soon as possible.

AN International Exhibition of Photographic Art has been organised by the Paris Photo Club, and will be held from December 10 to the end of this year. The address of the Secretary is 40 Rue des Mathurins, Paris. An international exhibition of amateur photography will be held in the Museum of Fine Arts, Kunsthalle, Hamburg, on October 1-31.

THE annual general meeting of the members of the Federated Institution of Mining Engineers will be opened on Wednesday, September 6th, in the rooms of the Philosophical Society of Glasgow. A number of papers on mining subjects will then be read, and on the two following days excursions will be made to collieries, iron and steel works, and other places of interest.

THE Indiana Academy of Science has decided to make a biological survey of the State of Indiana, and Profs. L. M. Underwood, C. H. Eigenmann, and V. F. Marsters have been appointed as organisers and directors of it. The first work will be the preparation of a complete bibliography of materials bearing on the botany, zoology, and palæontology of Indiana, to be published by the Academy. When this has been done, it will be possible to discuss the fauna and flora, its extent, distribution, biological relations, and economic importance, and thus accomplish the main purpose of the survey.

MR. J. F. JAMES gives in *Science* a description of the "Scientific Alliance of New York," instituted at the end of last year, and having for its chief object the establishment of a centre where knowledge of what is being done in one society is conveyed to all the rest. Much is to be gained by this kind of cooperation, both by science and individual workers. Already the Alliance has been joined by the New York Academy of Science, Torrey Botanical Club, New York Microscopical Society, Linnean Society of New York, New York Mineralogical Club, New York Mathematical Society, and the New York Section of the American Chemical Society, each of these societies being represented by its president and two members upon the council of the Alliance. At the opening meeting the president deprecated the views of so-called practical men in whose eyes science "is worth only what it will bring when offered in the form of dynamos, telephones, electric-lights, dye-stuffs, mining machinery, and other merchantable wares." The need of endowment for research in the region of pure science was pointed out, reference being made to the German Univer-

sities, where the professors are expected to do original work, leaving the teaching to instructors. The second meeting was held in March, 1893, when the report of a committee, recommending the establishment of an endowment fund of 25,000 dollars for the purpose of encouraging original research, was adopted. The fund is to be known as the "John Strong Newberry Fund," and will be used for furthering researches in geology, palæontology, botany, and zoology. All information relating to it or to the Alliance can be obtained from Dr. N. L. Britton, Columbia College, New York.

THE question as to whether amber was exported from the far east to Europe is discussed by Herr A. B. Meyer in a paper read before the Isis Society of Dresden. There seems to be little doubt that some specimens now sold at Rangoon are of Baltic origin, as proved by the amount of succinic acid contained in them. But there are, on the other hand, many authorities for the early derivation of amber from India and especially Burma. There are four passages in Pliny giving India as the native country of amber, and ancient Greek authors, especially Sophocles, testify to its origin in eastern India. It would be very strange if the Phœnicians, while shipping ivory, peacock feathers, tin, jewels, and spices from "Ophir," had left behind a highly valued, abundant, striking, and easily transportable article like amber. A specimen of Burmite, as the Indian amber is now usually called, from the Indian Museum, Calcutta, gave 2 per cent. of succinic acid; another specimen, analysed by Dr. Helm, gave off none. The specimens examined by the latter "had frequently embedded in them small particles of decayed wood and bark," which recalls a passage in Archelaos, who says that the Indian amber often has pieces of pine bark adhering to it. The Indian origin of much of the amber acquired by the Mediterranean nations in ancient times appears, therefore, to be placed beyond doubt. It is, indeed, probable that Baltic amber did not become a regular article of commerce before the first century of the Christian era.

