South Africa (with four plates), including the Gamopetalous Dicotyledons, by Dr. Engler, &c.—The Piperaceæ collected by Lehmann in Guatemala, Costarica, Columbia, and Ecuador, described by Casimir de Candolle.—A new plant belonging to the Olacineæ (*Tetrastylidium Engleri*, Schwacke), by W. Schwacke.—An anatomical study of *Scirpus* and allied genera (with one plate), and a key for distinguishing them on anatomical grounds, by Dr. Ed. Palla.—On some mistaken, or little-known Rubiaceæ of South America, by Karl Schumann.—On the flora of Greenland, by Eug. Warming. Including interesting descriptions of the general appearance of the vegetation, as well as the habit of certain species, with a discussion of the origin and relations of the flora. The author concludes that Greenland is not a European province, from the point of view of botanical geography, but has nearer relations to America.—Contributions to the comparative anatomy of the *Aristolochiaceæ* (with three plates), by Dr. H. Solereder. A comprehensive investigation of the structure of both vegetative and reproductive organs.—The volume also includes the usual personal notices, and abstracts of current literature, together with a list of works recently published on geographical and descriptive botany.

Journal of the Russian Chemical and Physical Society, vol. xxi. No 1.—On hexabromtetramethylene, by A. Sabaneyeff.—On the heat of solution of lithium bromide. It is equal to 11·351, and thus occupies an intermediate position between those of LiCl (8·440) and LiI (14·886).—On the action of ethyl iodide and zinc upon paraldehyde, by W. Wedensky.—On the oxidation of erucic and ricinoleic acids by means of permanganate of potassium, by L. Urvantzoff and W. Dieff.—On the formation of cane-sugar from starch in plants, by F. Selivanoff. It was observed in tubercles of potatoes.—Notes by MM. Moltchanoffsky, Alexeyeff, and Kondakoff.—Theoretical researches into the motion of water in the subsoil, by N. Joukovsky. The author concludes from his mathematical inquiry and some experiments that the law of Darcy remains satisfactory if the secondary causes are also taken into consideration and the results are not extended to great distances from the well. As to the corrections of Darcy's law proposed by Kröber and Smreker, they do not yet correspond to all facts noticed during pumpings.—Note by W. Rosenberg on cyclonic movements.

No. 2.—Yearly reports of the Society.—Notes on primary, secondary, and tertiary nitro-compounds, by J. Bevad.—On the general law of contraction which takes place during the formation of solutions of salts, by A. Gueritch; second paper, containing data relative to H_2SO_4 and HCN.—On the action of chlorides and hydrochloric acid upon the photochemical decomposition of chlorine-water, by E. Klimenko and G. Pecatoros. They slacken the decomposition.—On the vapour density of ethyl isocyanurate at various temperatures, by S. Krapivine and N. Zelinsky.—On the dilatation of solutions of salts, by N. Tchernay; third paper, containing tables relative to nine different nitrates.—Note on electrical phenomena due to actinic influences, by J. Borgmann.

IN the *American Meteorological Journal* for March, Mr. A. L. Rotch continues his interesting articles on the meteorological services in Europe, dealing in this number with the Paris and Montsouris Observatories. The interest of the Paris Observatory, from a meteorological point of view, is now chiefly in its long series of observations, which date from the year 1666; since the establishment of the Central Meteorological Office, meteorology has not been actively pursued at the Observatory. The Montsouris Observatory was founded in 1871, and deals chiefly with the collection of hygienic statistics, and the application of meteorology to agriculture. It publishes an *Annuaire*, and also a monthly summary in the *Comptes rendus* of the French Academy. Prof. H. A. Hazen contributes an article on anemometer comparisons, and discusses the results of recent experiments in America and in this country, with the view of determining the ratio between the motion of the wind and that of the centre of the cups. The results of the American experiments have been discussed by Prof. Marvin, and will shortly be published *in extenso*. The chief difficulty lies in the determination of a constant factor for all velocities, and of constants for different sizes of cups and arms. Prof. Hazen thinks it possible to construct an anemometer with arms and cups so proportioned as to give a constant factor at all velocities. Lieutenant Finley discusses the frequency of tornadoes in the State of Georgia during the last ninety-four years.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, May 9.—"On the Magnetic Rotation of the Plane of Polarization of Light in doubly refracting Bodies." By A. W. Ward. Communicated by Prof. J. J. Thomson, F.R.S.

