described recently arsenids and antimonids of calcium which on treatment with water yield respectively arsin AsH_3 and stibin SbH_3.

ANOTHER new compound of considerable interest, N_3I, has been prepared by Professor Hantzsch, of the University of Würzburg, and is described in the last *Berichte*. This is prepared by the action of iodin on the silver salt of hydrazoic acid, AgN_3. Unlike the other iodids of nitrogen which are dark brown, this is almost colorless. It seems to rather resemble the iodid of cyanogen CNI, which is formed in an analogous way, being soluble in water and of an almost intolerable odor. It is, however, very explosive, being even more unstable than the other iodids of nitrogen.

IN a recent number of *Nature*, R. A. Hadfield describes a contribution which his firm has made to the contest of armor plate *vs.* projectile. The latest improvement in the armor plate is that of Krupp, the composition of the steel used affording exceeding toughness and great tensile strength combined with high elastic limit. The surface is hardened by carburization by gas cementation instead of by charcoal, as in Harveyized plates. Against these plates ordinary projectiles are broken to pieces, their striking energy being wasted in breaking themselves instead of in perforating the plate. Hadfield's projectiles however, when used with a slightly higher velocity than the average usually employed, perforate these plates readily. These projectiles are fitted with a soft metal cap, which takes up a part of the energy which would otherwise be used in shattering the projectile.

IN this connection it may be added that the daily press has published a statement from T. A. Edison, Jr., that he has now devised a new armor plate which has a resistance much greater than the Krupp plate, so that for equal strength, the thickness of the plate can be reduced nearly one-half. At the same time the cost of the plate is very materially less than that of the Krupp or even of the Harvey plate.

THE preparation of some nickel bronze alloys is given by Sergius Kern of St. Petersburg, in the *Chemical News*. These alloys are especially prepared for fittings in high pressure marine boilers, and contain 70 per cent. copper, 17½ to 20 per cent. nickel, and the balance zinc. The alloys rust very slightly, have a tensile strength of 26 to 36 tons per square inch, and elongation of 14 to 17 per cent. in 2 inches.

THE discovery of a series of magnesium-aluminum alloys is reported in *Engineering*. When containing 10 per cent. magnesium the alloy resembles zinc, with 15 per cent. brass, and with 20 per cent. bronze. They give good castings and are resistant to the atmosphere, are fairly hard and work as well as brass. The alloys are lighter than aluminum and while possessing no great strength, are of value for many purposes where a light metal like aluminum would be used, if it could be cast and worked successfully. The inventor, Dr. Ludwig Mach has named the alloys magnalium.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

THE French Association for the Advancement of Science meet at Paris from the 2d to the 9th of August, under the presidency of General Sebert.

THE Ways and Means committee of the New York legislature has reported an item of $60,000 for the purchase of the scientific collections and library of the late Professor James Hall, State geologist and paleontologist for over sixty years. Should this report be sanctioned by the Senate and the Governor, the State Museum will acquire an immense collection in invertebrate paleontology, comprised principally of material from the New York formations. The library is the sum total of all the books brought together by Professor Hall during his remarkably long and active career and will make a unique addition to the State Library. It is hoped that no opposition will be manifested to the completion of this purchase.

PROFESSOR DAVID EDWARD HUGHES, the eminent physicist, has left the greater part of his large estate to four London hospitals, which will receive ultimately between $1,500,000 and $2,000,000. As these hospitals have medical schools attached to them, the money will doubtless be used in large measure for educational and scientific work. Professor Hughes also bequeathed $20,000 each to the Royal So-

ciety, and the Paris Academy of Sciences, the income to be used for prizes for original discoveries in physical sciences, particularly in electricity and magnetism. He also left $10,000 each to the London Institute of Electrical Engineers and the Paris Société International des Electriciens for scholarships and $5,000 to the Royal Institute for general purposes.

THE Royal Academy of Sciences at Berlin began on March 19th, the celebration of its 200th anniversary. The Academy was founded by Frederick I. in 1700, according to the plans of Leibnitz, who was its first president, but it was not opened until 1711. According to cablegrams to the daily papers, the Academy was addressed by the German Emperor, and among those present were Professors Moissan, De Pranqueville and Cenart, from France; Professors Mahaffy and Ramsay, and Mr. Thomas E. Thorpe, from Great Britain. Ambassador White represented the Smithsonian Institution, and Professor E. J. Wolff, of Harvard University, the American Academy of Arts and Sciences.

IT is said that the litigation over the estate of the late Dr. Thomas W. Evans has been compromised, leaving about $2,000,000 for a Museum and Dental School at Philadelphia.

THE War Department has given orders to have the transport *Hancock* prepared for the use of the new Philippine Commission, which will sail from San Francisco on April 15th. It is of some interest to note that three members of the commission are college professors. Judge Taft, who succeeds President Schurman, of Cornell University, as chairman, is professor and dean in the Law School of the University of Cincinnati.

