

to secure special certificates when purchasing their tickets to San Diego, paying one full fare from the point of departure to San Diego. These certificates when signed by the secretary of the Pacific Division and by a railway representative at San Diego will entitle the holder to a return ticket upon the payment of one third of the regular fare, plus the validation fee of fifty cents.

Tickets will be on sale in California, Arizona, Utah and Nevada from August 7 to 15, inclusive, and in Oregon, Washington, Idaho and British Columbia from August 2 to 11, inclusive. Tickets will be honored for return from August 9 to 17, inclusive.

Visitors attending the San Diego meeting from the north may include a trip to the Yosemite Valley on either portion of the trip by choosing a route over the San Joaquin Valley lines of the Southern Pacific or Santa Fe Railways. Transfer from the main lines is made at Merced and the additional cost of the trip from Merced to the Yosemite Valley, including automobile transportation from the end of the railroad at El Portal into the Valley, is \$18.50. If the trip is extended to the Wawona and Mariposa Grove of Big Trees, the charge is \$33.50, and if by way of Glacier Point, \$37.50.

One fare rates to San Diego have been quoted as follows:

Los Angeles .....	\$3.75
Tucson .....	23.20
Salt Lake City, via San Francisco .....	43.85
via Salt Lake Route .....	34.35
Reno .....	22.20
San Francisco .....	16.80
Portland .....	34.70
Seattle .....	40.30
Vancouver .....	44.55
Moscow .....	45.80

Special exposition rates have been made from points in Utah to San Diego, direct or by way of San Francisco, over lines of the San Pedro, Los Angeles and Salt Lake Railway Salt Lake Route. Full information concerning these rates may be secured from local agents.

Steamship rates have been quoted as follows:

By the Pacific Coast Steamship Company, round trip from San Francisco to San Diego and return,

good for thirty days, \$17.00, including berth and meals; from Seattle, Tacoma, Everett and Vancouver to San Diego and return, round trip good for thirty days, \$53.00, including berth and meals.

By the Pacific Navigation Company, from San Francisco to San Diego, round trip tickets on sale from June 1 to September 30, good for ninety days, return date not later than October 31, \$12.50, berth and meals extra.

By the Great Northern Pacific Steamship Company, from Portland to San Francisco by steamer and from San Francisco to San Diego by rail, one way fare, \$31.70; return ticket in conjunction with railway rate, authorized on receipt certificate plan, \$14.70.

### SCIENTIFIC NOTES AND NEWS

THE fourteenth annual session of the South African Association for the Advancement of Science will be held at Maritzburg on July 3 to 8, inclusive, under the presidency of Professor L. Crawford, professor of mathematics, South African College, Cape Town.

ON May 20 the former students and friends of Professor Gage gave him a complimentary dinner on his sixty-fifth birthday. The dinner was attended by more than 100, including several of his former students from out of the city. A large number of letters and telegrams of congratulation were received from those unable to attend. At this dinner a fund was presented to the university for the purpose of establishing at Cornell University a Simon Henry Gage Fellowship in Animal Biology in honor of Professor Gage.

A COMPLIMENTARY dinner was given to Dr. S. J. Meltzer, at the Chemists Club on May 15, by a group of friends and associates. The speakers at the occasion were Drs. Haven Emerson, W. J. Gies, H. C. Jackson, Frederic S. Lee, Jacques Loeb, Graham Lusk, L. B. Mendel, T. H. Morgan and E. B. Wilson.

A COMPLIMENTARY dinner was extended to Dr. Daniel W. Hering, professor of physics and dean of the graduate school of New York University by his colleagues of the faculties of the college of pure arts and sciences, the school of applied science and the graduate school on May 29 at the Hotel Manhattan. Dean Hering retires in June.

PROFESSOR RICHARD ELWOOD DODGE, after twenty years' service as teacher of geography in Teachers College, Columbia University, has resigned his professorship, to devote himself uninterruptedly to those aspects of geography that interest him most, applied geography in the field of rural and especially agricultural education.

THE department of anthropology in the American Museum of Natural History, New York City, has strengthened its division of physical anthropology by two appointments: Professor J. H. McGregor, of Columbia University, research associate, and Mr. Louis R. Sullivan, of Brown University, research assistant. In addition, Dr. Bruno Oettinger will spend another year at the museum preparing a report on the physical anthropology of the Jesup expedition.

