The Bureau of Commercial Economics at Washington is again cooperating with the exposition by arranging an elaborate program of motion pictures covering subjects dealing with the industries depending on chemistry. A few of the films that appear on the tentative program are: The match industry, the rubber industry, manufacture of explosives, varnish manufacture, silver mining, mining and manufacturing of iron, making of blotting paper, accident and fire prevention, manufacture and use of fertilizers and manufacture of steel.

SCIENTIFIC NOTES AND NEWS

The dispensary building of the Orthopedic Hospital and Infirmary for Nervous Diseases, Philadelphia, has been formally dedicated to the memory of Dr. S. Weir Mitchell, one of the founders of the institution and for many years head of the hospital staff. At the entrance of the dispensary is a stone tablet on which is inscribed in bronze letters, "S. Weir Mitchell Memorial, Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, 1915." A bronze tablet in the main waiting room states that the building is dedicated to the memory of Dr. Mitchell by his friends and patients. The address was delivered by the dean of American surgeons, Dr. William W. Keen, who was a close friend and associate of Dr. Mitchell for a period of more than fifty years.

Attention is called in *Nature* to the fact that on June 24, the Rt. Hon. Henry John Moreton, Earl of Ducie, F.R.S., entered on his ninetieth year, having been born in 1827. He is the senior fellow of the Royal Society in point of election to that body, this dating from 1855. When Lord Moreton, he obtained from the Jurassic limestone of Burford the fossil species of star-fish named by Professor Edward Forbes *Solaster moretoni,* in honor of the finder. In connection it may be mentioned that Sir Robert Palgrave, F.R.S., entered on his ninetieth year in the early part of May, while Sir William Crookes attained the age of eighty-four on June 17.

William Morton Wheeler, professor of economic entomology and dean of the faculty of the Bussey Institution, of Harvard University, and Otto K. O. Folin, Hamilton Kuhn professor of biological chemistry in the Harvard Medical School, were given the doctorate of science at the University of Chicago convocation celebrating its twenty-fifth anniversary.

At the quarter-centennial convocation of the University of Chicago, the honorary doctorate in science was conferred on John M. Clarke, state geologist of New York.

Dr. William H. Holmes, chief of the Bureau of American Ethnology, and Dr. Aleš Hrdlička, of the U. S. National Museum, have been made corresponding associates of the Academia Nacional de Historia of Colombia.

At a meeting of the Texas chapter of the Society of the Sigma Xi, on June 5, Dr. Frederic W. Simonds, professor of geology in the University of Texas, was elected president for the year. Dr. Simonds was one of the first five graduate students elected to membership in the Cornell chapter.

The Yale Chapter of Sigma Xi has elected Professor R. S. Lull, president, and Professor W. R. Longley, vice-president, for the coming academic year.

Dr. Axel Gavelin has been appointed director of the Swedish Geological Survey.

Signor Leonardo Bianchi is a member of the new Italian ministry as a representative of the party he leads—that of the Constitutional Democrats. He is professor of psychiatry in the University of Naples and director of the university clinic for nervous and mental diseases, and it is understood that he will devote himself to hygienic and social problems arising out of the war.

Professor Alfred Stenzel has been placed in charge of a clinic at the hospital of the University of Pennsylvania for the exclusive study of industrial and occupational diseases.

Mr. Francis Harper has joined the staff of the Biological Survey of the U. S. Department of Agriculture.

Dr. Willard J. Fisher, whose withdrawal from the department of physics at New Hampshire College was recently noted in Science, has been appointed honorary fellow in phys-

ics at Clark University for the academic year 1916–17.

THE geologist and geographer T. A. Bendrat is about to start on an expedition to the headwaters of the Orinoco River in Venezuela to explore its sources and the surrounding region.

DR. JULIUS HAYDEN WOODWARD, of New York, professor of diseases of the eye at the New York Post-graduate Medical School since 1908, and director of instruction in ophthalmology since 1913, died at his home on July 2, aged fifty-eight years.

THE Kansas State Board is endeavoring to get the state universities to cooperate in an effort to induce the government to establish a health experiment and research laboratory in connection with each university school of medicine under the United States Public Health Service.

