*HARBEN LECTURES ON THE PLAGUE.**

THE first of the three Harben Lectures for 1900 was delivered at the Examination Hall of the Royal Colleges of Physicians and Surgeons, London, on November 7th, by Dr. A. Calmette, Director of the Pasteur Institute of Lille. After a short reference to the history of plague, he said it was possible for him to bring forward some modern views of the disease from his recent researches made as the result of his mission to Oporto last year with Salembeni. After giving a description of the plague bacillus, Dr. Calmette said plague assumed two principal clinical forms, bubonic plague, and plague without buboes. After describing the symptoms of plague he showed that the localization of the lesions in the gland determined the special attitude of the patient. The forms of the plague without bubo occurred more rarely than the classical forms of bubonic plague. Primary pneumonic plague was evidently due to the penetration of the microbe into the respiratory channels. It could be diagnosed only by bacteriological examination of the sputa, because the aspect of the sputum, the clinical symptoms, and the auscultatory signs resembled those of ordinary pneumonia. Another and still rarer form of plague without buboes was septicæmic plague or pesticæmia, which developed with extreme rapidity like acute septicæmia. It was caused by the rapid growth of the plague bacillus in the blood and in all the organs. It was not exactly known where the virus first effected an entrance in these cases, but the hypothesis was that it penetrated by the gastro-intestinal tract. When plague was studied in an epidemic center all the forms described were met with, but sometimes it happened that the first cases did not present such clear characteristics, and it was thus possible that they might be incorrectly diagnosed. At the commencement of a case of bubonic plague, that is to say, at the period when there was only glandular congestion and fever, to ascertain whether the plague microbe was present or not, a puncture should be made with a Pravaz's syringe into the lymphatic tissues, and some drops of fluid extracted. This could be inoculated in the usual manner and examined immediately after staining. To put the patient beyond the danger of any possible re-infection, it was only necessary, directly after the puncture with the syringe, to inject about 5 c.cm. of antiplague serum into the middle of the gland or at a short distance from it. If on examination of the fluid the microbes were found free and very numerous, the prognosis was serious; if the microbes were nearly all enclosed in polynuclear cells, it might be hoped that the case was non-malignant and that the infection would remain localized. It was essential, in testing the virulence of a plague microbe by experiments on animals, to use a recent culture, not older than twenty-four to forty eight hours at the most.

Mice, rats and guinea-pigs were very susceptible to plague, but it was thought that many other animals could take the plague. In this respect the pig, the ox and poultry had been mentioned, but these animals did not take the disease spontaneously. Birds were not easily infected by plague bacillus; the vultures on the Towers of Silense near Bombay suffered no ill after devouring plague corpses, but it was not proved that they did not scatter the plague microbe with their excreta on the surface of the soil. The monkey easily contracted plague by inoculation, and also spontaneously when placed in a cage side by side with another infected monkey. The bacilli could also be transported by fleas, by the other parasites of the skin and by flies. Healthy mice placed in the same cage with infected mice, but separated by wire, so that they could not touch each other, contracted the plague at the end of a few days; the contamination in these cases was due to fleas and flies. Professor Calmette illustrated his lecture with lantern slides, depicting patients affected with plague.

* From the *British Medical Journal.*

SCIENTIFIC NOTES AND NEWS.

PROFESSOR W. W. CAMPBELL has been appointed director of the Lick Observatory in succession to the late Professor James E. Keeler.

ON account of failing health Dr. Edward von Mojsisovics is retiring from the post of vice-director of the Geological Survey of Austria, into which body he entered as a volunteer on February 18, 1865, the director then being W.

von Haidinger. Dr. von Mojsisovics now hopes to bring to a more speedy conclusion his great works on the Cephalopoda of the Hallstätt limestone and on the geology of the Salzkammergut. All future communications should be addressed to him: Wien, III/3. Strohgasse Nr. 26.