WHILST our knowledge concerning the behaviour of bacteria in animal tissues is daily receiving fresh additions, but little is known on the relatively unimportant although interesting question of their deportment in vegetable tissues. Much uncertainty exists as to whether bacteria are or are not normally present in healthy vegetable tissues, but the most recent investigations appear to show that they are absent, although they may obtain easy access through minute abrasures, and retain their vitality for a considerable time, and in some cases even multiply. This view is supported by Russell, who has recently presented an interesting dissertation to the John Hopkins University on "Bacteria in their Relation to Vegetable Tissue." A large number of examinations were made of healthy plant tissues, but in no case were bacteria isolated from them, although in wounded tissues they were frequently found. Ordinary saprophytic bacterial forms were inoculated into the healthy tissues of various plants, and were identified after several days, thus the *B. luteus* was found in large numbers in the stem of a geranium after forty days from the date of its introduction. Moreover, nearly as many bacilli were obtained 10 millimetres above the point as at the seat of inoculation, 1850 being found at the latter place, and 1764 above. In all the experiments, although the distance at which bacteria were found varied from 30-50 mm. above, in no case were they identified at more than 2-3mm. below the point of inoculation. Russell suggests that this upward distribution of the germs may be due to food materials being more abundant in the rapidly growing apex, whilst smaller resistance is offered to their passage in the less developed cellulose walls than in the more matured cell-membrane of the older tissue. Moreover, as

the bacteria were definitely located in the interior of the cells, and no opening of any kind could be determined, he suggests that they have the power, by means of a ferment excreted, to work their way from cell to cell without causing a permanent rupture.

THE August number of the Journal of the Royal Horticultural Society contains several interesting papers, among which is Prof. F. W. Oliver's second report on the effects of urban fog upon cultivated plants. The report deals especially with the physiological aspect of the question, the action of fog upon plants, both by reduction of light and atmospheric impurities, being described in detail. The Rev. G. Henslow gives the results of experiments made with a view of determining the effects of growing plants under glasses of various colours. His observations show that during germination it is generally immaterial whether the seeds are subjected to light or not. In the case of a variety of larkspur, however, light was found to be positively injurious. No coloured light, or combination of lights, which was not of the quality of pure colourless daylight, gave such good results as ordinary daylight. A comparison made between plants growing under ordinary window-glass and in the open showed that the glass exercises a deleterious effect, due possibly to an excess of heat by which respiration is stimulated and assimilation reduced. It is suggested that in order to reduce "scorching" some means must be used which reduces the heat rays without lessening the whole amount of white light.

WE have received from Dr. P. Bergholz the results of the meteorological observations at Bremen for the year 1892. This station is one of considerable importance, both on account of its outfit with self-recording instruments, and even with duplicate recording instruments for some of the elements, so as to avoid any possible gap in the continuity of the records, and also on account of the long continuance of observations. The first volume of this series, for the year 1890, contained the results of observations taken since the year 1803, and we see from Dr. Hellmann's *Repertorium* that observations were taken at Bremen as early as 1795. The work contains hourly readings, and, in addition, observations arranged for three hours daily, in accordance with the international scheme, together with curves showing the diurnal range for each month and for the year; it also comprises rainfall values for four other stations, and phenological observations for eleven years; the whole forming a very complete and creditable compilation.

IN *Wiedemann's Annalen*, No. 8, Herr W. Voigt gives a further account of the progress of his attempt to determine the greatest possible number of physical constants of the same pieces of metal subjected to the least mechanical manipulation. The pieces were carefully cast and sawed into shape where necessary. It is not surprising that the constants thus obtained differ in many cases from those found in the case of drawn and rolled metals, but it seems that the object of discovering the laws of the numerical relations between the various constants render it highly desirable that the substances should be investigated in what may be called their most natural state. The constants recently dealt with are thermal dilatation, thermal pressure, and specific heats at constant pressure and volume respectively. The determination of the specific heat by the method of mixtures has led to some ingenious contrivances for minimising the errors which are apt to influence this somewhat delicate operation. The outer vessel of the Neumann "cock" for heating the body under examination was made movable instead of the inner, thus enabling it to be refilled without removing it from the stand. The loss of liquid due to the splashing produced by the metal falling into the calorimeter was avoided by throwing it into a metal cage just in contact with the

liquid, which was then lowered about halfway towards the bottom. The liquid was stirred by a small turbine, and the thermometer was so arranged that it only came into contact with liquid which had ascended from the metal, and then had been drawn down through the turbine tube, thus giving a very rapid rise and gradual fall of temperature, as indicated by the thermometer. The scale was read by a small microscope provided with two wires touching the scale, the meniscus being brought midway between the two. This simple arrangement has the effect of eliminating all parallax errors.

