taries at as early a date as practicable and not later than February 15, 1902, the titles of the papers, accompanied by a brief abstract, so that they may be duly announced on the programme which will be issued immediately thereafter and which will give in detail the arrangements for the meeting.

The Publication Committee, under the rules of the Society, will arrange for the immediate publication of the papers presented.

It should be borne in mind that the Society, by means of its publications, which present a series covering 140 years and include *Transactions* in quarto and *Proceedings* in octavo, with its large exchange list embracing, practically, the scientific societies of the world, and with its exceptional facilities for immediate issue, offers unrivalled avenues for prompt publication and wide circulation of the papers read before it.

Mindful of the brilliant history of the Society, extending back into the first half of the eighteenth century, its members should obviously be solicitous that its career at the outset of the twentieth century shall fully maintain the high prestige which the preceding centuries have given to it both at home and abroad. Hence it is felt that with their cordial and active cooperation secured the proposed general meetings may be made a powerful factor in advancing the interests for the promotion of which the Society was founded.

SCIENTIFIC NOTES AND NEWS.

A MEETING of the executive committee of the American Society of Naturalists was held at Boston on October 19, to complete the arrangements for the Chicago meeting of the Naturalists and affiliated societies. The meeting of the Naturalists will be on Tuesday and Wednesday of Convocation week, that is December 31 and January 1. The discussion before the Naturalists will be on Wednesday afternoon, and the annual dinner, at which the president, Professor Wm. T. Sedgwick, will give the address, will take place in the evening. The subject selected for the discussion is 'The Relations of the American Society of Naturalists to other Scientific Societies.'

DR. WILHELM WALDEYER, professor of anatomy in the University of Berlin, has been sent by the University of Berlin and the Berlin Academy of Sciences as their representative at the bicentennial exercises of Yale University.

A GOLD plaque will be presented to M. Berthelot next month to celebrate the fiftieth anniversary of his entering as an assistant the chemical laboratory of the Collège de France.

MR. BARBOUR LATHROP, of Chicago, and Mr. D. G. Fairchild, of the U. S. Department of Agriculture, will leave San Francisco next month on another expedition, with a view to investigating exotic plants that might be introduced into the United States. They go first to the South Sea Islands and Australia and later to India.

PROFESSOR W. B. SCOTT, of Princeton University, is still in South America, working on the Patagonian Expedition Reports. When last heard from he was at Buenos Ayres, examining specimens in the museums of that place.

THE Hanbury gold medal for 1901 was presented on October 1 to Dr. George Watt by the president of the Pharmaceutical Society. This medal, which was established as a memorial to Daniel Hanbury, is awarded biennially for original research in the chemistry and natural history of drugs.

THE council of the Institution of Civil Engineers has, in addition to the medal and prizes given for communications discussed at the meetings of the institution in the last session, made the following awards in respect of other papers dealt with in 1900–1901: A Telford medal and a Telford premium to Reginald Pelham Bolton (New York); a Watt medal and a Telford premium to J. Emerson Dowson (London); a George Stephenson medal and a Telford premium to W. T. C. Beckett (Calcutta); a Manby premium to E. K. Scott (London); a Trevithick premium to T. A. Hearson, R.N. (London); a Telford premium to J. A. W. Peacock (Tantah, Lower Egypt).

DR. NORMAN MOORE gave the Harveian Oration before the Royal College of Physicians, London, on October 18.

PROFESSOR ROBERT KOCH has been sent by the German Government to Gelsenkirchen, where there is a serious outbreak of typhus, as many as fifty cases being reported in a single day.

DR. CHARLES HENRY BROWN, a New York physician, who has given special attention to nervous diseases and had for many years been

editor of the *Journal of Nervous and Mental Diseases*, died on October 15, at the age of fifty-four years.

George B. Simpson, for thirty-five years the accomplished delineator of fossils for the paleontological department at Albany and a well-known student of the fossil Bryozoa, died on October 15.

M. R. König, of Paris, well known for his scientific instruments and his investigations on acoustics, has died at the age of sixty-nine years.

Mr. William West, known for his study of fresh-water algæ, has died in India from cholera, at the age of twenty-six years.

The deaths are also announced of Dr. Peter M. Pokrowskij, professor of mathematics at the University of Kiew, and of Dr. Alex. F. Berger, docent in mathematics in the University of Upsala.

