Terra will continue his geological work in Kashmir where the most recent mountain building has been going on. Dr. Hutchinson is leaving immediately for southern India in order to study the occurrence of relics of a Himalayan fauna. Mr. Lewis will resume his paleontological excavations in the Salt Range of the Punjab. The work of the expedition will be completed by February and will arrive in the United States in the early spring of 1933.

THE U. S. GEOLOGICAL SURVEY

THE annual report of the director of the U. S. Geological Survey states that the geologic work of the year included studies of many mining districts in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, and Oregon; of lead and zinc deposits in Virginia; of iron ores in Alabama and the Lake Superior region; of coal fields in Montana, New Mexico, Oklahoma, and Utah; and of oil fields and prospective oil and gas areas in California, Colorado, Mississippi, and Utah; besides general mapping and studies in many parts of the country.

Research work on fundamental problems of geology included special attention to the source rocks of petroleum, the structure and constitution of coal, and the systematic study of diatoms.

Investigation of mineral-bearing areas that might contribute tonnage to the Alaska Railroad was undertaken under a special appropriation of $250,000 made by Congress after the visit of a senatorial committee to Alaska in 1930. Continuation of the regular survey work in Alaska resulted in the geologic mapping of nearly 6,000 square miles and the topographic mapping of 5,680 square miles.

The topographic maps originally prepared as an essential base for detailed geologic mapping have proved to have many other uses, and the general realization of their value is shown in the increasing funds made available by states and other federal units for cooperation in this work. The topographic mapping done during the year covered nearly 26,000 square miles. Ten states, the District of Columbia, and Hawaii are now completely mapped, and the percentages in the other states range from eight in Florida to 88.9 in Virginia. Of the continental United States, exclusive of Alaska, 45.2 per cent. has been mapped. Office mapping from aerial photographs by stereophotogrammetric methods was completed for the Zion National Park and nearly completed for the Bryce Canyon National Park, both in Utah.

The study of water resources included stream gaging at about 2,800 gaging stations in all the states, the District of Columbia and Hawaii and investigations of ground water and power or reservoir sites in twenty-five states and Hawaii.

The classification of public lands with respect to their mineral, waterpower and agricultural value resulted in net decreases of 932,166 acres in areas withdrawn as possible coal or phosphate land and of 54,100 acres in areas classified as oil-shale land and a net increase of 510,217 acres in areas classified as coal or phosphate land.

The appropriations made directly to the Geological Survey for the year amounted to $3,141,740. Most of the states and several other government units cooperated in one or more phases of the work, the total amount available from all sources being $5,115,087. The unexpended balance of federal money at the end of the year was $206,412, of which $150,000 was made available by the Seventy-second Congress for expenditure in the fiscal year 1933.

THE REVIEW OF SCIENTIFIC INSTRUMENTS

ON January 1, 1933, The Optical Society of America will transfer to the American Institute of Physics the duty of publishing *The Review of Scientific Instruments*. At the same time, the Institute plans to expand the journal and to coordinate it with the entire list of Institute publications.

Under the new plan, *The Review* will contain each month an added section of "Physics News and Views." In this section it is planned to give a non-technical discussion of important developments in physics. Other features will be editorials, personal and institutional notes, programs and news of society meetings, book reviews and a summary of the contents of contemporaneous journals of physics.

The new section will in no way displace the present contents. Scientific articles on instruments and methods will continue to constitute the major portion of *The Review*. The abstracts of instrument literature will be retained. These original features of *The Review* will continue to be edited by Professor F. K. Richtmyer and a board appointed by The Optical Society of America.

The enlarged *Review* will be sent not only to all members of The Optical Society as at present but to every member of The American Physical Society, The Acoustical Society of America, The Society of Rheology and The American Association of Physics Teachers as well. It is planned, in addition, to send it to every non-member subscriber to any one of the Institute's publications, namely, *The Physical Review, Reviews of Modern Physics, Physics, Journal of The Optical Society of America, Journal of The Acoustical Society of America, Journal of Rheology* and the new *Journal of Chemical Physics*. For the members and other subscribers, combination rates will be so adjusted that *The Review* will come to them along with the journals they now receive for the same price as

they would have paid without it. The institute is enabled to render this service through the expectation that advertising in the journal will go far toward supporting it. It is to be made the sole advertising medium of the institute's publication program, the other journals being reserved exclusively for papers and articles in their respective fields. The new *Review* represents a service which will be shared by about five thousand individuals actively interested in physics and its closely associated fields.