THE Comité International des Poids et Mesures has issued a volume containing the proceedings of meetings held during 1892. M. L. Chappuis contributes to the volume a report of an investigation of the thermal expansion of water by the weight-thermometer method. He has made two complete determinations, one between 0° and $42^{\circ}4$ C., and the other between 0° and $36^{\circ}6$ C. The results show that the expansion of water from 0° to 40° is very closely given by the following expression $-0.84 - 66.573253t - 8.798939t^2 - 7.892005 \times 10^{-3}t^3 + 5.155549 \times 10^{-4}t^4$. M. C. E. Guillaume has prepared a report on the metals employed in the construction of standard scales, in which he recommends nickel as the best substance.

COLONEL WATERHOUSE has been making experiments upon the electrical action of light upon silver and its haloid compounds, and communicated his results to the Asiatic Society of Bengal in May last. His arrangement was such that one plate could be exposed to light while another with which it was in electrical connection was screened from actinic rays. From the experiments it appears that, as a general rule, sunlight has an oxidising or dissolving effect on silver, whether in acid or alkaline solutions, the exposed plates being nearly always positive, and consequently forming the anode of the voltaic couple. With solutions decomposed by silver, and forming sensitive compounds with it, the action is variable.

MR. P. JANET, in the current number of the *Journal de Physique*, describes the methods he has adopted for experiments on electric oscillations of comparatively long period, $\frac{1}{100000}$ second and thereabouts. His object more particularly is to obtain the actual form of the curves of intensity and electro-motive force, rather than to find the period and logarithmic decrement. With a modified form of interruptor of M. Mouton's he is able to read accurately to $\frac{1}{100000}$ second, or even less. A mica-condenser forms part of his arrangement, and he was incidentally led to make experiments on the "hysteresis and dielectric viscosity" of the mica, from the study of certain variations which he found in the capacity of the condenser. He sums up his results on this point thus:—"In a condenser with solid dielectrics, under the influence of rapid [electric] oscillations, there is a lagging of the charges behind the differences of potential; or, in other words, for equal differences of potential, the charges are smaller with increasing than with decreasing potentials." A new and apparently accurate method for the determination of the coefficient of self-induction is also given as a secondary result of the experiments.

In the same journal M. R. Malagoli gives a summary of his theoretical investigations on electrolysis by alternating currents, the results of which agree with the experimental determinations of M. Mengarini. He concludes that the necessary and sufficient condition under which electrolysis by alternating currents is possible, is that the quantity of electricity passing through the voltmeter during a single alternation of the current must be at least twice that which is necessary for the production of the maximum polarisation of the voltmeter. Electrolytic production ceases when these two quantities become equal, and the amount of the electrolyte decomposed is proportional to their difference.

AT the meeting of the Paris Academy of Sciences on August 14, MM. Delahaye and Boutille showed an ingenious fire-alarm. A hollow ball of aluminium, 15 to 20 mm. in diameter, is supported at one end of an arm, with a counterpoise at the other end, the whole being in equilibrium at the ordinary temperature and pressure of the air. The apparatus is purposely made not sensitive enough to show the ordinary natural changes of pressure, but if the specific gravity of the air becomes diminished considerably, either from a rise of temperature or an admixture of coal gas in sufficient quantity to become explosive, the balance is destroyed, and the ball in falling completes an electric circuit by which an alarm bell is set ringing until the normal state of affairs is again established.

SIR CHARLES TODD has issued a report on the rainfall in South Australia and the northern territory during 1892, with the weather characteristics of each month.

GUSTAV FISCHER, of Jena, has recently published second and revised editions of two well-known books—Prof. E. Strasburger's "Kleine Botanische Practicum," and Prof. Richard Hertwig's "Lehrbuch der Zoologie."