In repeating Villari's experiment on the rotation of the plane of polarization of light in a spinning disk of heavy glass, placed with its axis of rotation perpendicular to the lines of force in a magnetic field, it was observed that the incident plane-polarized light became elliptically polarized. The elliptic polarization was due to the centrifugal force, which had the effect of stretching the glass along the radii of the disk and compressing it parallel to the axis of rotation. The strained glass in the magnetic field has, therefore, the double property of elliptically polarizing plane-polarized light, and at the same time rotating the plane of polarization. The strained glass therefore acted like a crystal placed in a magnetic field, and so, before Villari's experiment could be properly interpreted, it is necessary to examine how the elliptic polarization and magnetic rotation affect each other. The following investigation is an attempt to solve this question, and its conclusions show that the apparent magnetic rotation in a doubly refractive medium is a periodic function of the length of the path of light in the medium. This hitherto unsuspected result entirely accounts for the effects observed by Villari, and those observed by Lüdtge in a piece of compressed glass.

Villari's results are very similar to Lüdtge's. Villari, by spinning a disk of glass very rapidly, strained it, and on observing the magnetic rotation found it get less and less as the strain got greater and greater. There is, however, one noticeable difference between Villari's strained disk and Lüdtge's strained prism. The disk was free from strain in the middle, the prism free from strain at the ends.

I have repeated Villari's experiment at the Cavendish Laboratory, using, at Mr. Glazebrook's suggestion, an elliptic analyzer to determine the magnetic rotation. With the disk spinning about 200 times a second, the magnetic rotation was reduced from 10° to 6°. This is not so great a diminution as Villari observed, but his glass may have been softer and more easily strained.

Villari thought that the effect he observed was due to the time required to magnetize the glass. That this supposition was erroneous has been clearly established by the experiments of Bichat and Blondlot, and recently repeated by Dr. Lodge. In these experiments the oscillating discharge of a Leyden jar was found to rotate the plane of polarization in time with the oscillations. Before hearing of these results I had myself attacked the problem in a somewhat similar manner. A coil of wire was wound round a piece of heavy glass, and a current alternated 250 times a second by a tuning-fork was sent through the coil. The current was measured by a dynamometer and a tangent galvanometer. The first gave the measure of the current independently of its sign, the second showed that the integral current was zero. When the current was passing it was found impossible to extinguish the light, owing to the rapid alternations of the plane of polarization.

May 16.—"Physiological Action of the Active Principle of the Seeds of *Abrus precatorius* (Jequirity)." By Sidney Martin, M.D. London, British Medical Association Research Scholar, Assistant Physician to the Victoria Park Chest Hospital; and R. Norris Wolfenden, M.D. Cantab. (From the Physiological Laboratory, University College, London.) Communicated by E. A. Schäfer, F.R.S.

"The Toxic Action of the Albumose from the Seeds of *Abrus precatorius*." By Sidney Martin, M.D. London, British Medical Association Research Scholar, Assistant Physician to the Victoria Park Chest Hospital. (From the Physiological Laboratory, University College.) Communicated by E. A. Schäfer, F.R.S.

From numerous experiments, the following conclusions were arrived at:—

(1) The poisonous activity of the seeds of *Abrus precatorius*, the jequirity, resides in the two proteids present in the seeds—a paraglobulin and an albumose.

(2) Both of these proteids have practically the same action. They produce severe conjunctivitis when applied to the eye; and when subcutaneously injected, they cause local inflamma-

tion, œdema, and ecchymosis, and gastro-intestinal irritation, with extrusion of fæces and blood; the general symptoms being, first, a great fall of body temperature, and a condition of stupor, ending in death.

(3) The activity of both these proteids is destroyed by moist heat. In solution, the activity of the globulin is destroyed at between 75° and 80° C., and that of the albumose between 80° and 85° C.

(4) That abrus-poison resembles snake-venom in chemical composition, in the local lesions produced, in producing a fall of body temperature, in causing semi-fluidity or fluidity of the blood after death, and, to some extent, in the effect of moist heat on it. Abrus-poison is, however, much less active than snake-venom.