The next International Congress of Physiologists will be held at Brussels in 1904, under the presidency of Professor Heger.

The Nineteenth Congress of the American Ornithologists' Union will convene at the American Museum of Natural History, New York City, on Monday, November 11, at 8 o'clock p. m. The evening session will be devoted to the election of officers and members and the transaction of other routine business. The meetings, open to the public and devoted to the reading and discussion of scientific papers, begin on Tuesday morning and continue for three days. In connection with the Congress there will be a conference of representatives of the Audubon Societies, for the purpose of forming plans for more effective cooperation.

The Coast and Geodetic Survey steamers *Pathfinder* and *MacArthur* have nearly completed the survey of the Fox Island channels which form the entrance or exit for all Bering Sea commerce. The steamers *Patterson* and *Gedney* are now charting Cross Island and Icy Straits, of the Southeast archipelago. The *Pathfinder* will proceed to the Philippines before long via Nagasaki to take up the work of surveying called for by the Philippine Commission.

The Antarctic expedition from Sweden, under the direction of Professor Otto Nordenskjöld, left Götenberg on the steamship *Antarctic* on October 16. Professor Nordenskjöld is accompanied by Professor Ohlin, the well-known explorer, and M. K. A. Anderson, as zoologists; Dr. Bodman, hydrographer and magnetician; M. Skottoberg, botanist, and Dr. E. Ekolof, medical officer. Captain Larsin, a Norwegian, who has already made several voyages to the South Polar regions, is in charge of the *Antarctic*. The vessel will proceed to Terra del Fuego and thence to the South Polar regions, where the field of exploration will not conflict with those chosen by Great Britain and Germany. Professor Nordenskjöld expects to land with a party while the vessel makes explorations about Terra del Fuego.

As we have already announced the coast and Geodetic Survey has established a magnetic observatory at Sitka, Alaska, and is constructing another at Honolulu. These observatories will cooperate with the German and British Antarctic expeditions in making simultaneous observations.

As the daily papers have very fully reported M. Santos-Dumont in his air ship on October 19, succeeded in circumnavigating the Eifel Tower and returning to Saint Cloud. The trip was made within the half hour allowed by M. Deutsch for the award of his prize, but owing to a delay in landing the prize was not awarded.

Reuter's Agency gives the following information concerning Dr. Sven Hedin, the Swedish traveler, based upon a letter from him, dated July 10. It appears that Dr. Sven Hedin, at the time of the dispatch of the letter, was at the foot of the Akka Tagh, in Northern Thibet, and intended to proceed in the direction of Ladak in order to survey accurately the region about the source of the Indus. Next spring he proposed to return to Osh via Kashgar. Meanwhile, a caravan of 15 horses has arrived at Kashgar bringing the results of two years of the traveler's work in the shape of scientific collections, maps, photographs and diaries.

R. W. Amidon, M.D., of New York City, is spending October and November near Chau-

mont, Jefferson County, N. Y., investigating ancient village sites. In this region there are mounds of various sizes, in the top of each of which is a saucer-shaped depression that is in every case about eight feet in diameter. It seems possible that these mounds may be the remains of earth-covered houses of various sizes, which had smoke holes approximately of the same diameter.

DR. MARCUS S. FARR, assistant in geology at Princeton, and Mr. Earl Douglass, fellow in biology, with a party of students spent the summer in geological explorations in the southern part of Montana. Valuable fossils were collected and are now being mounted at Princeton.

IT appears that there will be no further contest in regard to the will of the late Jacob S. Rogers and that the Metropolitan Museum of Art will receive over $5,000,000 for its endowment. It is perhaps scarcely necessary to state that the Museum includes archeology, as well as the fine arts, in its scope, and this large bequest will thus directly contribute to scientific work.

THE principal buildings for the St. Louis Exposition, as officially decided upon, will in many cases be larger than buildings constructed for similar purposes at previous expositions. There is to be an agricultural building, 700 by 2,000 feet; a manufacturers' building, 600 by 600 feet; a liberal arts building, 600 by 1,200 feet; a social economy building, 550 by 700 feet; a transportation building, 600 by 1,200 feet; an education building, 550 by 700 feet; an art building, 300 by 600 feet, with two wings, each 200 by 300 feet; a mines and metallurgy building, 600 by 1,200 feet; an electricity building, 600 by 550 feet, and a Government building, to cover 100,000 square feet. The estimated cost of these buildings is $7,000,000. To these will probably be added buildings for fish and fisheries, for machinery, for forestry and for horticulture.

