

German flora might have been almost non-existent, so wide is the field covered nowadays by German investigators. Nor is this outlook due simply to the desire to know more of the economic value of their colonial floras. The more complete our knowledge the surer will the foundation be laid for that natural system of classification which so far has been most nearly reached in Engler's "Pflanzenfamilien." These two objects, increase of knowledge of the economic value of particular floras, and the reduction of the imperfection of record of the world's flora, in time and space, were kept prominently before the conference. It was refreshing to an Englishman to hear the various readers of papers acknowledge the work of the Hookers, Bentham, and others. A third object in starting the society was well carried out—to bring together the systematists in Germany, &c., for semi-scientific and semi-social intercourse.

Each evening members, accompanied in some cases by ladies, met in a restaurant for dinner, the most enjoyable of these functions being the one in Potsdam, ending a long day's excursion in the forest on the banks of the Wann See. After an explanation of the plans for the new herbarium, &c., to replace the overcrowded botanical museum and the old gardens in the city, a visit was paid to the new gardens in the suburb of Dahlen. Here, as in the old museum, it was interesting to notice not only the grasp the director, Dr. Engler, had of everything, but also the way in which he brought forward the officers of the various departments, and left them to tell their story. Appreciation of the importance of the protection and preservation of special plant habitats or of special individual plants, and also of beautiful scenery, was illustrated by a paper by Dr. Conwentz, who for three years past has devoted his time, at the Government's request, to the study of the question, and is now engaged in the preparation of an illustrated elaborate report. The next meeting of the Society will be held in Stuttgart on August 4-7, 1904, and should be borne in mind by British botanists; the subscription for membership is only three shillings.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

MR. R. H. YAPP, of Cambridge, has been appointed professor of botany in the University College of Aberystwyth in succession to Prof. J. H. Salter.

MR. HUGH DAVIES has been appointed head of the building trades department of the Northern Polytechnic Institute in succession to Mr. H. W. Richards, who was recently made principal of the London County Council School of Building at Brixton.

THE debt of 5000*l.* in connection with the University College, Bristol, has now been entirely liquidated. Sir William H. Wills, Bart., and Sir Frederick Wills, Bart., M.P., each contributed 1000*l.* towards the amount required, and a further sum of 500*l.* has been given by the managers of the Exhibition of Welsh Industries recently held in Bristol.

THE governing body of the South-western Polytechnic, Chelsea, has accepted with very great regret the resignation of the principal, Mr. Herbert Tomlinson, F.R.S. At a meeting held on December 16, the following resolution was passed:—"That the governing body hereby desire to record their cordial appreciation of the admirable work that Mr. Tomlinson as the first principal has accomplished in organising and developing the institute in all its branches."

At the Royal United Service Institution Mr. C. E. Stromeyer read a paper on short service training for reserve officers. It contained a sketch of the German "Einjährig-Freiwilliger" system, which, according to the author's views, supplements the ordinary school and university studies by a good insight into the human nature of the German workman by bringing him and the one year volunteer into close contact while serving together in the ranks. German technical students are therefore fit at an early age for the