The following table shows a comparison between the activity of the venom of various snakes and of Abrus :—

Vipera berus (common adder)	Fatal dose in man, 0·0021 gramme per kilogramme of body weight (Fontana).
Hyplocephalus curtus (Australian tiger-snake)	Fatal dose in dog, 0·00485 gramme per kilogramme of body weight; ½ grain in medium size dog (15 pounds).
Cobra	Fatal dose in dog, 0·000079 gramme per kilogramme of body weight; $\frac{1}{10}$ grain in dog weighing 18 pounds (Vincent Richards).
Abrus-poison—	
Globulin...	Fatal dose, 0·01 gramme per kilogramme of body weight.
Albumose	Fatal dose, 0·06 gramme per kilogramme of body weight.
Peptic albumoses ...	Fatal dose in dog, any dose over 0·3 gramme per kilogramme of body weight (Pollitzer).

"Appendix to paper on Descending Degenerations following Lesions in the Gyrus marginalis and Gyrus fornicatus in Monkeys." By E. P. France. Communicated by E. A. Schäfer, F.R.S.

Linnean Society, May 24.—Anniversary Meeting.—Mr. Carruthers, F.R.S., President, in the chair.—A portrait of John Jacob Dillenius (1687-1747), the first Professor of Botany at Oxford, copied from the original picture at Oxford, was presented to the Society by the President, who gave a brief outline of his career, and of his personal acquaintance with Linnæus.—The Treasurer having made his annual statement of accounts, and the Librarian's and other reports having been read, a ballot took place for the election of officers and Council for the ensuing year. The President, Treasurer, and Secretaries were re-elected, and the changes recommended in the Council were adopted.—The President then delivered his annual address, to which we refer elsewhere.—A unanimous vote of thanks to the President for his address, coupled with a request that it might be printed, having been passed, the ceremony of awarding the Society's gold medal took place. This medal, having on the obverse a fine bust of Linnæus and on the reverse the arms of the Society, below which is engraved the name of the recipient, was founded last year in commemoration of the Society's centenary anniversary, and is bestowed upon a botanist and zoologist alternately, for distinguished services to biological science. This year it was awarded to the eminent botanist Prof. Alphonse de Candolle, and in his unavoidable absence was handed to his grandson M. Austin de Candolle, who attended on his behalf to receive it. Addressing his representative, the President said:—"Monsieur de Candolle, it is a great satisfaction to me to place in your hands, for transmission to your distinguished grandfather, the Linnean gold medal, in recognition of his many important services to botanical science. These services have been so great, and are so universally acknowledged, that it is unnecessary for me to do more than to refer to them. His many systematic monographs justify his being awarded any honour that botanists can confer. His philosophical treatment of the geographical distribution of plants has greatly advanced this department of science, and his successful codification of the laws of botanical nomenclature has been of the greatest practical service to systematists. But botanists will always look with gratitude to Alphonse de Candolle for the successful carrying on of the gigantic enterprise inaugurated by his father when he undertook the publication of the 'Prodromus Systematis Naturalis Regni Vegetabilis.' By his own work, by securing the aid of accomplished *collaborateurs*, and perhaps not least by the plodding toil of reading the proof-sheets of volume after volume of dry systematic descriptions during the thirty-two years in which he took charge of the 'Prodromus,' he has laid science under a debt which cannot be estimated. The work as now completed contains descriptions of all the Dicotyledonous Phanerogams, and of Gymnosperms, which were known when the different volumes were published, amounting to nearly 60,000 species. By his numerous labours Alphonse de Candolle has added lustre to a name that had already obtained a first place amongst botanists. His son Casimir, by his scientific researches, maintains the credit of that name; and now, in handing this medal to you, Monsieur Austin de Candolle, the representative of the fourth generation, may I venture to hope that this imperfect estimate of the services rendered to science by Alphonse de Candolle may help you to realize the honour of the name you inherit, and encourage you by similar true and honest labour to transmit it with added renown to posterity."—The presentation having been suitably acknowledged by Dr. Marcet, F.R.S., a countryman and relative of the recipient, the proceedings terminated with a vote of thanks to the President and officers.