MESSRS. CROSBY LOCKWOOD AND SON will publish in September a comprehensive handbook on "Practical Building Construction," by Mr. J. P. Allen, lecturer at the Durham College of Science, Newcastle-on-Tyne. The work will be illustrated by about 1,000 diagrams.

WITH reference to the article on the "Position of Scientific Experts" in our issue of the 17th inst. a correspondent informs us that for some years it has been legal for a judge to select an expert to report to the Court upon a particular matter in dispute, and this practice is occasionally followed. The mode of selection and of appointment, and the status of the official English expert, are therefore almost identical with those of his German equivalent.

THE Isle of Man Natural History and Antiquarian Society visited the Marine Biological Station at Port Erin on August 14, and Prof. Herdman, F.R.S., the director of the station, gave the members an address upon the objects and methods of marine biology. We understand that it is intended to construct fish hatcheries at Port Erin, and to wall in several of the creeks round the coast for the preservation of young fish until they reach maturity.

AN "Electrical Engineer's Price-Book," edited by Mr. H. J. Dowsing, has been published by Messrs. Charles Griffin and Co. It contains a large amount of information on the commercial aspect of electrical work, and should be of great assistance, not only to electrical engineers, but also to borough engineers, architects, railway contractors, and local authorities who desire to be informed upon matters connected with electrical installations.

BRAZIL produces, on the average, about 360,000 tons of coffee per annum, that is, about four-fifths of the whole amount consumed in the world. Since the State of Sao Paulo alone produces one-half of this quantity, an illustrated pamphlet by Señor Adolpho A. Pinto, one of the Commissioners of the State at the World's Columbian Exposition, would be expected to contain an accurate account of coffee cultivation. The little pamphlet justifies the expectation. Every one interested in coffee-growing in general, and in Sao Paulo in particular, will find it well worth reading.

It was generally admitted by those competent to judge that the display of scientific instruments at the Paris Exposition of 1889 was inferior to that of 1878. There were, however, a few striking exhibits scattered in different classes in an unaccountable manner. Mr. A. Lawrence Rotch was appointed to report

upon the meteorological instruments at the exhibition, and though there was a difficulty in comparing objects in the same class, owing to their being distributed over an immense area, it was satisfactorily overcome. Meteorologists will be glad to know that Mr. Rotch's report has been extracted from the second volume of the Reports of the U.S. Commissioners to the Universal Exposition at Paris, and is now issued separately.

THE report on the operations of the Department of Land Records and Agriculture, Madras Presidency, for the official year 1891-92 has been received. From it we learn that experiments made by the Madras railway companies in the use of eucalyptus leaves to prevent incrustation in locomotive boilers have turned out very satisfactory, and are therefore being continued. The chief feature of the year was the comparative immunity from serious disease which the cattle enjoyed. The total reported losses (87,000) were only fifty-eight per cent. of the average losses, and fifteen per cent. less than in 1890-91. The losses from snake-bite decreased from 2,698 to 1,751, and the decrease was spread over the whole Presidency, except Ganjam and Vizagapatam. Losses by wild animals also decreased by 345 head. No reason is given to account for this singular reduction.

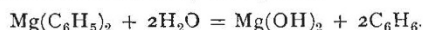
THE Royal Society of Tasmania issued in June last the reports of its proceedings in 1892, and the volume has just reached us. Among other papers printed in full occurs one by Mr. G. M. Thomson on Tasmanian crustacea, with descriptions of new species, and another on new species of Tasmanian araneæ, by Mr. A. T. Urquhart. The Rev. F. R. M. Wilson contributes a paper on the climate of Eastern Tasmania, indicated by its lichen flora, in which he gives facts which "suggest to the medical faculty what probably their experience has already proved, that the climate of East Gippsland and the eastern coast of Tasmania must be pre-eminently beneficial to invalids. Lichenological observations indicate that both of these places are favoured by a much milder winter, as well as a cooler summer, than the other parts of their respective colonies." Mr. Wilson also gives a description of Tasmanian lichens, and Mr. John Shirley a list of those now known.