THE Franklin Institute has awarded its Elliott Cresson Gold Medal to Dr. Robert Gans, of Pankow, near Berlin, Germany, for permutit, a sodium-alumino-silicate used for softening water.

PROFESSOR HENRI LECOMTE, Professor Edmond Perrier and Professor Pier' Andrea Saccardo have been elected foreign members of the Linnean Society.

UPON request of the Bureau of Mines, a committee of the American Chemical Society has been appointed as an advisory committee to the Bureau of Mines on chemical problems in connection with its investigations. The committee consists of Drs. C. H. Herty, L. H. Baekeland and W. R. Whitney.

THE Standing Committee on Metallurgy appointed by the British Advisory Council for Scientific and Industrial Research consists of the following members: Professor J. O. Arnold, Mr. Arthur Balfour, Professor H. C. H. Carpenter, Dr. C. H. Desch, Sir Robert Hadfield, Mr. F. W. Harbord, Mr. J. Rossiter Hoyle, Professor Huntington, Mr. W. Murray Morrison, Sir Gerard Muntz, Bt., Mr. G. Ritchie, Dr. J. E. Stead, Mr. H. L. Sulman and Mr. F. Tomlinson.

PROFESSOR RALPH H. CURTISS has been granted a leave of absence by the board of

regents of the University of Michigan for two or three years. He will go to Argentina to inaugurate stellar spectroscopic work at the observatory of the University of LaPlata. Leave of absence was also granted to Mr. H. J. Colliau, who will accompany Professor Curtiss and assist in installing the spectrograph and other apparatus. Mr. Bernhard H. Dawson, who has been studying at the University of Michigan, will leave some time in July to resume his position as astronomer in the observatory of LaPlata.

THE first representatives of the Maury expedition to the Tertiaries of San Domingo, A. Olsson and K. P. Schmidt, left the paleontological laboratory at Cornell University on the twenty-ninth of April. Dr. Carlotta J. Maury, holder of the Sarah-Berliner fellowship in paleontology this year and lecturer in the university proceeded to the same field on May 26.

By a recent gift of \$2,500 from an unnamed donor, the department of geography at the University of Chicago is enabled to undertake a scientific study in Asia, and Assistant Professor Wellington D. Jones will sail from Vancouver for Yokohama on June 15, to be gone for six months. His work will cover a wide range, including Japan, Korea, Manchuria, and Northern and Central China. If political conditions in China permit, Professor Jones hopes to work back into Shansi and Shensi, and into the Red Basin of the upper Yangtze. His chief interest is in the relation between man and the physical environment of the region in which he lives.

DR. R. TAIT MCKENZIE, head of the department of physical education at the University of Pennsylvania, who has been in the British service during the past year, will return and resume his duties at the university next September on the conclusion of his year's contract in England.

DR. HOWARD A. KELLY has been granted leave of absence from the Johns Hopkins Hospital for a year, in order to devote all his time to further research work in radium. Dr. Thomas S. Cullen will be in charge of Dr. Kelly's classes in gynecology.

W. A. LINTNER, assistant professor of agronomy at Delaware College and assistant agronomist of the Delaware Agricultural Experiment Station, has resigned to go into commercial work.

PROFESSOR W. P. MASON, of the Rensselaer Polytechnic Institute, delivered the address at the annual meeting of the Sigma Xi Society, Union College, on May 23. His subject was "Water from the Ground."

At the ninety-ninth convocation of the University of Chicago, held on June 6, in connection with the celebration of the quarter-centennial of the university, the address on behalf of the faculties was made by Dr. Thomas Chrowder Chamberlin, head of the department of geology and paleontology.

THE Bakerian Lecture of the Royal Society was delivered on May 25 by Professor C. G. Barkla, on "X-rays and the Theory of Radiation."

A FUND of about \$2,500, the income from which will provide a prize to be known as the Charles Lee Crandall prize, has been presented to Cornell University by the Cornell Society of Civil Engineers on behalf of the alumni of the college. The prize will be awarded in accordance with terms to be fixed by Professor Crandall.

CHARLES SOOYSMITH, known throughout the United States as a civil engineer, especially for his work on the pneumatic caisson and freezing processes in excavations, died at his home in New York, on May 1, at the age of sixty years.

