

material available, finished in pressed brick and stone trimmings.

The work of Clemson Agricultural College in the line of agriculture has been greatly advanced within the last several years because of the active demand on the part of the farmers for information concerning their profession. They assemble here each year in large numbers during the middle of the summer, and spend a week with the professors of the institution and distinguished experimenters from other sections of the country, in the study of sciences relating to agriculture. The erection of this building, therefore, has been in accordance with this demand. The board of trustees are endeavoring to meet the requirements of the situation, and there is great desire on their part to give all the facilities, so far as the income of the college will allow, not only for the purpose of teaching agriculture, but at the same time for encouraging original research on the part of the gentlemen who have charge of the various divisions in the department. There seems to be a considerable awakening on the part of the people all over the state for knowledge in scientific agriculture, and in other lines of industry, and the erection of this building with its modern facilities will go far towards encouraging this awakening on the part of the industrial classes of the state.

The college was established in 1889 by an act of the state legislature, and opened for the admission of students in 1893. The first class graduated in 1896, and the college has sent out a total number of 295 graduates. The total number of students enrolled for session 1904-5 is 641, and the total number of the faculty is 44.

The college is engaged in work in the following lines of scientific and industrial activity—agriculture, mechanical engineering, electrical engineering, civil engineering, textile engineering, chemical science and the subjects of general literature necessary for an educational foundation.

The college is located on the estate of John C. Calhoun, his mansion being situated in the center of the campus. Mr. Thos. G. Clemson, son-in-law of John C. Calhoun, donated the property to the state for the purpose of a col-

lege of this character, giving 800 acres of land and \$58,539 in securities. The state has added to the land so that it now amounts to 1,136 acres. The board have spent in the fifteen years since the college was founded \$656,721 in the preparation of the grounds, the installation of electric lights, water works, sewerage system and the erection of nine large buildings, 36 smaller structures for college purposes and 57 residences for the faculty. The departments are well equipped with appliances and apparatus for the prosecution of work along the lines required in modern colleges.

The income of the college is from several sources and amounts to \$150,287. Besides the educational work, the college is required by law to carry on experiments in agriculture for the benefit of the farmers of the state and is in charge of the inspection of fertilizers, plants and animals, and is conducting elaborate courses of farmers' institute work. It will thus be seen that Clemson College is endeavoring to do for the industrial classes of South Carolina advanced and valuable work.

The limit of age for admission to the college is sixteen years. Every year the authorities are compelled to turn off a large number of applicants for the lack of the facilities to take care of the students who are striving for the scientific education given by colleges of this character.

P. H. MELL.

CLEMSON COLLEGE, S. C.

SCIENTIFIC NOTES AND NEWS.

THE city of Berlin has arranged a competition for plans for a monument to Rudolf Virchow. It is to be placed at the intersection of Karl and Luisen Streets, a square which will henceforth be known as Virchow Platz.

PROFESSOR LEWIS BOSS, astronomer of the Dudley Observatory of Albany, N. Y., has been awarded the medal of the Royal Astronomical Society.

THE Botanical Society of America elected the following officers at the recent Philadelphia meeting: *President*, Professor R. A. Harper; *Vice-President*, E. A. Burt; *Secretary*, Dr. D. T. MacDougal; *Treasurer*, Dr.

Arthur Hollick; *Councilors*, Professors L. M. Underwood and William Trelease.

THE famous singing master, Manuel Garcia, of London, who invented the laryngoscope fifty years ago, will be 100 years old March 17, 1905. The London Laryngological Society is collecting subscriptions for a present to be given to him on that occasion.

DR. L. P. KINNICUTT, the head of the chemical department of the Worcester Polytechnic Institute, has been appointed by President Roosevelt one of the commissioners to examine and test the fineness and weight of the coins reserved by the several mints of the United States during the calendar year 1905.

PROFESSOR H. MARSHALL WARD has been elected president of the Cambridge Philosophical Society.

MR. R. V. ANDERSON, a student in the department of geology of Stanford University, has sailed from San Francisco for Japan, where he will make a special study of geological conditions.

ASSISTANT PROFESSOR LEONARD E. DICKSON, of the department of mathematics of the University of Chicago, has completed his investigations as research assistant to the Carnegie Institution of Washington for 1904.