Anthropological Institute, May 14.—Prof. Flower, C.B., F.R.S., Vice-President, in the chair.—Mr. Arthur Thomson read a paper on the osteology of the Veddahs of Ceylon, and exhibited a complete skeleton and several skulls of these people, Although the skeleton was said to be that of a man of twenty-six years of age, many parts were not completely ossified. The fifth lumbar vertebra was less wedge-shaped than amongst the higher races of man, and hence there was a distinct tendency to a backward curve in this region. Attention was drawn to the fact that the left clavicle was longer than the right by no less than 10 mm., and this may probably be explained by the employment of the left arm in the use of the bow; the left arm was also slightly larger than the right. The scapulæ were small and slender, and the high index, 71·1, indicates a marked difference in shape from that of Europeans. The femora and tibiæ were remarkable for their great length, and in each case the left was the longer. On the anterior borders of the lower extremities of both tibiæ were semilunar facets articulating, in extreme dorsiflexion of the foot, with corresponding surfaces on the necks of the astragali. The extreme length of the articulated skeleton was 1578 mm., which was somewhat above that of the average Veddah, as calculated by Virchow. It appeared from examination of all the available crania that the average capacity of the Veddah male skull is 1321 cc., and that of the female skull 1229 cc. The cephalic index is 70·9. From the data given in the paper the author inferred that, if the Veddahs be not of the same stock as the so-called aborigines of Southern India, they at least present very strong points of resemblance both as regards stature, proportions of limbs, cranial capacity, and form of skull; and that, if physical features alone be taken into account, their affinities with the hill tribes of the Neilgherries, and the natives of the Coromandel Coast and the country near Cape Comorin, are fairly well established.—Some notes by Mrs. R. Braithwaite Batty, on the Yoruba country, and a paper by Mr. H. Ling Roth, on salutations, were also read.

PARIS.

Academy of Sciences, May 20.—M. Des Cloizeaux, President, in the chair.—On the telluric origin of the oxygen rays in the solar spectrum, by M. J. Janssen.—On the complete correspondence between the continuous fractions which express the two roots of a quadratic equation whose coefficients are rational numbers, by Prof. Sylvester.—On the impossibility of diamagnetic bodies, by M. P. Duhem. The author's researches lead to the general inference that the existence of diamagnetic bodies is incompatible with the principles of thermodynamics. The so-called diamagnetic bodies are simply magnetic bodies plunged in a more powerful magnetic medium, in accordance with Becquerel's hypothesis, which assumes that for these bodies there exists one distribution of equilibrium and one only, that this distribution is stable, and that a diamagnetic body is always repelled by permanent magnets.—On the artificial reproduction of the mirage, and on the interference fringes that may accompany this phenomenon, by MM. J. Macé de Lépinay and A. Perot. A process is described, by means of which conditions are realized which are analogous but inverse to those that give rise to the natural mirage.—On the expansion of quartz, by M. H. Le Chatelier. The experiments here described show that quartz undoubtedly undergoes considerable expansion between 480° and 570° C. Above the critical temperature of 570°, it ceases to

expand, and on the contrary undergoes a slight contraction. The phenomenon is analogous to that observed in the dimorphic transformations of litharge, of potassium sulphate, and especially of dicalcic silicate.—On the variations of the acid function in stannic oxide, by M. Léo Vignon. The author here resumes his study of the polymerization of stannic acid, dealing more especially with stannic acid prepared by means of stannic chloride; with metastannic acid obtained by the reaction of nitric acid on tin; and with calcined stannic oxide. He finds that there must exist a complete series of stannic acids, whose first term would appear to be the soluble acid, and the last the calcined metastannic acid.—On oxalomolybdic acid and the oxalomolybdates, by M. E. Péchard.—On phosphorous acid, by M. L. Amat. In a previous note (*Comptes rendus*, cvi. p. 1400) the author showed that, under the action of heat, the acid phosphite of soda may lose water, and be transformed to a pyrophosphite of soda. His present researches make it probable that the other acid phosphites behave like the salt of soda, only the dehydratation in their case is much more difficult.—Action of the alkaline meta-, pyro-, and ortho-arseniates on the alkaline earthy oxides, by M. Lefèvre. These researches, which are confined to baryta, strontia, and lime, show that lime has a greater tendency to form chloro-arseniates than baryta, while baryta yields simple compounds more readily than lime. Strontia is intermediate between these two bases.—On the malonates of ammonia, by M. Massol. Here the author describes the method of preparation, composition, and properties of the acid and neutral malonates.—On the proportion of nitrates contained in the rains of tropical regions, by MM. A. Muntz and V. Marcano. Observations taken at Caracas (Venezuela) and at Saint-Denis (Réunion), compared with those recorded by Messrs. Lawes and Gilbert at Rothamsted and by M. Boussingault at Liebfrauenberg (Alsace), show that the quantity of nitrates contained in tropical rains is from five to thirteen times greater than in those of temperate zones. To this abundance of nitrogen under a form easily assimilated must doubtless be partly attributed the exuberance of tropical vegetation.—On the richness of wheat in gluten, by MM. E. Gatellier and L. L'Hôte. Continuing their researches on this subject, the authors arrive at the general conclusion that by careful selection and treatment wheat may be made to yield a high proportion of gluten without any reduction in the abundance of the harvest.—Papers were contributed by M. Martinand, on the alcoholic fermentation of milk; by Dom Pedro Augusto de Saxe-Cobourg-Gotha, on a specimen of crystallized iron glance from Bahia (Brazil), and on the albite of Morro Velho; and by M. P. Termier, on leverrierite (a new phyllite), and on the Bacillarites of the coal-measures.