MISS CORA HUIDEKOPER CLARKE, of Boston, a fellow of the American Association for the Advancement of Science, who had published work on insect-cells and on the mosses of New England, has died, at the age of sixty-five years.

WE learn from *Nature* that a general meeting of the British Chemical Society was held at Burlington House on May 11, to consider the question of the removal of the names of nine alien enemies from the list of honorary and foreign members of the society. No deci-

sion was reached and the meeting was adjourned.

THERE was installed in the department of geology of the University of Oklahoma the Gamma chapter of the Sigma Gamma Epsilon. The Beta chapter of this fraternity is in the school of mines of the University of Pittsburgh and the Alpha chapter in the departments of geology and mining in the University of Kansas. Sigma Gamma Epsilon is a national college fraternity devoted to geology, mining and metallurgy and holds a place parallel to that of Alpha Chi Sigma, the national college fraternity devoted to chemistry. The fraternity has just completed the first year of its existence; but with its third chapter installed and petitions from other institutions before its national council bespeak for it a promising future. Communications intended for its national officers should be addressed to either H. E. Crum, Bartlesville, Oklahoma, or W. H. Twenhofel, Lawrence, Kansas.

THE annual New England intercollegiate excursion will be taken on October 14 in the Blue Hills district of eastern Massachusetts. It will be under the direction of Professors W. O. Crosby and C. H. Warren.

GOVERNOR WHITMAN, of New York, on May 22, signed the appropriation bill passed by the legislature, which included an item of \$65,000 for the purchase of land and the erection of a laboratory building in the city of Albany for the State Department of Health. The site chosen closely adjoins the Albany Hospital and the new Albany Medical School. The laboratory work of the Health Department is at present carried on with great difficulty in an old stable which has several times been condemned as unsanitary.

WE learn from the *Journal* of the American Medical Association that Dr. Steele, M.P., North Oxford, Ont., has introduced a resolution in the Canadian House of Commons expressing the greater need at the present time for a national department of health than at any previous time in the history of the Dominion. He pointed out that while all the provincial governments maintained well-organized health boards, the Dominion had the

control of many matters relating to the health of the people distributed over eight or ten departments of the government. Practically every European nation, with one or two small exceptions, has organized national health departments, but Canada lags behind. He spoke of the progress made in the United States toward a department of health; also in Japan. There was urgent need for such a department in Canada, as at the close of the war there would in all probability be a greater influx of immigrants than ever before in the history of the country. He believed that 40 per cent. of the babies dying in Canada every year could be saved. It was promised by the government that the matter should receive due consideration. The Canadian Medical Association first began to urge a federal department of health on the Canadian government in 1901.

THE National Museum has recently received a one-kilogram fragment of a stony meteorite that was brought up in a seine by a fisherman, in Lake Okechobee, Florida. The stone is of interest on account of the unusual conditions under which it was found, and being also the first meteorite thus far reported from that state.

At the meeting of the Buteshire Natural History Society held on February 8, in the society's library at the Bute Museum and Laboratory, Dr. Marshall, president, in the chair, the curator, Mr. L. P. W. Renouf, explained at some length the aims and objects of the laboratory and museum under its new régime. Briefly these are to get together a complete collection of the fauna and flora of Bute and its more or less immediate waters, to supplement the actual collection with a card index of occurrences over an extended period so as to have a complete local history of the species, and to provide accommodation for any one desirous of working at any of the problems of natural history. Emphasis was laid on the exceptional advantages offered by Bute for such an undertaking, its size, position and industries combining to make it an ideal site for the work. The laboratory offers all the necessary facilities for research work and possesses

equipment for the carrying on of both marine and fresh-water investigations, and the museum already contains the nucleus of a very fine collection. Intending workers should apply to Mr. Renouf, who will be glad to supply any particulars.

THE fourth season of the Indiana University summer school of field geology will begin on June 15, 1916, under the direction of Dr. J. W. Beede. The party will continue the study of the Clay City, Indiana, quadrangle. This is regular work in geologic surveying, including the mapping of the stratigraphic and economic geology, the study of the paleontology, physiography and geography of the quadrangle. This field work furnishes the data for papers and theses which are published by the students. In as much as the results are of educational and economic value to the state, the expenses of graduate students having sufficient preparation are met. The party is housed in tents.