DR. D. S. JORDAN showed in 1889 that, in every case where the waters of Yellowstone Park were destitute of fish, the cause was topographical, that is to say, there was some physical barrier to the entrance of fishes from below. This being so, it seemed possible to stock these waters permanently with game-fish, so the U.S. Commissioner of Fish and Fisheries sent Prof. S. A. Forbes to Yellowstone Park in 1890 to investigate the variety and abundance of the lower animal life of the fishless waters, since upon this the fishes introduced would chiefly have to depend for food. Prof. Forbes has prepared his "Preliminary Report on the Aquatic Invertebrate Fauna of the Yellowstone National Park, Wyoming, and of the Flathead Region of Montana." In it he presents a summary review of the invertebrate life of the waters of Wyoming and Montana in the mid-summer season, with descriptions and determinations of such new or particularly abundant kinds as have thus far been made out. A detailed discussion of the results will be published as soon as the mass of material collected during the expeditions has been examined.

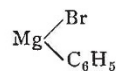
THE organo-metallic compounds of magnesium form the subject of a communication to the current number of *Liebig's Annalen* by Dr. Fleck of Tübingen. The di-methyl, di-ethyl and di-propyl compounds of magnesium were obtained by Dr. Lohr in the same laboratory in 1890. Dr. Fleck has continued the work, and now describes the di-phenyl compound and gives further details concerning the mode of preparation and properties of the fatty alkyls above mentioned. The magnesium

alkyls are of a somewhat similar nature to the well-known zinc methide and ethide. They differ, however, in the nature of certain of their reactions, and their chemical activity is considerably superior to that of the zinc alkyls, which have hitherto been regarded as exceptionally active substances. Not only are the magnesium compounds spontaneously inflammable in the air, but the methyl compound was described by Dr. Löhr as igniting spontaneously and burning in a very beautiful manner in carbon dioxide gas, being capable of extracting the oxygen from its combination with carbon. The three fatty alkyls are best prepared by the action of the alkyl iodides upon magnesium amalgam. When an attempt, however, is made to prepare the diphenyl compound by heating in a closed and previously exhausted tube a quantity of magnesium amalgam and bromobenzene, instead of obtaining magnesium diphenyl decomposition occurs, and the resulting product is merely a mixture of bromides of magnesium and mercury with diphenyl itself (C_6H_5)₂. Dr. Fleck has at last succeeded in preparing magnesium diphenyl by heating a mixture of magnesium filings and mercury diphenyl, $Hg(C_6H_5)_2$, within a narrow range of temperature. About ten grams of mercury diphenyl and a little more than the calculated quantity of magnesium in fine powder are placed in a tube of soft glass, which is then exhausted by means of the air pump and sealed. Upon heating the tube and contents to 200 a violent reaction suddenly occurs, with production of a voluminous white mass occupying at least three times the space of the original mixture. Above 210° this white substance commences to carbonise, so that the tube is maintained for four or five hours at a temperature of 200—210°, not exceeding the latter limit. The product is spontaneously inflammable in air, so that it is necessary to open the tube under benzene. Any excess of mercury diphenyl is dissolved out by warming with benzene over a water bath, the residue is then treated with a mixture of ether and benzene, in which alone of all the organic solvents tested magnesium diphenyl is soluble; upon decantation from the residual amalgam and evaporation of the clear liquid in a stream of nitrogen, pure magnesium diphenyl is obtained as a grayish-white solid. Analyses of the product agree with the formula $Mg(C_6H_5)_2$.

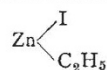
MAGNESIUM diphenyl, like the dimethyl, diethyl and dipropyl compounds, reacts in a most violent manner with water. Even when the substance is first covered with ether, and then small pieces of ice are slowly added, the reaction still occurs almost explosively. Magnesium hydrate and benzene are the products of the reaction as indicated by the equation