MR. M. H. SAVILLE, of the American Museum of Natural History, has returned from a very successful trip to Mexico. Archæological explorations at and near the noted ruins of Mitla were prosecuted to such an extent that but little if any archæological work is left to be done there.

SIR WILLIAM MACCORMAC, after having visited Kimberly and Ladysmith in the interest of the sick and wounded, is returning to Great Britain.

MR. W. E. D. SCOTT, curator of the ornithological collections at Princeton University, has sailed for England to study in the British Museum its collections in connection with the monograph he is preparing on the birds brought from Patagonia by Mr. J. B. Hatcher.

MCGILL UNIVERSITY will, on April 30th, confer the degree of LL.D. on Captain Alfred J. Mahon.

THE council of the Iron and Steel Institute, London, has decided to award the Bessemer gold medal to M. Henri de Wendel, of Joeuf, Meurthe-et-Moselle, France. The presentation will take place at the annual meeting to be held in London on May 9th.

THE Smith's Prizes at Cambridge University are awarded to Mr. J. F. Cameron, of Caius College, for an essay 'On molecules considered as electric oscillators,' and to Mr. R. W. H. T. Hudson, of St. John's College, for an essay on 'Ordinary differential equations of the second order and their singular solutions.'

THE Paris Academy of Sciences has elected as corresponding member Dr. Simon Schwendener, professor of botany in the University of Berlin.

The Geographical Society of Paris has awarded its great gold medal to Major Marchand.

THE eminent British meteorologist, Mr. G. J. Symons, F.R.S., died at London on March 10th, at the age of 62 years.

PROFESSOR THOMAS PRESTON, F.R.S., died at Dublin on March 7th, at the age of 40 years. He had been since 1891 professor of natural philosophy in University College, Dublin, and was also science and art inspector for Ireland. He was the author of well-known works on 'Light' and 'Heat.'

ADMIRAL SIR HENRY FAIRFAX, K.C.B., died at Naples on March 20th, at the age of 63 years. Admiral Fairfax had made two voyages to the Arctic regions in the interests of science.

THE deaths are announced of Professor Georg Rümker, director of the Hamburg Observatory, at the age of 68 years, and of Dr. C. T. R. Luther, director of the Düsseldorf Observatory.

MR. ANDREW BOLTER, of Chicago, died on

March 18th, aged 80 years. He possessed one of the finest entomological collections in the United States.

A PRINCETON expedition is busily engaged in preparations for the eclipse of May 28th and will probably leave for Wadesboro', North Carolina, ten or twelve days before the eclipse, that place having been selected, because it is the most easily accessible of the stations where the weather probabilities are equally good. The party will probably consist of Professors Young, Brackett, Magie and Reed, Mr. McClenahan, Mr. Russell and Mr. Fisher, with perhaps one or two others. The work undertaken will be mainly spectroscopic, including particularly a determination, both photographic and visual of the position of the Corona-line. A set of photographs of the Corona will also be taken, and careful visual observations will be made upon the relations between the Corona and the solar provinces.

MR. WILLIAM H. CROCKER has offered to defray the expense of sending a party from the Lick Observatory to observe the total eclipse of the sun on May 28th. The party will be headed by Professors W. W. Campbell and C. D. Perine. A station has not as yet been definitely chosen, but it will probably be at Barnesville near Atlanta.

IT was announced at a meeting of the Royal Scottish Geographical Society, on March 2d, that a Scottish expedition was to be organized to cooperate with the English and German Antarctic expeditions. The Weddell Sea quadrant south of the Atlantic Ocean will be the Scottish sphere. The British sphere will be south of the Pacific and the German south of the Indian Ocean. William S. Bruce will lead the Scottish expedition.

THE appointment of a receiver for the firm of D. Appleton & Co. will be regretted by all men of science. By the publication of the *Popular Science Monthly*, the *International Scientific Series* and many other important scientific works, the firm has done much for the advancement of science.

PROFESSOR PATRICK GEDDES has been making addresses in the United States with a view to arousing interest in the International Association for the Advancement of Science, Arts, and Education, which will hold a first assembly at Paris during the Exposition. We have already called attention to the establishment of the Association which dates from the recent meeting of the British and French Associations at Dover and Bologne. M. Bourgeois is general president of the Association, and the vice-presidents of the French group are M. Gréard, rector of the University of Paris and M. Brouardel, last year president of the French Association. The vice-presidents of the English group are Dr. James Bryce and Sir Archibald Geikie. The secretary is Professor Patrick Geddes. The object of the assembly at Paris appears to be chiefly social and a guide to the Paris Exposition and its congresses. Headquarters will be established and information by lectures and otherwise in regard to the congresses, the exposition and the educational advantages of Paris will be provided. The membership fee is $5.00.