WE learn from *Nature* that a small residential laboratory has been opened at the Hakgala Botanic Gardens, near Nuwara Eliya, at an elevation of 5,600 feet above sea-level. The laboratory is a branch of the Peradeniya Institution, and consists of a small building containing a working room 21 feet x 12½ feet, a living room, two bedrooms, kitchen, etc. The climate is temperate, fires being required in the evenings at least. The botanic garden itself is said to be very beautiful, and occupies an unrivaled position for the study of equatorial hill vegetation, for on one side there are jungles stretching for 25 miles or more into the wet region of the hills, on the other grassy plateau reaching for an equal distance into the dry region, and extending from 3,000 to 7,000 feet above sea-level. The garden itself contains both jungle and patana reserves of several hundred acres.

A COMMITTEE appointed by the recent German Geographical Congress has offered a prize of at least $150 for a paper on 'The changes in the course of the Rhine between Bonn and Cleves in historic times, and how have they affected the settlements on its banks?'

THE foreign journals report that the Berlin Academy of Sciences and the Danish Academy at Copenhagen have decided to prepare a collection of all the medical works of antiquity under the title of 'Corpus Veterum Medicorum,' and will cause a thorough examination to be made of all libraries, Oriental and European, which are likely to contain MSS. dealing with medical subjects.

THE letter press of Britton and Brown's 'Illustrated Flora,' with some abridgment and numerous emendations, but without the illustrations, has been compressed into a single portable volume, which is to be published at once by Henry Holt & Co., under the title, Britton's 'Manual of the Flora of the Northern States and Canada.'

A REPRESENTATIVE of Reuter's Agency reports an interview with Herr Oscar Neumann, the eminent German explorer, who has recently completed an eighteen months' journey in Central Africa from Zeila to Khartum. Traveling for the most part through absolutely unknown country, he made some valuable discoveries, and has brought home the largest zoological collection ever made in Central Africa. He was also enabled to make a complete geological

survey. He met with no hostility on the part of the natives and had no fighting during the whole journey. The physical difficulties were, however, often very great. Describing his journey, Herr Neumann said: "Baron Erlanger and myself, accompanied by three Europeans—Dr. Ellenbech and Messrs. Heutemuller and Hillgart—left Zeila in January of last year, and journeyed into Somaliland, where we had considerable difficulty, and were unable to proceed east owing to the movements of the Mad Mullah. After crossing the Shibel River we traversed with difficulty a district full of caves and came to the land of the Arosi Galles. We visited the holy towns of Sheikh Hussein and the holy mountains of Abulnass and Abulcassim, which have never previously been explored. Subsequently we traveled northwest by a new route to Adis Abeba, crossing a plateau 9,000 feet high. We left the capital in November last, and proceeded southwest along the lakes to Lakes Stephanie and Rudolf. We adopted the new eastern route of the Great Rift Valley instead of following the tracks of Captain Wellby or Mr. Harrison. Between the Hawash River and Lake Stephanie we discovered that, instead of five lakes, there are no less than seven lakes, probably all relics of the great diluvial lake basin. After a slow and tedious journey we crossed the Omo River and traveled through the quite unknown Abyssinian provinces of Ksha and Konta, which have only been occupied since the Italian war. Subsequently I came to Kaffa, one of the richest provinces of Abyssinia, covered with dense forest, in which there is much coffee cultivation. My object now was to explore the sources of the Gelo River, an important affluent of the Sobat. I first passed through the land of Gimirra and the independent countries of Binescho and Scheko. Shortly afterwards I found the Gelo River and followed its course, but the further I proceeded the more difficult became the traveling. My caravan was now in a terrible plight. Glanders had again broken out, and out of 65 animals I had only 13 mules, two horses, and two donkeys left. I was therefore compelled to throw away tents, clothes, stores, etc., in fact everything but my books and collections. Our condition was made harder by reason of the fact that we were going through a country which had almost been depopulated owing to Abyssinian raids. Suddenly a steamer appeared, having on board Slatin Pasha and Bluett Bey, Mudir of Fashoda, who took us in safety to Khartum." During the whole of this long and arduous journey Herr Neumann never had any trouble with the natives.