WE learn from *Nature* that the formation by the British Advisory Council for Scientific and Industrial Research of a standing committee on mining, constituted so as to represent both the scientific and industrial sides, has now been completed. The standing committee includes the following members nominated by professional associations: Institution of Mining Engineers: Sir William Garforth, Dr. John Haldane, Dr. R. T. Moore, Mr. Wallace Thorneycroft; Institution of Mining and Metallurgy: Mr. Edward Hooper, Mr. Edgar Taylor; Iron and Steel Institute: Professor H. Louis; the South Wales Institute of Engineers: Mr. W. Gascoyne Dalziel; and the following members appointed directly by the advisory council: Sir Hugh Bell, Bart., Mr. Hugh Bramwell, Lieutenant-Colonel W. C. Blackett, Professor Cadman, Professor Frecheville, Mr. Bedford McNeill, Mr. Hugh F. Marriott, Sir Boverton Redwood, Bart., Mr. C. E. Rhodes. The advisory council has appointed Sir William Garforth to be chairman.

THE California State Board of Health, in cooperation with the University of California, is conducting a state-wide malaria mosquito survey under the supervision of Professor W. B. Herms, consulting parasitologist for the state board and associate professor of parasitology in the University of California, who is assisted by Mr. S. B. Freeborn, instructor in entomology. The work began on May 10, and will continue through the summer. Probably three summers will be required to complete the survey of the entire state. The party travels by automobile, collecting mosquitoes, locating their breeding places, determining the presence or absence of malaria, distributing literature, lecturing and giving information on ways and means for the control of the insects. The Sacramento Valley and the northeastern portions of the state to the Oregon and Nevada state lines have already been covered. Thus far endemic malaria has been found at a maximum elevation of 5,500 feet and the Anopheline carriers have been located. Two or three new species of mosquitoes have been found.

THE second Interstate Cereal Conference was held at the University of Minnesota, University Farm, St. Paul, on July 11, 12 and 13. At this conference there was a discussion of the various phases of cereal research relating to the region of which St. Paul may be considered the center. The program included papers on problems of wheat, oat, barley and flax production in the northwest; the grading of barley and corn; breeding winter wheats for Minnesota; ergot for rye; methods for the eradication of bunt or stinking smut; problems in flax diseases, and a symposium on milling and baking. Two days were devoted to the presentation and discussion of papers. The third day was used in an inspection of the plat work of the Minnesota Agricultural Experiment Station and of one of the local flour mills.

ON August 24, 25 and 26, the third annual conference of the Society for Practical Astronomy will be held at the Bausch and Lomb Observatory in Rochester, N. Y. The president of the society, Mr. Latimer J. Wilson, urges all the members to attend these sessions and extends the invitation to any one interested in astronomy. Papers will be read showing the important work of the society and addresses on optical matters and their relation to astronomical research will be given. The Bausch and

Lomb Observatory is equipped with an 11-inch refractor constructed by the Bausch and Lomb Optical Company. The conference promises to be as successful as that of last year, which was held at the University of Chicago.

THE mathematicians of the Scandinavian countries, including Finland, will hold a reunion at Stockholm, from August 30 to September 2. The International Congress of Mathematicians was to have been held there at this time, but European conditions have rendered such a meeting impossible, and this reunion therefore serves as a partial substitute.

STUDENTS in the field course in geography at the University of Missouri, at Columbia, will take a waterways tour on the Mississippi River and Great Lakes during August. The tour, commencing at St. Louis, will include the following points: St. Paul, Minneapolis, Duluth, Houghton, Saulte Ste. Marie, Mackinac Island, Parry Sound, Toronto, Niagara Falls, Buffalo, Cleveland, Put-in-Bay, Detroit and Chicago. Work on the trip will consist of studies and lectures on the principal local industries, commerce on the Great Lakes, government improvements and aids to navigation, historic geography of the Lakes and Mississippi regions, and physiographic and geologic subjects. No previous study in geology is required of those desiring to make the trip. The course is open to both men and women whether enrolled in the university or not. Three to five hours' credit will be given to those who make the tour. Those not enrolled in the university will be given credit which will be accepted upon entrance by Missouri or other universities of equal standing.