A JOINT resolution has been introduced in Congress authorizing the publication of fifteen thousand copies of the general report of the expedition of the steamer *Fishhawk* to Puerto Rico, including the chapter relating to the fish and fisheries of Puerto Rico, as contained in the 'Fish Commission Bulletin' for 1900; nine thousand for the use of the House, three thousand for the use of the Senate, and three thousand for the use of the United States Fish Commission.

GOVERNOR ROOSEVELT of New York and Governor Vorhees of New Jersey have signed bills providing for the appointment of commissions to protect the Palisades. The commissions have power to condemn land containing the steep rocks, but it does not appear that New Jersey has made any appropriation for the purchase of the land.

BARON VON LIPPERHEIDE has presented to the Prussian State his collection of works on costume. It contains over 10,000 volumes and about 20,000 separate plates, being the most complete collection in the world. The history of industries, etc., are in large measure represented and the collection is thus of considerable anthropological interest.

ANOTHER attempt to create an artificial uni-

versal language has been published by Dr. Ad. Nicolas of La Bour boule, in the Memoirs of the National Society of Agriculture of Angers. This newest language is called *Spokil*. The author's object is to "combiner l'euphoine, la mnemotechnie, l'analogie, l'étymologie, l'idéographie." The following are eight consecutive roots: "Eibo, pocher; Eigm, mucilages, Eign, charbon; Eivl, bourre; Eivr, filament; Eipl, elements ligneux; Eipn, gaz; Eikl, percuteurs." It seems unlikely that 'Spokil' will attain even the temporary vogue of Volapük.

A WEEKLY botanical convention of the botanical workers in New York City, is held at the Museum of the Botanical Garden, on Wednesday afternoons, which is open to all interested persons. Among the subjects which have been presented the following are to be noted: Dwarfs and Nanism in general, by Dr. MacDougal, with an exhibition of dwarf Japanese trees, by Mr. Henshaw; Plants and poisons, by Dr. R. H. True; Spore dissemination in the Sordariaceæ, by Mr. David Griffiths; the Flora of Montana and the Yellowstone Park, by Dr. Rydberg, with an exhibition of new and interesting species from the regions named; and the origin of the leafy sporophyte, by Dr. C. C. Curtis.

IN view of the U. S. Treasury decision relative to free importation of philosophical apparatus and preparations, which is likely to affect seriously the work of educational institutions and the laboratories of research, the Council of the American Chemical Society has voted that the president of the Society be authorized and directed to appoint a committee consisting of fifteen members of the Society, who shall be instructed to consider the present status of the laws and regulations governing the free importation of instruments, apparatus and materials used in research work, and to take such action in the premises in the direction of securing such new legislation or modifications of existing laws and regulations as they may find necessary to the interests of the educational and research institutions.

Nature states that letters have been received from Mr. J. E. S. Moore's expedition dated from Ujiji, on Lake Tanganyika, November 12, 1899. The other members of the party had proceeded to the north end of the lake, where Mr. Moore was proposing to join them so soon as the necessary number of porters had been assembled. The expedition had been fairly successful both in collecting zoological specimens from the lake and in studying the geological features of the surrounding district. They had obtained numerous living specimens of the curious forms of mollusca of the lake, besides a good series of fishes and crustaceans. The celebrated jelly-fish (*Limnocnida tanganjicae*) had been met with in great numbers. Mr. Moore had escaped fever altogether, but most of the other members of the party had had a touch of it.

UNIVERSITY AND EDUCATIONAL NEWS.

MR. J. D. ROCKEFELLER has offered to give $100,000 to Wellesley College on condition that the debt of the college of about the same amount be paid by subscription from the alumni.

THE Tulane University of Louisiana has received a gift of $50,000 from Mrs. Caroline Tilton to assist in establishing a library in honor of her husband.

THE foundations for a chemical laboratory at Oberlin College have recently been laid. The chemical laboratory at Hobart College is to be enlarged and one of the dormitories will be fitted up for the work in physics, biology and geology.

DR. J. N. LANGLEY will be deputy professor of physiology at Cambridge University for Sir Michael Foster, M.P.

MR. J. H. JEANS of Trinity College, Cambridge, has been elected to the Isaac Newton Studentship in astronomy and physical optics.

MR. H. WOODS, M.A., of St. John's College, has been appointed University lecturer in paleozoology for five years from Michaelmas, 1899.

DR. DRUDE, associate professor of physics at Leipzig, has been called to a full professorship at Giessen.

DR. KÖNIGSBERGER has become docent in physics at Heidelberg; Dr. F. Streintz in electro-chemistry at Göttingen, and Dr. Richard Meyer in chemistry at Berlin.