THE American Society of Naturalists and eight affiliated societies, devoted to the natural sciences, will, as we have already announced, meet at the Johns Hopkins University, beginning on Thursday, Dec. 27th. The proceedings of the Society of Naturalists are as follows: An address of welcome will be made by President Gilman on Thursday evening, followed by a lecture by Dr. Frank Russell, of Harvard University, on 'Indians of the Southwest,' and a reception in McCoy Hall. The annual discussion, which takes place on Friday afternoon, is on 'The Attitude of the State toward Scientific Investigation,' and the speakers are Professor H. F. Osborn, Columbia University; Professor W. B. Clark, Johns Hopkins University; Dr. L. O. Howard, chief of Division of Entomology, Washington, D. C.; Mr. B. T. Galloway, director of Plant Industry, U. S. Department of Agriculture and Professor W. T. Sedgwick, Massachusetts Institute of Technology. The address of the president, Professor E. B. Wilson, of Columbia University, will be given at the annual banquet on Friday evening. The headquarters of the Society are at Hotel Rennert.

THE fourth annual meeting of the Society for Plant Morphology and Physiology will be held, with the American Society of Naturalists and the Affiliated Scientific Societies, at Johns Hopkins University, Baltimore, Md., on Thursday and Friday, December 27th and 28th, 1900. The usual social meeting will be held on Wednesday evening, December 26th. Among the special features of the meeting will be the presentation and discussion of an important report of the committee appointed to consider methods of securing improvements in reviews of current botanical literature, and two special lectures upon subjects of contemporary interest, one by Dr. Erwin F. Smith on 'Bacterial Diseases of Plants,' and one by Professor G. F. Atkinson, on 'Cytological Problems connected with Fertilization.' The address of the President, Professor D. P. Penhallow, will discuss 'A Decade of North American Paleobotany.' An excursion of the Society to Washington, to visit the United States Department of Agriculture, is planned for Saturday morning, December 29th. Further information about the meeting, and copies of the provisional program may be obtained from the Secretary, Professor W. F. Ganong, Northampton, Mass.

THE Society of American Bacteriologists, organized at New Haven, in 1899, will hold its second annual session at Baltimore, in connection with the American Society of Naturalists, December 27th and 28th. The meetings will be held in the Pathological Laboratory of the Johns Hopkins Hospital. All interested in bacteriology, whether members of the Society or not, are cordially invited to attend the meetings. A program has been prepared which will occupy three sessions. A 'smoker' will be held on Wednesday evening at ten o'clock, at which time will be given the presidential address by Professor W. T. Sedgwick.

THE other societies meeting with the Naturalists, to the arrangements of some of which we have already called attention, are: The American Morphological Society, The Association of American Anatomists, The American Physiological Society, The American Psychological Association, The American Folk-Lore Society, the Section of Anthropology of the American Association for the Advancement of Science.

THE thirteenth winter meeting of the Geological Society of America will be held at Albany, N. Y., beginning on Thursday, December 27th, in the Chapel of the Albany Academy. The Council will meet at 9 o'clock on Thursday morning; the Society will be called to order by President Dawson at 10 o'clock. The president's address will probably be given on Thursday morning, and the subscription dinner will take place in the evening.

THE twenty-second general meeting of the American Chemical Society will be held in Chicago, Ill., December 27th and 28th, 1900. Elaborate preparations have been made for it, and the meeting is sure to be successful. Plans are

being made for celebrating on April 6, 1901, the 25th anniversary of the foundation of the Society.

PROFESSOR E. DANA DURAND, of Leland Stanford University, has been appointed secretary of the U. S. Industrial Commission.

MR. MERRITT LYNDON FERNALD, assistant in the Gray Herbarium of Harvard University, has recently been elected a fellow of the American Academy of Arts and Sciences.

DR. WESLEY MILLS, professor of physiology at McGill University, spent last year in Europe and was the guest of Professors His, Held and Flechsig, more especially while conducting researches on the nervous system. He returned in the latter part of September, and is devoting himself largely to the problem of the equipment of the new laboratory and the rearrangement of the courses in his subject.

IT is rumored that Mr. J. H. H. Teall will shortly succeed Sir Archibald Geikie as director of the Geological Survey of Great Britain and Ireland, and that Mr. C. Lapworth will be appointed to the chair of geology in University College, London, vacant by the resignation of Professor T. G. Bonney.