IMPRESSED by the work of the Army Medical School and the inadequacy of the facilities provided for that work, Drs. John M. T. Finney and Joseph C. Bloodgood, of Baltimore, recently left with the president the following memorandum:

> We are so impressed by the character and importance of the scientific work which is being done there we feel the need of bringing to the attention of yourself and the country the utterly inadequate facilities provided not only for purposes of investigation, but for those of instruction as well. The quarters are unsuited for existing conditions and they will prove still more so in case of any expansion of the service.
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> We furthermore, from our experience as teachers, believe that the Army Medical School should be in the vicinity of, and closely affiliated with, the newly established Walter Reed Hospital for the benefit of both institutions.

NORTH CAROLINA was the first state in the Union to recognize the need of geologic surveys within its borders. In 1823 an act of the general assembly authorized the board of agriculture to pay the expenses of "geological excursions" for a period of years, as a result of which several geologic reports on the state were published. South Carolina was quick to follow the example of her sister state and in 1824 established a State Geological Survey, whose geologic report, appearing in 1826, was the first issued under the patronage of any state. Massachusetts and Tennessee early established official Geological Surveys on a much larger scale than those of North and South Carolina, and in 1833 Maryland followed their example. To Maryland also belongs the credit of being the first state to undertake a topographic survey, in which she obtained the cooperation of the Coast and Geodetic Survey. This marks the beginning of the federal and state cooperation in such matters which is now so important in topographic mapping and in the investigation of our mineral resources. Bulletin 465 of the United States Geological Survey, entitled "The State Geological Surveys of the United States," includes a historical report of each state in which there is now a Geological Survey, giving also a sketch of early surveys and an account of the legal designation, organization, laws, appropriations, publications and nature of the work of each individual state. The bulletin is valuable as showing the early recognition of the need and value of basic investigations of our enormous latent mineral wealth.

THE University of Nevada has founded in both college and station a department of range management. Nevada contains immense areas too elevated for field agriculture, but perfectly adapted to the grazing of bands of cat-

tle and sheep. The range country in Nevada will never be broken up into farms; it can be used for nothing but range; it presents many unique and interesting problems. These center around the adaptation of grazing methods to the periods of growth and reproduction of the native forage plants with a view to making the fullest use of the range without further injury to the plant life. Mr. C. E. Fleming, Cornell, 1910, formerly of the Forest Service, Grazing Studies, has been chosen to head the new department which ranks as a full professorship in the university. Mr. Fleming has been in charge of the Federal Grazing Reserve at Jornada, New Mexico. Studies of the poisonous plants of the range will be carried on by Mr. Fleming and Dr. Jacobson, the head of the department of chemistry in the Nevada station. The project work of the Nevada Experiment Station is being based almost wholly on the problems of western agriculture; an effect is made, however, to maintain the high scientific character and accuracy of the work. The new department will have a set of problems characteristic of the peculiar agriculture of the western mountain country.

THE production of anthracite in 1915, as shown by the final figures compiled by C. E. Lesher, of the United States Geological Survey, from returns made by the operators, was 79,459,876 gross tons, differing from the estimate of 79,100,000 tons published last January by less than one half of 1 per cent. The value of this output was $184,653,498, an average of $2.32 per ton, a value slightly higher than the average in 1914. Compared with the figures for 1914 those for 1915 show a decrease of 2 per cent. in quantity and 1.9 per cent. in value. Anthracite is used mainly as a domestic fuel, and the mild weather during the early months of 1915 resulted in a decrease in consumption. A falling off in the exports to Canada, which normally takes a large quantity, and light buying by householders and retail yards in this country during the summer period of low prices, were also factors contributing to this decrease. There were 176,552 men employed in the anthracite mines in 1915, a greater number than in any year except 1914, when there were 179,679. The average number of days these men worked was 230, as compared with 245 in 1914, and the number of tons produced per man per year was 450, and per man per day 1.96, as against 451 tons per year and 1.84 tons per day in 1914. The smaller number of days worked, together with the comparatively large number of men employed, indicate that the work during the slack months was divided by the companies among a greater number of men than was necessary, in order to assist all. As in 1914, there were few strikes, only 30,325 men having been involved in 1915, for an average of 7 days each. There were 148 machines used in underground mining of anthracite in 1915, and 57 steam shovels were used on the surface, 1,001,431 tons having been taken from steam-shovel pits during the year. The steam shovels are nearly all used in the Schuylkill and Lehigh regions, and the mining machines in the Wyoming region.

