A NEW list of publications of the United States Geological Survey, just issued, contains the titles of more than a thousand books and pamphlets. These reports cover a wide range of subjects. They include not only papers on geology and topography but reports on water resources and on technology. The Geological Survey was the nursery of the United States Reclamation Service and the Bureau of Mines, which now, in full growth, are carrying along successfully work begun by the survey years ago. The survey, however, still continues its work on water resources and includes discussions of technology in its annual volume "Mineral Resources of the United States." A glance at this list will show the great diversity of the subjects considered and the manifold nature of the science of geology. The reports include discussions of geologic chemistry, mineralogy, petrography and paleontology, as well as ore deposition and other matters of very practical importance. Much of the survey's late work has been directed to the study of mineral deposits of economic value. The work done in land classification has not yet found detailed expression in the survey's reports, but some papers prepared as a result of land-classification surveys have been printed annually in bulletins entitled "Contributions to Economic Geology." The list may be obtained by applying to the director of the survey at Washington, D. C.

The statistics of production of gems and precious stones in the United States in 1909, which were collected by the Geological Survey and the Bureau of the Census and have just been published, show a large increase in value over 1908. The total value in 1909 was $534,380; the value in 1908 was $416,063. The increase is due chiefly to larger outputs of turquoise, tourmaline, variscite, chrysoprase, californite and kunzite. The production of a number of precious stones—as beryl, garnet, peridot and topaz—showed a decrease in value. The output of turquoise matrix and turquoise amounted to over 17 tons, that of variscite to over 3½ tons and that of tourmaline to over 2½ tons. An account of the occurrence and production of gem materials in the United States, with notes on the precious stones industry, has just been published in pamphlet form by the Geological Survey in an advance chapter from "Mineral Resources of the United States, Calendar Year 1909." The pamphlet, entitled "The Production of Gems and Precious Stones in 1909," was prepared by Douglas B. Sterrett and may be obtained free by applying to the director of the survey.

UNIVERSITY AND EDUCATIONAL NEWS

THE legislature of Missouri has recently made appropriations for the state university which include $100,000 for a new laboratory of physics and $60,000 for a laboratory of agricultural chemistry. A building for veterinary science is now in course of construction at a cost of over $30,000. In the recent appropriations the amount appropriated for salaries and current expenses exceeded that of two years ago for similar purposes by $152,000. This amount will be mainly devoted to the increasing of salaries and the enlargement of the faculty.

AN anonymous donor has given Oberlin College the property fronting on South Professor Street in Oberlin, known as the Johnson estate. This comprises approximately twenty-two acres, and is valued at from $35,000 to $40,000.

BY the will of Mrs. Amelia Worthington, of Boston, widow of Bishop Worthington, of Nebraska, a bequest is made to Williams College amounting to $30,000, dependent upon certain contingencies.

MESSRS. MALLINCKRODT, of St. Louis, Mo., announce that they will pay a prize of $500 to a chosen student of chemistry in the Graduate Schools of Harvard University during the academic year 1911–12, on condition that he will serve in the Mallinckrodt Chemical Works in 1912–13 at a suitable salary.

TRINITY COLLEGE has given Cambridge University the sum of £1,000, which is to be used toward the erection of buildings for physiology and for experimental psychology.

THE University of Manchester has received an anonymous gift of £1,000 for promoting research work in medical subjects.

BY vote of the board of trustees it was decided last year that at the close of the school year 1911 the academy of the University of Illinois, which has existed since 1876, should be discontinued. Mr. J. P. Gilbert, who was an instructor in zoology, has just been elected head of the department of biology and agriculture in the Southern Illinois Normal at Carbondale. Another member of the academy force, Mr. S. E. Boomer, goes also to the Southern Illinois Normal as head of the mathematics department.

DR. HANS ZINSSER has been promoted to be professor of bacteriology in Stanford University.

THE School of Engineering of the University of Pittsburgh announces a new course in mechanical railway engineering which will be under the direction of Mr. D. F. Crawford, general superintendent of motive power, Pennsylvania lines west of Pittsburgh. Students working in this course will combine their theoretical course with practical work in connection with the Pennsylvania lines west of Pittsburgh.

THE Bryn Mawr European fellowship has been awarded this year to Miss Helen Tredway, who specialized in physics and chemistry; the president's European fellowship to Miss Mary E. Pinney in biology, and the Mary E. Garret European fellowship to Miss Margaret E. Brusstar, in mathematics.

DISCUSSION AND CORRESPONDENCE

THE ACOUSTICAL ENGINEER

THE subject of acoustics as applied to auditoriums deserves a much greater interest on the part of physicists and architects. It is not just, however, to offer criticism without considering some of the reasons for this lack of attention. The physicist realizes that there are many practical problems which constantly tempt him to turn from the performance of his proper function. Moreover he knows that physicists (Sabine and others) have already obtained results far in advance of what are actually utilized by architects to-day. On the other hand, the architect is a man of many troubles and is therefore not inclined to add to his cares by indulgence in experimental work or by applying Sabine's formula to a proposed auditorium. His fee does not cover such expert work and he very naturally attempts to do well that for which he is paid. In short, there is not a sufficient incentive for active interest on the part of either the physicist or the architect.

In spite of the excellent work that has been done, particularly by Sabine, our knowledge of the subject of architectural acoustics is quite limited. It is true (although doubted even by some physicists) that one can not only correct excessive reverberation of an auditorium already constructed, but he can even compute what effect will be had in a proposed structure. This, however, is only a small part of the achievement that will some day be possible. Again, our methods of correcting excessive reverberation are not entirely satisfactory either to an architect, or to a layman who desires the remedy to be both permanent and sanitary. It is not for the physicist to improve our present methods of remedying excessive reverberation for this is a practical problem involving structural knowledge. Neither can he be expected to think of the problems of theoretical interest which will sooner or later confront one engaged in applied acoustics.

It seems, then, that the future progress of the subject of acoustics as applied to auditoriums rests in a very large measure upon the activity of what might be termed the "acoustical engineer." This engineer must be an architect of scientific training—one who will be interested alike in the architectural and scientific aspects of the problems. Generally speaking, each auditorium needs a slightly different study and one who is to succeed must have sufficient scientific interest and ability to make the necessary investigations. As so well known, absorbing material applied to the proper area of surface will correct for excessive reverberation. But the amount of area that can be utilized, the character of the interior finish, etc., enter into the