Nature reports that the government of Jamaica is obliged to retrench in the work of the Museum, necessitating the discharge of the curator, Dr. J. E. Duerden. Dr. Duerden has carried on important investigations in marine zoology, and the cessation of his work will cause regret amongst all zoologists.

A GENERAL committee is being formed to arrange a memorial of the late Professor Henry Sidgwick of Cambridge University. It may be remembered that Professor Sidgwick several years ago requested that his salary as Knightbridge professor of moral philosophy be reduced from £700 to £500 per annum, the reduction to continue until 1902. Mrs. Sidgwick has, in accordance with Professor Sidgwick's wish, contributed this year £200 and will do the same next year to carry out Professor Sidgwick's subscription for the benefit of the University.

WE regret to record the death of Professor Marshall Henshaw, formerly professor of physics and astronomy at Rutgers College and later lecturer on physics at Amherst College, and of Dr. S. Hoepfner, consulting engineer and chemist, of Hamilton, Ont.

THE Samuel D. Gross prize of $1,000, of the Philadelphia Academy of Surgery, was not awarded this year, as suitable contributions were not received, and the time has been extended to October 1, 1901. The prize is awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens.

IN connection with the Geological Survey of Iowa, now in progress, Professor Macbride is attempting to present to the people of the State an accurate account of their all too slender forest resources. Appended to the report of the geology of each county, appears an annotated list of the arboreal species of plants found within the same limits, with special reference to the economic value of the several species and recommendations for the aid of farmers and others who may attempt tree-planting on an extensive scale. The latest issues are reports on Osceola, Dickinson and Dubuque Counties.

UNDER the auspicies of the Department of Agriculture and Technical Instruction for Ireland, the following demonstrations are to be given during the winter at the Dublin Museum: On 'Crocodiles, Snakes and Lizards,' and on 'Turtles and Tortoises,' by R. E. Scharff; on 'Lemurs and Monkeys,' and on 'Apes and Men,' by G. H. Carpenter; on 'Crabs and Lobsters,' by W. A. Cunnington; on 'Irish Sea-fishes,' and on the 'Economic Products of the Sea,' by A. Nichols; on 'Irish Shore and Sea-birds,' by C. J. Patten; on 'Flax-dodder and other Parasitic Plants,' and on 'Botanical Specimens for School Teaching,' by Professor Johnson; on 'The First Use of Metal in Europe,' by Mr. Coffey; on 'Writing Materials in Olden Times,' by Mr. Lyster; on 'Lace,' by Mr. Brenan; on 'Engraving,' by Mr. Strickland; on 'Clocks and Watches,' by Mr. Johnston; on 'Dutch XVIIIth Century Faience,' by Mr. Alabaster; on some objects from the Paris Exhibition,

and on 'How to Visit a Museum,' by Colonel Plunkett, the director of the Museum.

THE Ohio State Academy of Science holds its tenth annual meeting at the Ohio State University Biological Hall, Columbus, Ohio, on December 26th and 27th, 1900.

THE usual December meeting of the New York Association of Biology Teachers was held, by invitation, at the Teachers College, Columbia University. The address of the evening was made by Professor F. E. Lloyd, the subject being 'Biological Exploration in the Mississippi Delta and Adjacent Islands.' At the close of the address an informal reception was held in the Laboratory of the Department of Biology.

AT a meeting of the Botanical Section of the Academy of Natural Sciences of Philadelphia, held on December 10, 1900, the following officers were elected: *Director*, Thomas Meehan; *Vice-Director*, Geo. M. Beringer; *Treasurer* and *Conservator*, Stewardson Brown; *Recorder*, John W. Harshberger; *Executive Committee*, Geo. M. Beringer, Thomas Meehan, Stewardson Brown, Jos. D. Crawford, Ida A. Keller.

THE next meeting of the Pan-American Medical Congress, over which the late Dr. William Pepper was to have presided, will be held at Havana from February 5th to 9th, 1901.