Before the Section of Mathematics and Physical Science of the British Association, Dr. R. T. Glazebrook, the superintendent of the National Physical Laboratory, exhibited plans of the new institution now being erected at Bushey, gave a short history of the building, and described the objects with which it has been founded. According to the account in the London *Times* he said that the main building consisted of a substantial central block about 70 feet square standing on a vaulted basement. At each corner there was a large wing practically single-storied; the rooms in these were being fitted up for various special purposes. In the central building itself would be two general laboratories. There would be a large entrance-hall, arranged as an apparatus room, and a library. The basement contained six rooms of fair size; the floor had been covered with a thick layer of concrete. The walls were very thick, so that they were extremely steady, and the temperature and conditions all favorable for steady work. In addition there were other smaller rooms in the basement; two of these were entirely surrounded by thick interior walls and arrangements would be fitted to maintain a steady temperature throughout the year. At the back was another wing containing a number of rooms suited for special researches, and there a lift had been fitted and also a mercury column having a height of about 50 feet. For the more delicate physical work the ground-floor and basement of the old house afforded ample accommodation. For the engineering work a room 80 feet by 50 feet had been built, lighted from the north by a weaving shed roof. It was divided longitudinally into two bays by a series of rolled steel pillars. The one bay would contain a light traveling crane; along the other ran a line of shafting for driving the machinery and for experimental purposes. Adjoining this

laboratory was a drawing office, while the engine-house and boiler rooms were close at hand. Power, obtained from a 60-kilowatt Parsons turbine, would be distributed electrically to various parts of the laboratories; this form of engine was chosen for the express purpose of avoiding vibration as far as possible. The necessary tools were in order and in course of installation. The work which the committee hoped to attack in the first instance was that which had already been under the consideration of the Alloys Research Committee of the Mechanical Engineers. Apparatus for the photomicrographic examination of steel rails was being set up, and machines for testing the elastic properties of alloys were in course of construction. Pressure gauges and steam indicators would also be tested. The height of the building would not allow the mercury column, now being erected, to measure more than 200 pounds to the square inch, but apparatus was being constructed for pressures in excess of that amount. Considerable attention was to be given to high temperature thermometry, the testing of platinum thermometers, and the measurement of electrical quantities. Before the end of the year the committee hoped the laboratory would be fully and usefully occupied. Acknowledgment was made of the generosity of Sir Andrew Noble, who had given an excellent comparator, a dividing engine, and some measuring apparatus of the highest class to the laboratory.

AT the recent Glasgow meeting of the British Association, Dr. A. G. Green read before the chemical section a paper on the coal-tar industry. According to the report in the London *Times*, he remarked that, owing to the numerous ramifications of the coal-tar industry and the manifold applications to which its products were applied, it might be regarded as the pulse of chemical industry as a whole. He had, therefore, traced the relative progress in the industry in England and Germany during the last fifteen years. At the commencement of that period England, although the originator of the manufacture of analine dyes, was not holding its own against Germany, but was, at any rate, supplying Germany with the raw material. Now, even that was not the case, for owing to the ample introduction of coke ovens, in which the by-products were recovered, Germany was producing coal-tar in plenty for its own use, and in the other departments of the industry the relative positions of the two countries was still worse for us. The export of coal-tar colors from Germany, exclusive of alizarines, was 4,646 tons in 1885 and 17,639 tons in 1899. In 1894 the value of the total exports of these colors amounted to £2,600,000, and in 1898 to £3,500,000. The value of the total chemical industry of Germany in 1897 was 46½ millions of pounds; at least a tenth of this might be put down to coloring matters and another tenth to other coal-tar products, making the coal-tar industry in Germany of an annual value of nine to ten million pounds. This remarkable activity has caused vast sums of money to be usefully invested and was giving employment to increasing numbers of work-people. The Badische-Anilin Fabrik in 1889 had a capital of £900,000, which had now been increased by £750,000, while the number of work-people employed, 4,800 in 1896, had risen to 6,485 in 1900. The total capital of the six largest coal-tar color firms in Germany amounted to at least 2½ millions; they employed about 500 chemists, 350 engineers and technical men, 1,360 business managers, clerks, and travelers, and over 1,800 work people. The total capital invested in the coal-tar color trade in England did not exceed £500,000, the total number of chemists employed could not be more than 30 or 40, and the number of workmen engaged in this manufacture probably did not amount to over 1,000. The exports of coal-tar colors from England had fallen from £530,000 in 1890 to £366,000 in 1900. The imports, on the other hand, had steadily increased from $509,000 in 1886 to £720,000 in 1900. The colors used by the Bradford Dyers' Association were 10 per cent. of English make, 80 per cent. German, 6 per cent. Swiss, and 4 per cent. French. It was an apathy toward higher education and research that was the cause of this decadence. Moreover, the encouragement given to chemical research work by these great industries was enormous. Other industries of Great Britain were also threatened. The Germans were busy producing artificially

