etc., is sketched out, but no details are given of any work that has been actually accomplished.

IN connection with the search for potash and nitrates in the United States the government receives many reports of supposedly valuable discoveries. A letter recently received by the United States Geological Survey of the Interior Department describes a cave in one of the Southern States which was worked by the Confederacy during the Civil War for potassium nitrate. This cave is said to contain at least 1,000,000 tons of nitrous earth, which, however, contains only 1 to 2 per cent. of nitrate. The survey now states that it seems very doubtful whether such material can be profitably used as a source of nitrate salts. The minimum grade of caliche now worked in the Chilean fields contains 12 per cent. of sodium nitrate, and though there has been much criticism of the crudeness of the methods employed there, the work is done by very cheap Indian labor, and it is doubtful whether leaner material could be worked to advantage here, where the price of labor is so much higher. Several hundred thousand dollars have recently been expended in one of the Western States in testing the proposition to utilize low-grade nitrate. The results have been negative. The nitrate caves in the South were worked during the Civil War by very crude methods. Generally the cave earth was shoveled into iron pots, where it was treated with water and heated over wood fires to leach out its soluble parts. The liquor was drawn from one pot into another and used for treating fresh material until it became a highly concentrated solution of nitrate salts. It was then drawn off and allowed to cool, whereupon the nitrate crystallized. The remaining liquor was then employed to leach fresh material and the crystals were separated and sacked for use.

To make the desert regions of the western part of the United States more accessible by locating their widely separated watering places and erecting hundreds of signposts to give directions and distances to the watering places is an interesting and practical project recently undertaken by the United States Geological Survey, Department of the Interior. The project involves also the work of making accurate maps showing the locations of the watering places, of preparing guides describing them and giving the distances between them, of selecting well sites, and of developing watering places (so far as money available will permit) in localities where water is most needed and where the geologic investigations indicate that underground supplies can be obtained. It is expected that this work will help to expedite the discovery and development of the rich mineral deposits in parts of these regions. It will, of course, also be valuable in other respects. In recent years the water-supply geologists of the Geological Survey have developed trustworthy methods of locating ground water in arid regions from surface indications and of estimating the depth to water and the approximate annual yield of the underground reservoirs. These methods will be applied and further developed in connection with the survey of desert watering places. A number of Survey parties are now being organized in Washington and will in a few weeks be at work in the most arid parts of Arizona, California, and Nevada. Each party will consist of a geologist and one or more assistants and will be provided with an automobile and camping outfit.

UNIVERSITY AND EDUCATIONAL NEWS

THE will of Miss Kate Collins Brown, formerly of New Orleans, who died on August 19, disposes of an estate of more than $700,000 of which she left nearly $500,000 in direct bequests and gave the residue to Columbia and New York Universities and the Presbyterian Hospital. The share of the educational institutions is to establish scholarships paying $300 a year to needy students.

THE Pacific Coast Gas Association has given $4,415 to the University of California to further instruction and research in gas engineering.

THE nineteenth annual conference of the Association of American Universities will hold

its annual meeting at the State University of Iowa on November 8, 9 and 10.

The Rev. Dr. Anson Phelps Stokes, secretary of Yale University, has been chosen principal of Hampton Normal Institute, to succeed the late Dr. V. B. Frissell.

Dr. William B. Meldrum, of Vassar College, has been appointed assistant professor of chemistry at Haverford College, taking the place of Lyman B. Hall, professor of chemistry, who resigned at the retiring age after thirty-seven years of service.

The following changes have been made during the summer in the staff of the department of geology at the University of Illinois: Professor C. W. Rolfe has retired as professor emeritus. Mr. Fred H. Kay, lecturer on petroleum geology, has gone into the service of the Sun Oil Company; Dr. F. M. Van Tuyl, instructor, has resigned to accept the assistant professorship of geology in the Colorado School of Mines; Dr. C. W. Tomlinson, A.M. (Wisconsin), Ph.D. (Chicago), has been appointed associate in structural and general geology.

Mr. F. A. C. Perrine has resigned as assistant professor of psychology at the University of Pittsburgh to accept the position of adjunct professor of psychology at the University of Texas. Mr. Jos. U. Yarbrough was made an instructor in psychology at the University of Texas.

Dr. J. W. Beede, associate professor of geology at the Indiana University, has accepted a position in the bureau of economic geology and technology, in the University of Texas.

At Cornell University, Bernard A. Chandler has been appointed assistant professor of forest utilization for 1917–18, in place of Professor A. B. Recknagel, who is absent on leave.

DISCUSSION AND CORRESPONDENCE

INTERNATIONAL UNITS AND SYMBOLS IN AEROGRAPHY

To the Editor of Science: In the somewhat appreciative review of the text-book on "Aerography" in Science, September 14, 1917, on p. 265 is the statement "the student may be confused in having absolute pressure units presented as 'kilobars' when they are commonly known as 'millibars.'" The reviewer underestimates the intelligence of university men; because the reasons why kilobar is preferable are given at length on page 30. Kilobar is as natural as kilogram. It may also be added that those who persist in advocating the retention of millibar are evidently not aware that V. Bjerknes expressly states that in his system the C.G.S. unit will be the *microbar*.

Again, the statement of the reviewer that "kilobar has historic preference over millibar but millibar is the internationally accepted term" is both inaccurate and misleading. Millibar is the earlier term and it has international acceptance only because there has been no opportunity to have the mistake corrected by international agreement. Moreover it is extremely problematical if the International Congress will ever meet again. But is it good form in scientific work to continue the use of an erroneous term because an official disclaimer is lacking? There are some other matters which are of perhaps greater moment. It is a strange commentary upon the work of the International Meteorological Congress that while giving us symbols for no less than 23 conditions varying from haze to aurora, there are no symbols for bright and diffused sunshine, mountain and valley winds, temperature inversion and sea-breeze. For the last named, the sea-breeze, we have been using at Blue Hill, three arrows on a vertical staff, to represent the characteristic changes in circulation. As the sea-breeze is a frequent and very important aerographic condition, any suggestion for a more fitting symbol will be appreciated.

Alexander McAdie

Blue Hill Observatory,
Readville, Mass.

SYMBOLS

I am confident that there is not a worker in the wide domain of physical science who