THE British Medical Association will hold its 69th annual meeting at Cheltenham from July 30th to August 2d, 1901: The 'Presidential Address' will be delivered by George Bagot Ferguson, M.D. The 'Address in Medicine' by James F. Goodhart, M.D., LL.D., consulting physician, Guy's Hospital. The 'Address in Surgery' by Sir William Thomson, M.D., LL.D., surgeon to the Richmond Surgical Hospital, Dublin, and surgeon in ordinary to the Queen in Ireland. The scientific business of the meeting will be conducted in thirteen sections. The names of the sections are as follows: A.—Medicine. B.—Surgery. C.—Obstetrics and Gynæcology. D.—State Medicine. E.—Psychological Medicine. F.—Anatomy and Physiology. G.—Pathology and Bacteriology. H.—Ophthalmology. I.—Diseases of Children. J.—Laryngology and Otology. K.—Tropical Diseases. L.—Navy, Army and Ambulance. M.—Dermatology.

PROFESSOR F. E. NIPHER, of St. Louis, writes that after many months of failure, he has succeeded in developing a fine reversed picture on the Cramer 'crown' plate, with the developing bath fully exposed to direct sunlight. The operation lasted a full half-hour, with no trace of fog. The details showed through the plate long before they came out sharply. The developer was a modification of the hydrochinone, the formula for which is given in every box of the Cramer plates. The bromide was left out, and the sodium carbonate solution was made up at half the strength used for negatives. The mixed developer was diluted with water in the proportion of one part to nine. This result is certain greatly to reduce the camera time.

A REPORT on the agricultural conditions of Porto Rico, transmitted to the House of Representatives by the President, on December 10th, recommends that an experiment station be established there. Secretary Wilson advises an appropriation of $15,000 to establish it, with an annual appropriation of $15,000 for maintenance.

A CURIOUS epidemic of neuritis has been afflicting many in the north of England, and (in spite of the fact that some teetotalers have suffered) has been traced to beer-drinking. The best founded opinion seems to be that which assigns it to the cheap sugar used in 'priming' the beer, since the sulphuric acid used in its manufacture is made from iron pyrites and contains traces of arsenic. Whatever may ultimately be fixed on as the deleterious agent, there will be an outcry for a return to malt and hops.

THE London *Times* reports that in addition to the British Antarctic expedition, there is also one in preparation in Sweden under the leadership of Dr. Otto Nordenskjöld, the well-known savant, who was a member of the Danish expedition to East Greenland last summer under Lieutenant Amdrup. Dr. Nordenskjöld has also shared in several Swedish polar expeditions. For the purpose of his Antarctic expedition he has acquired, for a nominal sum, the steam-whaler the *Antarctic*—an appropriate name—in which the Greenland voyage was performed. This vessel has quite an historical

Arctic record. It was built for whaling in the Greenland seas by a Norwegian firm, and has performed many voyages in polar waters. She was eventually acquired by Professor G. Nathorst, the celebrated geologist and Arctic voyager, who has shared in almost every Swedish polar expedition. Last year, again, the *Antarctic* was employed in the search for Andrée on the east coast of Greenland, when the owner himself was in command of the expedition, but which yielded no result. The vessel has thus again passed into Swedish hands. She was also engaged in an earlier voyage to the seas whence she derives her name by Norwegian speculators with the hope of reopening the famous whale fisheries in these parts, but the enterprise was an utter failure, not a single sperm whale being even seen. The vessel, which is in splendid condition for navigation in the pack-ice, and is, in fact, especially built for that purpose, will now proceed to Gothenburg for her final equipment. As she has cost so little Dr. Nordenskjöld estimates the cost of the expedition at only some £10,000 more. Of this sum one-half has already been contributed by Swedish subscribers, and King Oscar, with his well-known interest in Swedish explorations, has also promised a considerable amount towards the expedition, the first of its kind ever despatched from Sweden. Should circumstances permit, the Swedish expedition will, of course, cooperate with the British and German. It is hoped that the *Antarctic* may be ready to sail next August.