Magnesium diphenyl is consequently extremely hygroscopic, attracting moisture from the air with great rapidity when covered with a layer of benzene. When freely exposed to the air it at once burns to magnesium oxide and a carbonaceous mass. If, however, the compound is covered with benzene and exposed to perfectly dry air for some days, an oxy-compound, $Mg(OC_6H_5)_2$ is formed as a brown solid. Bromine reacts with great energy to form bromides of magnesium and phenyl, even when largely diluted with ether, and so does not form an intermediate compound,



corresponding to the well-known zinc iodo-ethide,



Indeed, this incapability of forming mixed halogen alkyls, owing to greater activity, is one of the most characteristic distinctions between the magnesium and the zinc alkyls generally. Benzal

chloride, $C_6H_5_2CHCl_2$, reacts with magnesium diphenyl in an interesting manner, forming without extraneous application of heat triphenylmethane, $(C_6H_5)_3CH$, and magnesium chloride.

NOTES from the Marine Biological Station, Plymouth.—The *Actinotrocha* larva of *Phoronis* has now made its appearance in the floating fauna. The Radiolaria mentioned last week, though still present, have become much less numerous; the tow-nets have this week been crowded with *Rhizosolenia*. The Siphonophore *Muggiea atlantica* is abundant, and the medusæ *Saphenia mirabilis* and *Amphinema Titania*, with swarms of small *Obelia*, have also been observed. The Nauplii of *Sacculina* are plentiful, and among Mollusca the larvæ of *Ægirus punctilucens* and the larva *Cirropteron semilunare* of M. Sars (possessing a four-lobed velum) have been observed. The Polyclad *Leptoplana tremellaris* is now breeding; and young metamorphosed specimens of the Opisthobranch *Oscanius membranaceus* have been taken with the dredge on the bottom.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus sinicus*) from India, presented by Mrs. H. Leavitt; a Blau-bok (*Cephalophus pygmaeus*) from South Africa, presented by Mr. J. E. Matcham; a Yellow Baboon (*Cynocephalus babouin*) from West Africa, a Banded Gymnogene (*Polyboroides typicus*) from East Africa, a White-necked Stork (*Dissura episcopus*) from East Africa, presented by Mr. Thomas E. Remington; a European Tree Frog (*Hyla arborea*) from Europe, two Fire-bellied Toads (*Bombinator igneus*) from Europe, and a Spotted Salamander (*Salamandra maculosa*) from Europe, presented by Mr. Hood; eleven Garden Dormice (*Myoscus quercinus*) from Spain, forty-eight Glossy Ibises (*Plegadis falcinellus*) from Spain, and four Marbled Ducks (*Anas angustirostris*) from Spain, presented by Lord Lilford, F.Z.S.; a Rose-crested Cockatoo (*Cacatua moluccensis*) from Moluccas, presented by Lady Sudeley; two Ypecaha Rails (*Aramides ypecatra*) from South America, presented by Mr. F. H. Chalk, a Boa (*Boa constrictor*) from South America, and two Great Bustards (*Otis tarda*) from Spain, deposited; and a Wapiti Deer (*Cervus canadensis*) born in the Menagerie.

OUR ASTRONOMICAL COLUMN.

HONORARY DISTINCTIONS.—From the current number of *L'Astronomie* we gather that M. Janssen, director of the Observatory of Meudon, has been made a Commander of the Legion of Honour. Messrs. Callandreaux and Bigourdan, assistant-astronomers at the Paris Observatory, have received the distinctions of Officers of Public Instruction, and MM. Camille Flammarion and Jordan and Hermite, of the Institute, have received from the King of Greece the Cross of the Commander of the Order of the Saviour.

A METEOR.—An observer, writing to us from Westgate-on-Sea, gives the following account of a meteor seen there on the evening of August 27:—"At about 8.40 p.m. I saw a very brilliant meteor here. The trail, as far as I could judge, must have commenced somewhere about the star β Sagittæ, but the most brilliant part of it was accurately noted as lying between two points, one being half-way between α and γ Aquilæ and the other being about a third of the distance (from η) between η and δ of the same constellation. The meteor may be described as "rapid," and its direction of motion was south. The most striking feature of this observation was the length of time (about six minutes) the trail remained visible in the heavens, and its subsequent change of shape. At first it appeared of a bluish-white colour and was very bright, its path describing practically a straight line; but about four minutes later it had dimmed very considerably (the same colour being maintained), but the trail was no longer straight but distinctly wavy, giving one the idea that the meteoritic dust particles must have encountered some air currents travelling at right angles to its length."