CAPTAIN JOHN DONNELL SMITH, of Baltimore, has given to the Smithsonian Institution his private herbarium consisting of more than 100,000 mounted sheets and his botanical library of nearly 1,600 bound volumes. Captain Smith's collection is probably the largest private herbarium in America, being very rich in tropical plants. As is well known Captain Smith has long been a student of the flora of the Central American countries, having published many systematic papers on the flora of Costa Rica and Guatemala. He proposes to continue these studies, and for this reason will retain for the present the custody of the greater part of his herbarium. This gift is the most important of the kind ever received by the Smithsonian Institution.

THE Research Laboratory of Physical Chemistry of the Massachusetts Institute of Technology has received from the William E. Hale Research Fund a second grant of \$1,000, which

is being applied to an investigation upon the conductivity of fused salts carried out by Mr. R. D. Mailey under the direction of Professor H. M. Goodwin. The Carnegie Institution has also renewed the grant of \$2,000 to Professor A. A. Noyes for the purpose of promoting the researches in progress in the laboratory upon the conductivity of salts in aqueous solutions at high temperatures, which are being executed by Professor W. D. Coolidge, Mr. A. C. Melcher and Y. Kato. Additional investigations are being carried on by four other research associates or research assistants as follows: upon the rate of decomposition of minerals by water by Dr. W. Böttger; upon the migration and coagulation of colloids by Dr. J. C. Blake; upon the physico-chemical properties of the solutions of metals in liquid ammonia by Mr. C. A. Kraus; and upon the dissociation relations of phosphoric acid by Mr. G. A. Abbott. Other researches—upon the dissociation-relations of sulphuric acid, upon the solubility of salts in water above 100°, upon the heat of solution of substances in relation to their dissociation, and upon the qualitative detection of certain rare metals—are being pursued by candidates for the Ph.D. degree.

RESEARCH work in chemistry at the University of Michigan is represented among University organizations by the Chemical Colloquium, which meets twice a month through the year. Reviews are presented of recently published important researches, and reports are made upon investigations carried on in the university laboratory. All instructors of the department are members of the colloquium, and graduate students and those advanced in chemistry are also eligible to membership. The following topics have been discussed at the meetings this year: October 24, 1904—Professor Edward D. Campbell, 'A Review of Clifford Richards' Work on the Constitution of Portland Cement.' November 7—Dr. William J. Hale, 'Condensations with Nitromalonic Aldehyde.' November 21—Professor S. Lawrence Bigelow, 'A Review of Some Recent Articles on Colloidal Solutions.' December 5—Assistant Professor Alfred H. White, 'The Decomposition of Am-

monia by Heat'; a report of experimental work. December 19—Assistant Professor George A. Hulett, 'Revolving Electrodes and Electro-analysis.' January 16, 1905—Professor Moses Gomberg, 'A Review of the Literature in Tetravalent Oxygen.'

WE learn from *The Botanical Gazette* that the Botanical Society of America, the Society for Plant Morphology and Physiology and the American Mycological Society, through committees of conference, have agreed upon certain general principles, upon the basis of which they will fuse into one national society under the name of The Botanical Society of America. For some years the names of all the societies will appear upon official publications until the union is thoroughly known. There are to be two classes of membership, members and associates, the distinction being placed upon published work. The fees are to be \$5 a year. Grants for research are to be made from the income. Meetings are to be annual with no permanently organized sections, but free opportunity for local meetings or temporary sections in charge of committees. A joint committee has been formed to prepare a constitution for the united societies, which shall embody the principles agreed to, and complete the reorganization.

A CABLEGRAM to the New York *Herald* says that Professor Curie has sent through the Austrian ambassador, a tube of radium to the Vienna Hospital for use in the cure of lupus. The gift is a recognition of the act of the Austrian government in furnishing Professor Curie with pitchblende for his original researches.

THE government of the northwest territories of Canada is establishing a new bacteriologic and pathologic laboratory and has appointed Dr. George Charlton, formerly of the McGill University pathologic department, chief of the laboratory.

THE department of geology of the American Museum of Natural History has recently received a series of fossils from the beds of Hudson River age near Cincinnati, Ohio. All the specimens are in beautiful condition and many

rare forms, especially of Echinoderms, are represented by several specimens.

THE king of Italy has given \$20,000 towards the expenses of the exhibition to be held in Milan in 1906 in celebration of the opening of the Simplon tunnel.