THE sculptured decoration for the pediment above the four main entrances of the Ethnological Building at the Pan-American Exposition at Buffalo, is being modeled by Mr. H. A. MacNeil to represent the study of American ethnology. The original plan, suggested to him by Mr. Harlan I. Smith of the American Museum of Natural History, was to represent the inhabitants of the four quarters of North America and bring out the influence of the special environment of each. The idea was to represent upon the northern pediment the Eskimo, with his snow house, spliced bone arrow shafts, skin clothing and kayak, in a country barren of vegetation; upon the eastern pediment the Algonkin with snow-shedding steep-roofed bark hut, with canoes of wood or birch bark in a stream bordered by wild rice and forest; on the west the Kwakintl, with split plank house of immense size, with grotesquely carved totem pole, in a country of fog, rain and luxuriant vegetation; on the south the Zuni in a desert country, where steep roofs were unnecessary, but where pottery for carrying water reaches a high development. This plan had to be modified as the appropriation was for one model only and Mr. McNeil, in his desire to show something typically American, as contrasted with the usual classic decoration employed in museum architecture, and to represent the study of American peoples, has chosen two reclining emblematic figures, a woman on the left holding a pottery vessel and on the right a man in the act of measuring a human skull. These represent the study of man and his arts. Between these is a shield and a bird whose raised wings border it. This is emblematic of the food and clothing of the North. At the base are designs suggesting the highest culture of the South. In the lower right-hand corner is the prow of a birch bark canoe typifying the eastern Indian. These represent the environmentand materials for the study of American ethnology.

THE first ordinary meeting of the Royal Geographical Society in the session 1900–1901 was held on November 12th, when Dr. A. Donaldson Smith read an account of his expedition through Somaliland and between Lake Rudolf and the Nile. Sir Clements Markham, president of the Society, occupied the chair, and in his introductory address, said, according to the London *Times*, that the most important geographical event since the close of the last session had been the return of the expedition of the Duke of the Abruzzi from Franz Josef Land. He had the great merit of having personally organized and fitted out the expedition in every detail, and an expedition had seldom sailed which had been so carefully and thoroughly equipped. Its geographical results were of great importance, for it had finally discovered the northern limits of the Franz Josef group, and confirmed Nansen's discovery of a deep ocean to the north; while the sledging party under Captain Cagni reached the highest northern latitude yet attained. If it could be ar-

ranged, the Duke of the Abruzzi would be pleased to give the Society an account of his expedition in the course of the session. The Danish expedition to East Greenland had also returned, after successfully continuing the work of Dr. Nathorst last year, while a Norwegian whaler was able to follow the coast of 75° 30′ N. Thus the dotted line which had so long indicated the supposed position of the East Greenland coast on our maps would now give place to a definite surveyed line, thanks chiefly to the persevering efforts of Danish geographers and explorers since the days of Graah. News of the expeditions of Sverdrup and Peary up Smith Sound was still anxiously awaited. The *Windward* went out to bring them succor, but she had not yet returned. The two recent expeditions to the Antarctic regions had both supplied us with valuable information. The British Antarctic expedition was now, at last, making progress as regards equipment and other arrangements. The ship was in an advanced state. Captain Scott, R.N., the commander of expedition, was only able to take charge last August, but he had already shown that he possessed many of those qualities which were essential for so difficult and responsible a post. The German expedition was far more advanced than the British in every department of its work, under the direction of its able and accomplished commander, von Drygalski; but this was because his committees had seen the wisdom of giving him a perfectly free hand. The commanders of the two expeditions had had an opportunity of becoming friends and of exchanging views during the autumn, and Captain Scott, if not too much trammelled by committees, would soon make up for lost time. Dr. Sven Hedin had during the past year been actively at work in the Lob-nor country and the basin of the Tarim, and his archeological discoveries would throw a flood of light on the past history of that region. In Africa the greatest amount of geographical work had been done this year. But a review of it must, alas! commence with a reference to the loss of a valued explorer. It was only last session that Captain Wellby's father read the account of his gallant son's splendid geographical achievement in marching from Abyssinia to the Nile. All would remember how they looked forward to welcoming him on his return from the front. Now that could never be. Captain Wellby had fallen fighting for his country. It was a glorious death, fitting close of an adventurous and active life. We were left to mourn the death of a young officer who was a great explorer and an ornament to the army. His noble example had been followed by others; for there had been remarkable activity in the exploration of Africa this year. Major Gibbons had followed Mr. Grogan from the Cape to Cairo. Mr. Moore had returned after his important investigation of the Central African lakes. Mr. Harrison had brought home an admirable map of the region between Lake Rudolf and Adis Abeba. The Society's gold medalist, M. Foreau, had safely returned after his wonderful journey across the Sahara, of which he had promised to send some account. Last, but certainly not least, Dr. Donaldson Smith, who was an old friend and known to all from his previous work, had made very remarkable journeys, involving new discoveries between Lake Rudolf and the Nile. He was glad to learn that serious steps had been taken under the Intelligence Department to carry out administrative surveys of all those territories in Africa which were directly dependent on the home Government, and that in conjunction with the other European powers which had African possessions.