A BEQUEST TO ASTRONOMY.—By the will of Mr. Arthur Leake, late of Ashby, Ross, Tasmania, a sum of £10,000 was put by for the purpose of founding a school for the practical teaching of astronomy in one of the Australian universities, colleges, or leading schools. It was stipulated that a part of such teaching should consist of lectures illustrated with diagrams and instruments, and the sum of £3000 could be spent in purchasing the necessary equipment. From the proceedings of the Royal Society of Tasmania (issue 1 June, 1893) it appears that there is a little difficulty in determining the best means of using the bequest. Mr. H. C. Russell, F.R.S., C.M.G., has drawn up a scheme for the proposed school which has much to commend it. He points out that Hobart offers special advantages of climate and position for the Leake Observatory, and suggests that £1800 should be spent in purchasing a photographic astronomical telescope, to be used for work in connection with the photographic chart. It is proposed that the University of Tasmania shall establish a school of astronomy and the observatory, and that the lecturer in mathematics and physics shall also teach astronomy, and have general control and direction of the observatory, for which he should be paid from the Leake fund £100 per annum in addition to his salary from the university. An observatory assistant is provided in the scheme with a salary of £200 per annum. The sum of £50 a year is set down for photographic plates, chemicals, &c., bringing the total annual expenditure up to £350, which is the interest on £7000 from the Leake estate. When Mr. Russell's paper was read, in August, 1892, an opinion was expressed that it was unnecessary to "import an astronomical expert in order to give the instruction in astronomy, and to superintend the observatory," and that the duties of the observer might be combined with those of the Government meteorologist. With this feeling the following resolution was passed:—"The Royal Society of Tasmania having placed itself in communication with the Council of the University with the view of formulating a scheme for securing the benefit of the Leake bequest to the colony of Tasmania, the Premier be requested to refrain from making any permanent appointment to the office of meteorologist pending the result of such conference."

GEOGRAPHICAL NOTES.

DR. NANSEN has telegraphed from Yugor Strait, at the entrance to the Kara Sea, on August 3, the message reaching the Vardö telegraph office on August 23. A good voyage had been made to Nova Zembla, the only unpleasant episodes being the occurrence of fogs and contrary winds. On the 27th ice was encountered in lat. $69^{\circ} 50' N.$, long. $50^{\circ} E.$, about ten miles north-east of the Island of Kolgueff. Dr. Nansen forced his way through the ice, the *Fram* proving a splendid ship for the purpose, and reached Yugor Strait on the 29th, making a run of 250 miles in two days. The coal-ship, which was to have been waiting at Yugor Strait, had not arrived, but having sufficient coal on board Dr. Nansen intended to sail into the Kara Sea on August 3, rather than risk delay by waiting. He took on board "thirty-four splendid sledge-dogs." Little ice was reported in the southern part of the Kara Sea, a southerly wind having driven the pack northward. If the ice does not turn out worse than reported, Nansen hoped to reach the New Siberian Islands before the end of August, and if he does so he considers success almost certain. The *Fram* will touch at the Olonetz River, near the Lena delta, if there is time, and send farther news.

THE geography of South America has recently been receiving great attention from German travellers and officials in the various South American republics. In a recent number of *Petermann's Mitteilungen*, Richard Payer describes a journey from Lima across the Andes and down the valley of the Ucayali to the Amazon. In the course of it he visited an interesting Tyrolese colony at Pozuzo, which he found in the course of extinction, after thirty years' hard struggle on the part of the colonists to maintain a footing in their remote and isolated settlement. Dr. Brakebusch has from time to time published portions of the material he has been collecting for an exhaustive account of the physical geography of the Argentine. He divides the country from the crest of the Andes to the valley of the Parana into successive zones—snowy summits and cliffs, high-level sand-dunes formed from glacial debris, scree, alpine pastures, low-level sand-dunes, salt flats, forests, and pampas.