MRS. ISAAC L. RICE has purchased from Cornell University fourteen acres of land at Irvington-on-Hudson as a site for a \$1,000,000 hospital for convalescents to be erected as a memorial to her husband, the inventor and philanthropist. The buildings, it is said, will cost about \$250,000. Mr. Rice, who was president of the Holland Torpedo Company and of the Electric Boat Company, died in November last.

THE mining of copper began in Alaska in 1901 and the total output of the metal to the close of 1915 is 219,913,375 pounds, valued at \$34,919,581. Of this amount, according to the statistics recently completed by Alfred H. Brooks, of the United States Geological Survey, 86,509,312 pounds, valued at \$15,139,129, was produced in 1915. This is more than four times the output of 1914, and by far the greatest in the history of the Alaska industry. Thirteen Alaska copper mines were operated in 1915 compared with seven in 1913. A total of 369,600 tons of ore was mined in 1915 which, in addition to the copper, carried gold to the value of \$153,121 and \$455,204 worth of silver.

THE department of geology of Northwestern University will conduct a geological field course in the Lake Superior Region during August. It will be devoted largely to a study of the Pre-Cambrian rocks with some attention to the Pleistocene history. It is expected that a day or two will be spent at the head of Lake Superior where both the intrusive and the extrusive phases of the Keweenawan may be seen, as well as ancient lake beaches, great ore docks, etc.; one day on the Mesabi iron range; and one day on the productive portion of the Vermilion iron range. After this the class will live in camp and will travel by canoe through some of the lakes near the Minnesota-Ontario boundary where there are extensive exposures of various types of metamorphic and igneous rocks. These rocks will be studied and small areas will be mapped in detail.

#### UNIVERSITY AND EDUCATIONAL NEWS

At the annual spring meeting of the General Education Board \$789,980 was appropriated for institutions and projects to which the organization contributes. The largest appropriation was for the medical department of Washington University at St. Louis, which received \$250,000. This makes \$1,000,000 given by the board to this institution toward a total of \$1,500,000 for the purpose of placing the teaching of medicine, surgery and pediatrics on a full-time basis. Other appropriations were: Coker College, Hartsville, S. C., \$50,000; Colby College, Waterville, Me., \$125,000; Rockford College, Rockford, Ill., \$75,000; further prosecution of educational researches, \$50,000; Spellman Seminary, Atlanta, Ga., \$20,000; Hampton Institute, \$25,000; Tuskegee Institute, \$25,000; Morehouse College, Atlanta, \$5,000; Fisk University, Nashville, \$5,000; Mayesville Industrial School, Mayesville, S. C., \$1,000; equipment of normal schools for negroes in North Carolina, \$4,050; equipment of county training schools for negroes, \$10,000; support of professors of secondary education, \$34,130; state agents for white rural schools, \$40,800; state agents for

negro schools, \$34,500; educational research in New Hampshire, \$5,500; farm demonstration work in Maine and New Hampshire, \$8,500.

PLANS for the union of the Jefferson Medical College with the University of Pennsylvania and the Medico-Chirurgical College and hospital have been completed. The Medico-Chirurgical College is to become a post-graduate school, to be known as the Medico-Chirurgical College and Hospital-Graduate School in Medicine of the University of Pennsylvania. The Jefferson Medical College will be connected with the university, but will maintain its identity.

THE University of Sheffield has received \$160,000 by the will of Sir Edgar Allen, \$25,000 for the applied science department, and the balance to be devoted to providing scholarships, half of them to be reserved for the sons of working men.

FRANK ADAMS has been appointed professor of irrigation investigations in the University of California. He will continue also his work in the irrigation and drainage investigations of the United States Department of Agriculture.

DR. ARTHUR HARMOUNT GRAVES, formerly assistant professor of botany in the Sheffield Scientific School of Yale University and instructor in forest botany in the Yale Forest School, has been appointed associate professor of biology in the new Connecticut College for Women, at New London, Connecticut. Dr. Graves will have charge of the instruction in botany.

#### DISCUSSION AND CORRESPONDENCE THE SECOND YEAR OF COLLEGE CHEMISTRY

THE selection of courses immediately following general chemistry is a matter of great importance. The traditional method—old-fashioned qualitative analysis and then quantitative analysis—is being questioned.

It has long been recognized that qualitative analysis is not an end in itself—that it is of value rather in teaching advanced inorganic chemistry in a systematic way. In the last few years certain men have interpreted quali-