Artists and art critics often claim that modern industrial conditions are unfavorable to the fine arts. In order to show that a more correct view is held in some quarters we quote the following note from the New York *Evening Post:* M. Arsène Alexandre, the well-known critic of art, discovered the much-talked-of *art moderne*, at the Paris Exposition, where one would least expect it to be—in the exhibit of locomotives. What appeared in a novel and striking light was not merely that these great machines had a beauty of line and proportion all their own, but that they showed a distinct beauty of racial type. The national character was clearly marked, in an American locomotive as distinguished from a French, a German or an English locomotive, and so of each as regarded the others. The critic found in the American

machine a combination of elegance, practicality, convenience and power, which betokened a race that takes its ease in working. The English machine was more trim and smug, smaller, too, though with no loss of power; the German, similar, but a shade more pompous; the French, lighter and finer in line, but less powerful and effective. So as to the Russians, the Italians, and the Austrians, each locomotive not only had a beauty of its own, but was an impressive symbol of the national character. Returning after this voyage of exploration to the great international exposition of painting, M. Alexandre found a pervading sameness—most of the pictures might have been done in Rome, in Brooklyn, in Munich or in Paris, indifferently. It all seemed factitious—the output of a small international cult, not of great nations. The genuine art of the day was not here, but with the locomotives. The lover of art in its traditional forms will subscribe most reluctantly to M. Alexandre's allegory of the future of art. Yet no one can withhold a sentiment of admiration for this bold theory that the art of the future must grow unconsciously out of its most vital interests—not out of the fine arts in the traditional sense, but out of science and industry.

THE British Consul at Stuttgart, in a report abstracted in the London *Times*, gives some interesting particulars respecting the growth of the acetylene gas industry, which he describes as one of the triumphs of German scientific industrialism. Five years ago calcium carbide was known only to trained chemists as an interesting chemical compound, and was quite unknown to the public. Now its production is one of the most important chemical industries. Germany was foremost to recognize the new illuminant, and it has secured the principal place in its production. At present there are at least 200,000 jets of acetylene gas in use in the country, and it is, the consul says, impossible to predict the result of the competition between it and its rival illuminants. Probably petroleum will suffer most; coal gas will be superseded to a great extent, especially in lighting small towns, but electricity will not be appreciably affected. No other branch of industry can point to such a large and steady increase in the number of patents, showing that it has encouraged great fertility of invention. Besides producing it at home, German capitalh as gone abroad to produce carbide, especially to Norway and Switzerland. One of the greatest successes of the industry has been its application to the lighting of railway carriages on German Government lines. During the current year the consumption of carbide in the country is estimated at 17,000 tons, equal in illuminating power to about seven millions of gallons of petroleum. Thirty-two small towns, with populations up to 5,000, are lighted by acetylene, and many more contemplate its adoption; and the progress of the system of lighting, says the Consul, is 'another striking instance of the manner in which the magnificent system of technical education has prepared the way for the introduction of new scientific achievements.' The economic importance of the industry appears from the fact that Germany annually pays about five millions sterling to the United States for petroleum, while acetylene is a purely German industry, carbide being manufactured in the country, which possesses in various parts all the necessary raw materials.