Astronomical Society, April 3.—The following were elected officers for the ensuing year:—President, M. Faye; Vice-Presidents, M. C. Flammarion, Colonel Laussedat, General Parmentier, and M. Trouvelot; Secretary, M. Gérigny; Vice-Secretaries, MM. C. Detaille and E. Bertaux; Treasurer, M. A. Hentsch; Librarian, M. Mabire. Council: MM. Bischoffsheim, Bossert, Charton, Gunziger, Heman, Hirn, Moussette, Secretan, Oppert, Trépied, Armelin (Admiral), Cloué, Bardou, Moureaux, and Schmoll.—M. C. Flammarion summed up the progress of astronomy during the past year.—M. Faye then took the chair, and remarked that in founding this Society M. Flammarion and his collaborators had created something durable, and had rendered a great service in so doing. M. Faye proposed that the Society should hold an extraordinary meeting in September this year, on account of the Exhibition, which will bring many foreign astronomers to Paris. This proposition was adopted.—M. Guiot sent an observation of shadow cast by Venus.—M. Dumesnil, same observation; also observations of Venus, with the naked eye, on March 6, 9, 15, 23, and 28, from 3 to 4 p.m.—M. Faye made some remarks on the Samoa cyclone, and explained the parabolic path of cyclones in both hemispheres.—M. Junod sent some remarks on the attraction between rotating spheres.

BERLIN.

Physiological Society, May 3.—Prof. du Bois Reymond, President, in the chair.—Dr. Blaschko gave an account of his anatomical researches on the formation of the horny layer of the skin. According to his observations the Malpighian layer consists of polygonal cells, which are pierced by so considerable a number of fibres that the cell-substance of each consists of a network of fibres. These fibres pass through two or three cells in succession, thus uniting them one to the other; between them, and external to the cells, is found the intercellular fluid, and similarly a fluid substance in the interior of the cells. The growth of the horny layer begins in the *stratum granulosum*, with the appearance of Waldeyer's keratohyalin granules in the fibres; these granules then become larger, and the fibres disappear. In the *stratum corneum* fibres again make their appearance in the dried cells, which have now entirely lost the nucleus which they possessed when they formed part of the Malpighian layer. The speaker supported his statements by drawings and preparations which he exhibited.—Dr. Goldschneider spoke on the muscular sense, and on the experiments he had made with a view to its analysis. To assist him in his researches he made use of localized anæsthesia, produced by Faradic currents, and of the exclusion of conscious volitional impulses. Perception of motion takes place at the joints, and is unaffected by want of sensitiveness in the skin. The liminal value for the sensation of motion varies greatly for various joints, lying between 1°·30 and 0°·27. The time required for the perception of the motion is very short, and is unaffected by the position of the limb. The muscles are not concerned in perceiving the position of the limb, this being dependent on the visual centre, which is stimulated by local sensory impulses. The perception of weight is similarly dependent on the central nervous system, and the recognition of resistance experienced in raising and lowering weights is brought about by means of the varying presssure exerted by the surfaces of the joints against each other. Owing to the lateness of the hour the conclusion of this communication was postponed to the next meeting.

[*Note.*—In the report of the Physiological Society, NATURE, May 2, p. 24, line 22, *for* "ventral" *read* "dorsal."