AMONG the recent contributions received by the Imperial Cancer Research Fund are the following: the Duke of Bedford, £1,000 (third instalment of £3,000); Mr. J. A. Mullens, £100; the Clothworkers' Company, £50 and Mr. Archibald Walker, £50.

DR. W. BELL DAWSON, the engineer in charge of the Tidal and Current Survey of Canada, has been awarded the Gay prize of 1,500 francs, by the Academy of Sciences of Paris. This prize was offered for the best determinations of mean sea level on the coasts of the North Atlantic Ocean. Such determinations serve either to detect any gradual change of the land elevation relatively to the ocean, or to establish a plane of reference for general levels throughout the country. Although this is additional to the direct work of the Tidal and Current Survey as a marine undertaking, Dr. Dawson has evidently given special attention to this matter. As there are yet no general geodetic levels throughout Canada, he has established independent bench-marks at all the more important harbors and other localities where tidal observations have been obtained. These are at widely separated points, from Labrador to Nova Scotia, and from the St. Lawrence to Newfoundland. The resulting tide levels are described in his recent paper in the *Transactions of the Canadian Society of Civil Engineers*, entitled 'Tide Levels and Datum Planes in Eastern Canada.' It is the work there detailed, and explained in his other reports and papers on tidal subjects, that formed the basis of the award of the prize referred to.

MR. S. HARBERT HAMILTON announces that he has sold to the Carnegie Museum, Pittsburgh, Pa., the famous W. W. Jefferis collection of minerals, with the understanding that it is to be known in perpetuity as the 'W. W. Jefferis Mineral Collection of the Carnegie Museum.'

Mr. Jefferis began the collection of minerals more than seventy years ago. Living, as he did, at West Chester, Chester County, Pa., he had unusual opportunities of collecting choice specimens from the ancient gneiss, serpentine and limestones, as well as the trap rocks, of eastern Pennsylvania, New Jersey and New York. Mining was then carried on more extensively than now in this region. Mr. Jefferis's exertions were not confined by any means, for he traveled in northern New York, Canada and Europe in search of minerals. He conducted exchanges with collectors all over the world, sending out hundreds of boxes of minerals. He also spent as lavishly of his means as he did of his time in building up a marvelous collection with the eye of a connoisseur, so this which now goes to Pittsburgh is one of the finest private American collections. Mr. Jefferis, although primarily a collector, was also a discoverer and contributor to science. He furnished Geo. Brush, J. Lawrence Smith, C. U. Shepard, F. A. Genth, J. P. Cooke, J. D. Dana, F. W. Clark and many other investigators with material, as the files of original letters which go to Pittsburgh abundantly testify. Aquacryptite (Shepard), Euphyllite (Silliman, Jr.), Jefferisite (Brush), emerald nickel = Zaratite, Melanosiderite (Cooke), Roseite (Jefferis) were all discovered by Mr. Jefferis. In addition to new minerals Mr. Jefferis aided largely in extending the distribution of known species and in furnishing material for the reexamination of old and poorly known ones. Dana drew largely from Mr. Jefferis's notes and specimens, some of which were figured for his *System of Mineralogy*. Genth's '*Mineralogy of Pennsylvania*' is also greatly indebted to Mr. Jefferis's labors in the field.

MISS JULIA A. LAPHAM has been appointed chairman of the recently organized Landmarks Committee of the Wisconsin State Federation of Woman's Clubs. Under her leadership the ladies of the state are taking an active interest in the movement for the preservation of the animal effigy mounds and other prehistoric monuments and landmarks of Wisconsin. Miss Lapham lives at Oconomowoc and is the daughter of the late Dr.

Lapham, the pioneer authority on the archeology of Wisconsin. It will be remembered that it was the women of Boston who saved the Serpent Mound of Ohio.

THE books of the engineering library at the University of Michigan, which have hitherto been shelved in the general library, are soon to be transferred to a room set apart as a library in the new engineering building. The collection will be recatalogued and regarded hereafter as a department library. Miss Olive C. Lathrop has been appointed assistant librarian in charge of the collection.