PROFESSOR E. HITZIG delivered on November 29th the second Hughlings Jackson lecture before the London Neurological Society. According to the London *Times* he discussed the present position of scientific knowledge concerning the psychical functions of the different parts of the surface of the brain. Since the experimental discovery in 1870 by the lecturer that a portion of the surface of the brain is divisible into separate areas or centers, each of which initiates and controls the movements of the various divisions of the body, many investigators had endeavored to solve the important questions, first, whether such areas or centers are really distinct psychical organizations, and, second, how such miniature psychical mechanisms act in relation to the phenomena of voluntary and automatic reactions respectively. A summary of the researches which have been made during the last thirty years establishes the truth of the view that such centers really exist, and that we now know definitely the precise spot in the brain which actively causes the movement of an arm and hand, for

instance, when a voluntary action such as writing or drawing is executed. To students of psychology the further problem to be solved is how such centers act in relation to each other, and, above all, how far they are organizations for the reception of sensory impressions, as well as stations which issue outgoing orders, as it were, to the muscles. It is universally admitted that apperception must immediately precede all acts of so-called volition. This question the lecturer regarded as answered by the view that, at least in the carnivorous animals, brain conceptions and ideas of the movement to be performed by any part of the body are represented in the so-called motor center, which unquestionably is the starting point from which the final nerve impulse for the execution of that movement issues. After referring to the degree in which Dr. Jackson's original deductions have been confirmed by subsequent physiological as well as clinical investigations, Professor Hitzig dwelt on the fact that all workers in science are united in one camp in the battle against ignorance and against the opposition which some offer to the progress of natural knowledge. He felt that the invitation to him as a foreign investigator to deliver this lecture was an honorable expression of their common interests in their science.

UNIVERSITY AND EDUCATIONAL NEWS.

A CIRCULAR letter issued by the Yale Bi-centennial Committee states that besides conditional pledges of $250,000, subscriptions to the amount of $900,000 have been received since the bi-centennial movement was started.

FIRE in the main college building of the Iowa State College of Agriculture and Mechanic Arts destroyed on December 8th a large amount of valuable botanical material. The Parry herbarium was saved, except the duplicates which were nearly all burned. A part of the grass collection was saved and a few of the other specimens. The general collection contained about 80,000 specimens; more than 50,000 of these were burned, besides a large number of duplicate specimens numbering many thousands. Many valuable western plants collected by the writer, representing four years of labor, were destroyed. Also sets of plants from Porto Rico, Cuba, Mexico, Wyoming, Colorado and Texas were burned and much of the private library was also ruined, as well as the department library. Most of the microscopes and other apparatus were burned. Manuscript on grasses of the State, besides one on thistles and some smaller papers ready for publication, were also destroyed.

MYRON L. FULLER, S.B., formerly instructor in geology at the Massachusetts Institute of Technology, is now an assistant geologist in the United States Geological Survey. He has been spending the summer in association with Mr. M. R. Campbell in the coal fields of western Pennsylvania, Ohio and Indiana. Charles H. Warren, Ph.D., has been appointed instructor in mineralogy and geology at the Institute in the place formerly occupied by Mr. Fuller. Dr. Warren was previously instructor in Professor S. L. Penfield's Laboratory in New Haven.

MR. JOHN SEALY TOWNSEND, M.A., fellow of Trinity College, Cambridge, lecturer and demonstrator in the Cavendish Laboratory, has been appointed to the newly-established Wykeham professorship of physics at Oxford. Professor Townsend, as we learn from the London *Times*, was student and exhibitioner in the University of Dublin, where he was gold medalist in mathematics and physical science, and obtained the mathematical studentship of 1900, besides other prizes and distinctions. In 1896 he was appointed demonstrator in physics at the Cavendish Laboratory at Cambridge. He was Clerk-Maxwell scholar in 1899, and was elected to a fellowship at Trinity in the same year. The subjects of this chair, of which the income is provided from the revenues of New College, are electricity and magnetism, which are thus withdrawn from the province of the professor of experimental philosophy, by whom they have hitherto been taught. Merten College has contributed £700 towards fitting up, and £500 towards the maintenance of, a new electrical laboratory for the use of the professor.

IT is announced that Sir William Muir, who is now 81 years of age, will shortly retire from the presidency of the University of Edinburgh.