May 17.—Prof. du Bois-Reymond, President, in the chair.—Dr. Goldscheider concluded his communication on the muscular sense. He brought forward a mass of evidence in opposition to the view, which has up to the present time been widely spread, that innervation-sensations play an important part in connection with muscular sense. Thus, for instance, the following experiment is opposed to the current view: a given muscle is stimulated electrically (the will thus being excluded), lifts a weight, and gives rise to a distinct sensation of the accompanying movement. On the other hand, a movement may be intended, the innervation-sensation being at the same time distinctly prominent, and still the sensation of movement may be subminimal and not reach its liminal value, so long as the movement when executed is very small. As regards the raising of weights, it must be borne in mind that this is performed by limbs made up of several parts connected by joints; the rigid joints give rise to the sensation of resistance. The speaker summed up the outcome of his researches as a whole in the conclusion that the muscular sense is compounded of three peripheral sensations: of a sensation of *movement* resulting from the displacement of the condyles, of a sensation of *weight* produced by the tension of the tendons, and of a sensation of *resistance* due to the pressure of the articular surfaces against each other. In addition to the above there is still another sensation—namely, of *position*, resulting from pressure, tension, and stretching of the skin and other local stimuli. Prof. Gad gave strong expression to his own view, in opposition to the conclusions of Dr. Goldscheider, that the perception of resistance is not directly a sensation but a judgment, based upon the relation of the movement to the innervation and muscular tension.—Prof. Kossel then expressed his opposition to the views of Prof. Leo Liebermann on nuclein, which he regards as a mixed precipitate of metaphosphoric acid, albumen, and bases of the xanthin series.—He next gave an account of the researches of Schindler, who had sought in the tissues for the bases of adenin, hypoxanthin, guanin, and xanthin, which are all products of the decomposition of nuclein. He found no adenin in the semen of bulls, but only the other three bases, whereas in that of the carp and in the thyroid gland not only adenin but the other three are plentifully present. Schindler had further exposed adenin and guanin to putrefactive decomposition. After prolonged exposure both these bases were entirely decomposed, hypoxanthin having taken the place of adenin, and xanthin that of guanin. In both cases the result is explained by the assumption of one molecule of water and the elimination of one molecule of ammonia.

Meteorological Society, May 7.—Dr. Vettin, President, in the chair.—Prof. von Bezold discussed the modern views on the formation of atmospheric precipitates, which, in opposition to the older views, are based upon strictly scientific principles. At one time it was thought that the precipitates are formed by the

mixing of cold air with warm moist air, and since the temperature of the mixture falls to the arithmetical mean of the other two, so much moisture must be condensed as corresponds to the considerably lowered saturation-point which results from the above process. Now, however, it is known that both the rise in temperature of the cold air and the heat set free by the condensation of the moisture must be taken into account, so that in reality very little moisture is precipitated: this was clearly shown by the speaker in a series of examples, both by calculation and by graphic representation. Thus appreciable precipitations occur either very seldom or not at all when masses of air of differing temperatures are mixed together. Precipitation only occurs when a saturated mass of air is directly cooled, such cooling being brought about in nature chiefly by radiation and by the upward flow of currents of air. Hence the precipitations which take place on the lofty sides of mountains as the air rises along them, as a result of its having been warmed, and in cyclones. Since warm dry air is carried into the cyclone from the anticyclone, the clouds formed at the edge of the cyclone are subsequently absorbed; thus the clouds are most dense in the centre where the pressure is a minimum, and are progressively less dense towards the periphery. Dr. Vettin showed several experiments on the movement of smoke inside a glass case which was slowly rotating about its centre. Small vessels filled with ice were suspended in the case, causing downward currents of air, and towards these places the smoke made its way from the periphery in a whirling, screw-like formation.

VIENNA.

Imperial Academy of Sciences, March 14.—The following papers were read:—On the oxidation of β-naphthol, by E. Ehrlich.—On the encysting of protoplasm with regard to the function of the cell-nucleus, by G. Haberlandt.—Contribution to the anatomy of the aërial roots of Orchidea, by E. Palla.—Results of comparative researches on the spectra of cobalt and nickel (sealed), by A. Grünwald.—Contribution to the systematic knowledge of Muscaria (sealed), by F. Brauer.—On the intestinal mesenteries and omenta in their normal and abnormal state, by C. Toldt.—On the oxidation of paraphenylene-diamine and paramido-phenol, by E. von Bandrowski.—On some phenomena of electrical discharges and their photographic fixation, by A. von Obermayer and A. von Hübl.—On the elements of the geological structure of Rhodus, by G. von Bukowski.—Determination of the orbit of the Andromeda (175) planet, by F. Bidschof.

AMSTERDAM.