SCIENTIFIC NOTES AND NEWS

A MEETING in commemoration of Graham Lusk, late professor of physiology in the Cornell Medical College, will be held under the auspices of the Harvey Society at the New York Academy of Medicine on Saturday evening, December 10, at 8:30 o'clock. Addresses will be made by Dr. Anton J. Carlson, Dr. Russell H. Chittenden, Dr. John A. Hartwell, Dr. Elliott P. Joslin, Dr. William S. McCann and Dr. Homer F. Swift.

DR. J. B. S. HALDANE, Sir William Dunn reader in biochemistry at Cambridge, head of the genetical department of the John Innes Horticultural Institution and Fullerian professor of physiology at the Royal Institution, London, was the guest of honor at a dinner on December 6, given by the American Institute, New York, at the American Museum of Natural History.

THE Board of Governors of the West China University gave a luncheon on December 6 in honor of Dr. and Mrs. R. Gordon Agnew, who are about to return to China. Dr. Agnew gave a résumé of work conducted by him and Mrs. Agnew on tooth decay, which was discussed by Dr. E. V. McCollum, professor of biochemistry in the School of Hygiene and Public Health of the Johns Hopkins University.

DR. EDMUND A. CHRISTIAN, Pontiac, Michigan, has been honored by friends and associates at a dinner celebrating his seventy-fifth birthday. In recognition of his fiftieth year in the practice of medicine in the state, a bronze plaque, executed by Carleton Angell, was unveiled during the dinner. It will be hung in the administration building of the Pontiac State Hospital, where for thirty-eight years Dr. Christian has been superintendent.

A DINNER was given on October 31, in honor of his seventieth birthday and of his retirement as chief engineer of the Board of Transportation of the City of New York, for Robert Ridgway at the Engineers' Club. Congratulatory messages were read from President Hoover, Governor Roosevelt, Acting Mayor McKee, Herbert S. Crocker, president of the American Society of Civil Engineers, and others. Mr. Smith presented to Mr. Ridgway a framed testimonial with the signatures of about 200 engineers and associates in the construction of the city's subways, aqueducts, under-river tunnels and water-supply system.

DR. C. L. MARLATT, chief of the U. S. Bureau of Entomology, was entertained recently by the Southern California Entomological Club, at the University of California's Citrus Experiment Station, at Riverside. More than a hundred members of the club greeted Dr. Marlatt, and listened to the address in which he told of the work of the bureau.

AT the recent Atlantic City meeting of the Radiological Society, Dr. W. Herbert McGuffin, of Calgary, Alberta, Canada, was named *president-elect.* Other officers elected were: Dr. W. Edward Chamberlain, of Philadelphia, *first vice-president;* Dr. W. Warner Watkins, of Phoenix, Arizona, *second vice-president;* Dr. Harold A. Spillman, of Ottumwa, Iowa, *third vice-president,* and Dr. Donald S. Childs, of Syracuse, *secretary and treasurer.* During the banquet the society's annual medal for distinction in radiology was presented to Dr. Leon Jean Menville, of New Orleans, who was recently appointed editor of *Radiology,* the journal of the society.

DR. W. G. WORKMAN, of the U. S. National Institute of Health, is suffering from an attack of typhus fever, which he helped to prove is transmitted by fleas. He is the third of the institute's staff to be stricken by the disease during the investigations. Just a year ago Dr. E. T. Ceder suffered an attack of typhus fever; Dr. R. E. Dyer, director of the typhus research work, is now convalescing from the disease.

DR. ALEXANDER WETMORE, assistant secretary of the Smithsonian Institution, was recently elected a corresponding member of the Northern Arizona Society of Science and Art.

DR. RUDOLPH MATAS, emeritus professor of surgery at Tulane University School of Medicine, has received through René Dalage, consul-general of France, the insignia of a knight of the Legion of Honor.

M. CABRERA, member of the Academy of Sciences at Madrid, and of the Institute of Physics, Chemistry and Physical Chemistry, has been made a doctor, *honoris causa,* by the University of Strasbourg.

THE University of Liverpool has conferred the title of professor emeritus on Dr. J. S. Macdonald, Holt professor of physiology from 1914 to 1932.

DR. WALTER LANGDON BROWN, Regius professor of physic, and Dr. John Edward Lennard-Jones, Plum-