GROUND has recently been broken for the building of the Museum of the American Indian in New York City. Mr. Archer M. Huntington has given to the institution a site with a frontage of sixty-five feet on Broadway, just south of 155th Street and adjacent to the group of buildings of which the Hispanic Museum is the center. The plans for the proposed museum provide for a structure with a basement and four stories, which will be in the same style as that of the building of the American Geographical Society. Friends of Mr. George G. Heye, who has gathered the notable collection which is to be placed in the structure, have subscribed $250,000 for the building, and arrangements are now being made to raise the additional $100,000 for the equipment. The collection itself, which includes 400,000 specimens and is valued at $500,000 is to be turned over in a few days to a board of trustees, who are also to take title to the real estate. Marshall H. Saville, of Columbia University, has been the scientific adviser of Mr. Heye for many years, and will be the director of the museum.

AMONG the courses in scientific field work provided for the coming summer quarter by the University of Chicago is one in geology

conducted in the region of Devils Lake, Wisconsin, the area studied covering about 300 square miles. The party is to camp at the north end of Devils Lake, near the center of the area studied, and the field work continues a month. After the field work a report is made, after the general plan of the United States Geological Survey. Another region for field work in geology is to be Ste. Geneviève County, Missouri, where are shown a large number of geological phenomena in a small area, as many as twenty distinct formations being exposed. Collections of fossils from the various formations will be made, which later may be used as the basis for laboratory study at the university. Another area designated for geological study during the summer quarter is that part of the Cascade Range between Mt. Hood and the Columbia River, where may be had first-hand acquaintance with valley glaciers, a great volcanic cone, recent lava flows and the records of at least six geological epochs. This course is open only to men who can "rough it," and the party is to meet at Portland, Oregon, on August 1, for a month's work. A field course is also to be given in the Lower St. Lawrence Valley, one of the most interesting regions geographically in eastern North America, where plain, highland and maritime conditions are often found in close proximity. Scenically also the region is famous, and Montreal, Quebec, French Canada and the eastern provinces afford many opportunities to relate geography to history as well as to present conditions. September will be given to this course and only graduate students can enter it.

UNIVERSITY AND EDUCATIONAL NEWS

AT Yale University, Harry Nichols Whitford, B.S., Ph.D., has been appointed assistant professor of tropical forestry in the Forest School, and Alois Francis Kovarik, to be assistant professor of physics in the Sheffield Scientific School.

DR. PERCY EDWARD RAYMOND, assistant professor of paleontology in Harvard University, has been promoted to an associate professorship. Dr. Cecil Kent Drinker, of the Johns Hopkins Medical School, has been appointed instructor in physiology in the Harvard Medical School.

AT Cornell University, the following promotions to the grade of professor have been made by the trustees: Sidney G. George, C.E., from assistant professor of applied mechanics; Frank O. Ellenwood, A.B., from assistant professor of power engineering; Calvin D. Albert, M.E., from assistant professor of machine design; Albert E. Wells, from assistant professor of machine construction; Lewis Knudson, Ph.D., from assistant professor of botany; Ralph W. Curtis, M.S.A., from assistant professor of landscape art; E. Gorton Davis, B.S., from assistant professor of landscape art.

FOUR graduate students of psychology have been appointed as fellows for the coming year in the Bureau of Salesmanship Research affiliated with the Carnegie Institute of Technology, as follows: Dwight L. Hoopingarner, of the University of Texas; C. P. Stone, University of Minnesota; Russell L. Gould, Columbia University; Edward S. Robinson, University of Cincinnati. In addition to these appointments, Dr. Kurt Th. Friedlaender, of San Francisco, has received appointment as honorary fellow.

DISCUSSION AND CORRESPONDENCE

RESULTS OF A STUDY OF DOLOMITIZATION

THE writer believes that most dolomites were formed in the sea. Facts favoring this view are: (1) Dolomites and limestones are frequently interstratified. (2) Dolomitization is often related to original structures such as bedding, worm borings, etc., but rarely to faults and joints and other secondary structures. (3) Both mineralogical and chemical studies of limestones and dolomites show that limestones free or nearly free from dolomite, and dolomites nearly free from calcite are vastly more common than beds composed of mixtures of limestone and dolomite. If most dolomites had resulted from the action of underground waters, gradations between limestone and dolomite ought to be common. (4) Calcite fossil casts are often embedded in dolomite. Hollow casts are frequently enclosed by perfect dolo-