Royal Academy of Sciences, April 20.—Prof. van de Sande Bakhuigzen in the chair.—M. Martin read a paper on the so-called "old-slate formation of Borneo." This formation is known among others in the western parts of the island, where a few fossils were collected by the mining engineer, C. J. van Schelle, viz. at the Soengli Molsong, and near Boedoek and Sepang, in the "Chinese districts." It appeared, on examination, that these fossils belong to the genera Gervillia and Corbula, and as neither genus ever occurs in Palæozoic strata, the "old slate" here cannot be Palæozoic. The slates are, moreover, covered by Tertiary strata, so that the only alternative is to assume that they belong to the Mesozoic age. A further confirmation of this hypothesis he found in the fact that he had succeeded in finding, in a grey limestone of the Bojan, in the Upper Kapoes dominion, *Orbitulina centicularis*. As this fossil is Cretaceous, and the limestone in question occurs likewise in company with clay-slate, he concluded that the strata with Gervillia and Corbula are of the same age as those with Orbitulina, and that they all belong to the Cretaceous period. M. Martin feels persuaded that the Cretaceous formation is widely spread in the Indian Archipelago, and, on account of the absence of fossils, has been partly included among the "old slate," and partly among the Tertiary system.

STOCKHOLM.

Royal Academy of Sciences, May 8.—Prof. S. Lovén gave an account of a recently published memoir, by Prof. J. Steenstrup in Copenhagen, with the title, "On the Station of the Mammoth Hunters at Tredmort in Moravia."—Baron Nordenskiöld exhibited the first copy, now ready, of his great work, "Facsimile Atlas to the Oldest History of Chartography, containing copies of the best maps printed before the year 1600," a volume in folio, with fifty-one large maps, and eighty-four maps and figures inserted in the descriptive letterpress. The interesting manuscript map of Northern Europe from 1467, discovered by Baron Nordenskiöld in the library of Count Zamoiski at Warsaw, is also copied.—He also exhibited a large meteoric stone, 10½ kilogrammes in weight, which fell on April 3, this year, in the province of Scania.—Contributions to the knowledge of the absorption of the radii of heat through the various components of the atmosphere, by Dr. Ångström.—On the construction of the integrals of the linear differential equations, by Prof. Mittag-Leffler.—Note sur la série généralisée de Riemann, by Dr. A. Jonquière, of Bern.—On the action of cyanium on phenyl-sulpho-urinate, by Herr D. S. Hector.—On the action of some oxidating bodies on phenyl-sulpho-urinate, by the same.—On integration of differential equations in the problem of the n bodies, by Prof. Dillner.—The singular generatrices of the binormal and principal surfaces, by Prof. Björling.—Studies on the peat bogs of Southern Scania, by Herr G. Andersson.—Zoological notes from Northern Bohuslän, by Herr C. A. Hansson.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

The Unrivalled Atlas (W. and A. K. Johnston).—An Illustrated Manual of British Birds, Parts 11–14: H. Saunders (Gurney and Jackson).—A History of the Study of Mathematics at Cambridge: W. W. R. Ball (Cambridge University Press).—Nature's Voice: H. H. (Vickers-Wood).—The Physiology of the Domestic Animals: Dr. R. M. Smith (Davis).—A Visit to Stanley's Rear Guard: J. R. Werner (Blackwood).—Reports from the Laboratory of the Royal College of Physicians, Edinburgh, vol. i. (Pentland).—A New Theory of Parallels, 2nd edition: C. L. Dodgson (Macmillan).—Life of Sir William Rowan Hamilton, vol. iii.: R. P. Graves (Longmans).—Untersuchungen über die Theorie des Preises: R. Auspitz und R. Lieben (Leipzig, Duncker and Humblot).—Spacial and Atomic Energy, Part 1: F. Major (Eyre and Spottiswoode).—Record of Experiments in the Manufacture of Sugar from Sorghum, 1888: H. W. Wiley (Washington).—Six Species of North American Fresh-water Fishes; Six Lithographs from Drawings by A. Sonrel; Explanation of Plates by D. S. Jordan (Washington).—Transactions of the Academy of Science of St. Louis, vol. v., Nos. 1 and 2, 1886–88 (St. Louis).—Journal of Morphology, vol. ii., No. 3 (Boston, Ginn).—Journal of the Marine Biological Association, New Series, No. 1 (Plymouth).—Journal of the Anthropological Institute, May (Trübner).

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