posts of submanagers in industrial undertakings, whereas English lads fresh from technical colleges are not trusted to deal with workmen. The author suggests that the War Office should encourage young men from public schools and from universities to join the army for a short period.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, December 21.—M. Albert Gaudry in the chair.—After the delivery of the annual presidential address, the prizes offered for the year 1903 were awarded. In geometry, the Francœur prize to M. Émile Lemoine for the whole of his work in geometry; the Poncelet prize to Prof. M. Hilbert, University of Göttingen, for his works on the principles of geometry. In mechanics, the extraordinary prize of 6000 francs was divided as follows:—one-half to M. Maugas, chief engineer in the navy, for his researches on the stability of battleships and his works on submarine navigation; the other half was divided in equal parts between Lieutenants Jehenne, Gaillard, and Germain, the first for his work in the application of wireless telegraphy to the navy, the other two for the improvements they have carried out in apparatus intended for the transmission of orders or signals during a battle. The Montyon prize was awarded to Prof. Bodin for designing and executing a new system of cantilever at the Viar viaduct; the Plumey prize to Prof. Marchis for the free courses of instruction in applied mechanics organised by him, and more especially for his lessons on steam and heat engines. The Fourneyron prize was not awarded. In astronomy, the Pierre Guzman prize was not awarded; the Lalande prize was awarded to Prof. Campbell, of the Lick Observatory, for his investigations in stellar spectroscopy and astronomical physics; the Valz prize to M. Borrelly for his discoveries of comets; and the G. de Pontécoulant prize, intended to encourage researches in celestial mechanics, to M. H. Andoyer for his memoirs on the theory of the moon and that of the small planets. In physics, the Hébert prize was awarded to Dr. E. Goldstein, of the Berlin Observatory, for his investigations, during thirty years, of electric discharges through rarefied gases and the discovery of a particular kind of radiation; the Hughes prize fell to M. Pierre Picard for the improvements effected in telegraphy, improvements which have increased the rapidity of transmission in submarine cables; the Gaston Planté prize to M. Hospitalier for his onodograph. In statistics, the Montyon prize was not awarded, though MM. Loncq, de Montessus de Ballore, and Razous each received an honourable mention. In chemistry, the Jecker prize was given to M. L. Bouveault for his numerous researches in organic chemistry during the last seventeen years. The La Caze prize fell to M. A. Quntz for his thermochemical investigations on the compounds of fluorine with metalloids and with metals. In mineralogy and geology the Delesse prize is awarded to M. Emmanuel de Margerie, joint author with General de la Noë of "Les Formes du Terrain," and translator into French of "La Face de la Terre," by Prof. Suess, of Vienna. In physical geography, M. R. P. Colin received the Gay prize for the determination of numerous geographical positions in Madagascar. In botany, the grand prize of the physical sciences was not awarded, nor were the Bordin and Desmazières prizes. M. Maire was accorded the Montagne prize for his delicate researches in connection with the Basidiomycetes. The Thore prize was awarded to M. de Istvanfi for his work upon the diseases of the vine known as "white" or "red" rot. In rural economy the Bigot de Morogues prize fell to M. Eugène Rister for his well-known "Géologie agricole." In anatomy and zoology, M. R. Fourtau is accorded the Savigny prize for his memoirs on Egyptian stratigraphy and other palæontological subjects, and M. Krempf receives an honourable mention. The Countess Maria von Linden gained the Da Gama Machado prize for two memoirs on the development of the colours in the wings of butterflies. In medicine and surgery, Montyon prizes are awarded to M. Dominici for his memoirs on the normal condition of certain organs, and also when infected; to

M. Jean **Camus** for a work entitled "Les Hémoglobines"; to M. Robert **Loewy** for his method of peritoneal grafting. Honourable mention was also made of the contributions of MM. **Nicolle** and **Remlinger**, **Nobecourt**, **Merkien** and **Sevin**, Ch. **Monod** and J. **Vanverts**. The Barbier prize is divided between MM. **Anthony** and **Glover**, the work of the former being in connection with the sternum, and that of the latter a new therapeutic method based on the application of a warm spray of non-volatile liquid. The arrears of the Bréant prize were divided between M. E. **Chambon** for his memoir "L'Institut de vaccine animale, son histoire depuis sa fondation en 1864," and Dr. **Borrel** for his papers on the parasitic theory of cancer. The Godard prize was awarded to Drs. N. **Hallé** and B. **Möztz** for their contributions to the pathological anatomy of the bladder. Dr. J. B. **Hillairet** received an honourable mention. The Lallemand prize was divided between Mlle. **Joteyko** and MM. **Garnier** and **Cololiau**, and Dr. Giuseppe **Pagano** was honourably mentioned. Dr. Paul **Godin** received the Larrey prize for his contribution on military hygiene, and M. G.-H. **Lemoine** and Dr. Jules **Régnauld** were honourably mentioned. Dr. F. **Battesti** was accorded the Bellion prize, while Dr. R. **Glatard** was mentioned very honourably. The arrears of the Mege prize fell to Dr. A. **Monproffit** for his work "Chirurgie des ovaires et des trompes." Dr. Alfred **Fournier** was awarded the Chausser prize for his important contributions to medical and social science. In physiology, the Montyon prize was divided between M. **Arthus** for his researches on the coagulation of the blood, and M. V. **Henri** for his work on the action of diastases. The work of M. **Bounhiol** on the respiration of annelids receives particular mention. The Philipeaux prize was accorded to M. Lucien **Daniel** for his investigations as to the nature of grafts and grafting. Prof. Chas. **Richet** received the La Caze prize for his numerous contributions to physiology. Dr. J. **Denoyès** was awarded the Pourat prize for his treatment of the subject proposed, viz. the action of high frequency currents on the phenomena of life. The essays of MM. **Regnier** and **Bruhat** were honourably mentioned. Prof. H.-G. **Zeuthen**, of Copenhagen, received the Binoux prize for his studies on the history of the sciences. Of the general prizes, the Lavoisier medal was awarded to Prof. Carl **Graebe**, of Geneva, for his work in organic chemistry. Berthelot medals were awarded to Prof. **Graebe** and to MM. **Bouveault**, **Guntz**, **Chavanne**, Victor **Henri**, **Arthus**, and **Capelle**. The Montyon prize (unhealthy trades) was not awarded, but an honourable mention was accorded to M. Édouard **Capelle** for his work on lighting and heating by acetylene, the Wilde prize to M. **Collet** for his determinations of the intensity of gravity, the Tchihatchef prize to Dr. Sven **Hedin** for his explorations in Asia, the Cuvier prize to M. Eugène **Simon** for his "Histoire naturelle des Araignées," the Parkin prize to MM. **Lacroix** and **Giraud** for their investigations on the recent eruptions of Martinique, the Petit D'Ormy prize (mathematical sciences) to M. Jacques **Hadamard**, the Petit D'Ormy prize (natural sciences) to M. Bernard **Renault**, the Boileau prize to M. Marius-Georges **Grandjean**, the Estrade-Delcros prize to M. Léon Teisserenc **de Bort** for his fourteen years' work in meteorology, the Cabours prize between MM. **Marquis** and **Chavanne**, the Saintour prize to M. Marcel **Brillouin** for his works on mathematical physics, the Trémont prize to M. Charles **Fremont** for his method of determining the limit of elasticity of metals employed in the arts, the Gegner prize to M. Jean-Henri **Fabre** for his investigations in biological science, the Lannelongue prize to Mme. Vve **Nepveu**, the prize founded by Mme. la Marquise de Laplace to M. **Remy** (Louis-Gabriel), and that founded by M. Félix Rivot is divided between MM. **Rémy**, **Breynaert**, **Gillier**, and **Bouteloup**.