natural dye-stuffs, largely consumed in England and extensively grown in British possessions; indigo was the latest object of this particular kind of enterprise, and a sum of $1\frac{3}{4}$ millions sterling was being devoted to the achievement of the extermination of this natural dye-stuff.

UNIVERSITY AND EDUCATIONAL NEWS.

MR. JOHN D. ROCKEFELLER has promised to contribute $200,000 toward the endowment fund for Barnard College, Columbia University, provided that an equal sum is given by others before January 1, 1902.

THE corner stone of the new Medical Building of the University of Michigan was laid on the 15th inst., under the auspices of the State Medical Society, by Dr. Leartus Connor, the president of that body. Addresses were delivered in connection with the ceremonies by the Hon. Regent Kiefer, President Angell, Dr. J. A. McCorkle, professor of medicine in the Long Island College Hospital and a member of the class of '73 of the University of Michigan, and by Professor J. G. Adami of McGill University. The building, which has been made necessary by the rapid growth in recent years of the Medical Department, will contain the laboratories and class-rooms of the departments of hygiene, bacteriology, anatomy, histology and pathology, and the contracts for its erection call for an expenditure of $88,000, exclusive of what may be required for the heating, plumbing and general equipment. The old Medical Building, which has been the home of the Medical School for fifty years, will be remodeled throughout and adapted for the use of the departments of pharmacology, physiology and chemistry.

AT the Massachusetts Institute of Technology Capt. William Hovgaard, of the Danish Navy, has been appointed professor of naval design in the department of naval architecture. Dr. H. P. Talbot has been made head of the department of chemistry. Dr. Talbot has for some years past been professor of analytical chemistry, and, since the departure of Dr. Drown, has in a measure acted as head of the department.

MR. HENRY M. HUXLEY has been made Hemenway fellow and assistant in anthropology at Harvard University.

THE New York *Evening Post* states that D. K. Zangogiannis, who was appointed professor of pedagogy at the University of Athens two years ago, and who had made a special study of German educational systems, has been deposed by the Government because of an article he wrote for a German periodical in which he criticised the Greek high schools.

DR. JOHN YOUNG, professor of natural history at Glasgow, has been obliged by the condition of his health to resign his chair after thirty-five years' service in the University. He will continue to act as curator of the Hunterian Museum.

DR. PURSER, professor of the institutes of medicine in the School of Physic, Trinity College, Dublin, has resigned the chair he has held for twenty-seven years.

AT Trinity College, Cambridge, the annual election to fellowships has been held, when four vacancies were filled. The new fellows in the sciences are Harold Albert Wilson, B.A., advanced student; certificate of research 1899 for papers on 'The electrical conductivity of flames containing salt vapors,' 'Velocity of solidification,' 'The influence of dissolved substances and of electrification on the re-formation of clouds,' and 'On the variation of the electric intensity along the electric discharge in rarefied gases'; Allen scholar, 1900; Clerk Maxwell scholar, 1901: and James Hopwood Jeans, B.A., bracketed second Wrangler, Mathematical Tripos, Part 1, 1898; First Class, Division 1, Mathematical Tripos, Part II., 1900; Isaac Newton student, 1900; Smith's Prize, 1901.

DR. H. ERDMANN, of the University of Halle, has been appointed to a full professorship of inorganic chemistry, in the Technical Institute at Berlin. Dr. G. A. Gmeiner has been appointed professor of mathematics in the German university at Prague.

ON page 620 of the last issue of SCIENCE the word 'geological' was omitted before the word research in the sixth line.