DURING the past summer Mr. C. W. Purington, a mining engineer of Denver, accompanied by Mr. Sidney Paige as assistant, journeyed through Alaska, investigating, for the U. S. Geological Survey, the costs and methods of gold-placer mining in the territory. For the purpose of making comparative observations, he also visited the Atlin district of British Columbia and the Klondike gold fields of the Yukon territory. In studying the conditions which affect placer mining in our northern possessions, he was impressed with the present inadequate means of communication between the different parts of the territory. The gold mining which has been done in the interior of Alaska has been conducted in spite of difficulties of transportation which seem hardly credible. Mr. Purington advocates the appointment of a civil-service officer who shall be general superintendent of road construction in Alaska, and believes that there should be appointed, under the general superintendent, properly qualified road overseers in each district of Alaska. He also indorses the recommendation made by Mr. A. H. Brooks, geologist in charge of the division of Alaskan Mineral Resources, U. S. Geological Survey, that an appropriation of \$1,000,000 be spent for wagon roads in Alaska. He thinks it probable that for this sum 900 miles of roads—300 of the Dawson standard wagon type and 600 for sleds—could be built in those parts of the country which would be most assisted by their construction.

MR. RICHARDSON, of Alabama, introduced in the House of Representatives, on January 23,

a bill which is sufficiently curious to deserve partial quotation. It begins: "*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Secretary of the Treasury be, and he is hereby, authorized and empowered and directed to pay, out of any money in the Treasury not otherwise appropriated, a sum not exceeding five hundred thousand dollars, for the organization and maintenance of an expedition, to be known as physical-phenomena association for the promotion of science expedition, the purpose of which shall be to seek, discover and investigate facts connected with the deep sea, the temperature, pressure, chemical properties, fauna, vegetation, character of the deep-sea bottom, volcanic disturbances and any and all phenomena relative to the ocean, for the cause and advancement of physical science generally. To facilitate the purpose of the expedition the Secretary of the Navy is authorized, immediately after the passage of this bill, to equip a ship suitable for said purpose, and to employ a first-class crew for the management of said ship. Immediately after the passage of this bill, or as soon thereafter as practicable, the President shall, with the concurrence of the Senate, appoint four chemists, who are learned in the science of chemistry, at a salary of three thousand dollars each per year; two geologists, who are learned in the science of geology; two astronomers, who are learned in the science of astronomy; two naturalists, who are learned in the science of natural history; two botanists, who are learned in the science of botany; two zoologists, who are learned in the science of zoology; and ten other scientists, if deemed practicable by the President, who are respectively learned in the sciences for which they are chosen, each at a salary of two thousand and five dollars per annum each. The President shall also appoint two persons, who are interested in the sciences generally, from each State, upon the recommendation of the Senators from each State, at salaries of three thousand dollars each, all of whom, after they shall have been appointed and confirmed as aforesaid, shall be members of the said expedition."

UNIVERSITY AND EDUCATIONAL NEWS.

THE trustees of the Peabody Education Fund met at Washington on January 20 and voted to dissolve their trust. An appropriation of \$1,000,000 for the George Peabody School for Teachers in Nashville, Tenn., was made by a unanimous vote, the state, county and city having together appropriated an equal sum for the school. This appropriation leaves a fund of approximately \$1,200,000, which will be distributed later among other educational institutions, probably at the next annual meeting, which will be held next October in New York. The trustees have authority to distribute two-thirds of the fund in the south, and the remainder in the north, but it is probable the entire fund remaining will be devoted to southern institutions.

AT the midwinter meeting of the trustees of Syracuse University it was voted to construct, with the bequest made to the university by the late John Lyman, which is said to aggregate more than \$200,000, a building to be known as the John Lyman Laboratory of Natural History.

MR. ANDREW CARNEGIE has promised Oberlin College a gift of \$125,000 for the erection of a library building, conditional on the raising of \$100,000 for endowment by the citizens.

MR. ADOLPH LEWISOHN, of New York, has given \$5,000 for the reconstruction of the chemical laboratories at Dartmouth College.

THE New York Post-Graduate Medical School and Hospital has received an anonymous gift of \$5,000.

EMPEROR WILLIAM has directed the German ambassador to the United States to lay before President Roosevelt in official form the suggestion for an exchange of professors between German and American universities, which he made to the American ambassador on New Year's day. The German ambassador, who sailed on the *Kaiser Wilhelm der Grosse*, on January 25, only carries an outline of the project, for which the president's approval and cooperation in making a workable plan will be asked.

THE Baltimore Association for the Promotion of the University Education of Women