GÖTTINGEN.

Royal Society of Sciences.—The *Nachrichten* (physico-mathematical section), part v., 1903, contains the following memoirs communicated to the Society:—

July 25.—K. **Schwarzschild**: Electrodynamics, iii. On the motion of the electron. A. **Schoenflies** and F. **Pockels**: Report on Plücker's scientific remains.

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August 5.—P. **Furtwangler**: On the construction of the *Klassenkörper* for given algebraical domains, which contain the *l*th root of unity.

October 31.—F. **Bernstein**: On the *Klassenkörper* of an algebraical domain (second paper). L. **Heffter**: Proof of the Cauchy-Goursat integral theorem. R. **Schimmack**: On the axiomatic basis of vector-addition. C. **Runge**: On the electromagnetic mass of the electrons. R. **Fricke**: On the polygonal *continua* occurring in the theory of automorphous functions.

DIARY OF SOCIETIES.

THURSDAY, DECEMBER 31.

ROYAL INSTITUTION, at 3.—Extinct Animals: Prof. Ray Lankester, F.R.S.

FRIDAY, JANUARY 1.

GEOLOGISTS' ASSOCIATION, at 8.—The Jurassic Rocks of East Greenland: Dr. Victor Madsen, translated with additional observations by Miss Ethel G. Skeat.

SATURDAY, JANUARY 2.

ROYAL INSTITUTION, at 3.—Extinct Animals: Prof. Ray Lankester, F.R.S.

MONDAY, JANUARY 4.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—On the Defects of Uncarburetted Water Gas as Fuel for Laboratory Use: Dr. Chikashigé.—The Rapid Estimation of Mercury by means of Hypophosphorous Acid: B. F. Howard.—The Determination of Moisture in Nitro-glycerine Explosives: Arthur Marshall.

ARISTOTELIAN SOCIETY, at 8.—Prof. Sidgwick's Ethical Philosophy: Miss E. E. Constance Jones.

TUESDAY, JANUARY 5.

ROYAL INSTITUTION, at 3.—Extinct Animals: Prof. Ray Lankester, F.R.S.

WEDNESDAY, JANUARY 6.

SOCIETY OF ARTS, at 5.—Navigation of the Air (Juvenile Lecture): Eric S. Bruce.

GEOLOGICAL SOCIETY, at 8.—On a Palaeolithic Floor at Prah Sands in Cornwall: Clement Reid, F.R.S., and Mrs. Clement Reid.—Implementiferous Sections at Wolvercote (Oxfordshire): Alexander M. Bell.

THURSDAY, JANUARY 7.

RÖNTGEN SOCIETY, at 8.30.—The Revelations of Radium: Dr. G. B. Batten.

ROYAL INSTITUTION, at 3.—Extinct Animals: Prof. Ray Lankester, F.R.S.

FRIDAY, JANUARY 8.

ROYAL ASTRONOMICAL SOCIETY, at 5.

SATURDAY, JANUARY 9.

ROYAL INSTITUTION, at 3.—Extinct Animals: Prof. Ray Lankester, F.R.S.

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