

July 4—"Trinidad: Its flora and scenery," Dr. F. J. Seaver; July 11—"How to think about evolution," Dr. C. Stuart Gager; July 18—"Seeds: Their tricks and traits," Dr. William Crocker; July 25—"Lilies," Dr. A. B. Stout; August 1—"The forest resources of the northwest and their conservation," Professor George B. Rigg; August 8—"Flowers of the summer garden," Kenneth R. Boynton; August 15—"The rose mallows, cultivated and wild," Dr. A. B. Stout; August 22—"The dismal swamp of Virginia," Dr. Arthur Hollick; August 29—"Scenery of our western mountains," Le Roy Jeffers.

THE program of the Astronomy and Physics Club of Pasadena has during the last three months included the following subjects: March 13—"The distribution of valence electrons in crystals," Dr. M. L. Huggins, National Research Fellow; April 3—"Recent work on the absorption of X-rays," Dr. F. K. Richtmyer; April 10—"On the theory of diamagnetism," Dr. S. J. Barnett; April 17—"Intensity of lines in multiplets," Dr. H. N. Russell; April 24—"Secondary emission due to positive ion bombardment," A. L. Klein; May 1—"The interior of stars," Dr. S. Rosseland; May 15—"Reports on the Washington meetings," Dr. R. A. Millikan; May 22—"Two-electron jumps," R. A. Millikan and I. S. Bowen; May 29—"Thallium fluorescence excited by mercury light," Dr. Stanislaus Loria.

THE Navy Department is making preparations to observe the solar eclipse January 14 from the East Indian Island of Sumatra. It will send an expedition from the United States Naval Observatory at Washington, headed by Captain F. B. Littell. The party will include George H. Peters and George M. Raynsford, astronomers from the Naval Observatory, and Professor J. A. Anderson, of the Mount Wilson Observatory. In addition there will be a corps of enlisted men including medical attendants and seamen. The expedition will sail from San Francisco September 1 on the *Chaumont* to prepare for the observations. Three tons of equipment have already been shipped to Norfolk. The observers will take motion pictures of the eclipse and pictures of the activities of the party and a vessel will be sent to Sumatra to conduct radio experiments during the eclipse period.

DR. WILLARD C. RAPPEYE has resigned as director of the New Haven hospital and as professor of administrative medicine at Yale University to accept the appointment of executive officer of the recently organized commission of medical education. He will be director of the survey of medical education which will be started by the Association of Medical Colleges. Other members of the commission to make the survey are President A. Lawrence Lowell, of Harvard University; President Ray L. Wilbur, of Stanford Uni-

versity; President Walter A. Jessup, of the University of Iowa; Chancellor Samuel P. Capen, of the University of Buffalo; Sir Robert Falconer, president of the University of Toronto; Dr. Walter L. Bierring, of the National Board of Medical Examiners, and former Dean George Blumer, of the Yale Medical School.

UNIVERSITY AND EDUCATIONAL NOTES

DR. CLARENCE C. LITTLE has resigned the presidency of the University of Maine to become president of the University of Michigan, in succession to the late Dr. Marion L. Burton.

ADOLPH H. SCHULTZ, research associate in the department of embryology, Carnegie Institute of Washington, has been appointed associate professor of physical anthropology in the Johns Hopkins University.

DR. EDWARD SAPIR, director of the Victoria Museum, Ottawa, has been appointed associate professor of anthropology at the University of Chicago.

DR. HORACE SCUDDER UHLER has resigned his position as associate professor of physics at Yale College to become head of the department of physics in Gettysburg College.

DR. RICHARD A. MUTTKOWSKI, associate professor of vertebrate zoology at the University of Idaho, has become professor of biology at the University of Detroit. During the months of July and August Professor Muttkowski will be in Glacier Park, investigating lakes and streams for the Bureau of Fisheries.

REVEREND JAMES B. MACELWANE, S.J., assistant professor of geology and director of the seismographic station at the University of California, has been appointed professor of geophysics and seismology and director of the seismographic station and of a new department of geophysics and seismology in the Saint Louis University, Missouri. Dr. Perry Byerly, Jr., instructor in physics in the University of Nevada, has been appointed instructor in geology and director of the seismographic station at the University of California.

RECENT appointments to the staff of the State Agricultural Experiment Station at Geneva include C. B. Sayre, of the University of Illinois, as associate in research (horticulture); Leon K. Jones, of the University of Wisconsin, as associate in research (plant pathology), and L. R. Hawthorn, a graduate student at Cornell University, as assistant in research (horticulture).

PROMOTIONS in the faculty of the Case School of Applied Science have been announced as follows: As-

sociate Professor C. L. Eddy was made professor of railroad engineering; O. M. Stone was advanced to assistant professor of descriptive geometry, W. E. Nudd to assistant professor of drawing, T. D. Owens to assistant professor of electrical engineering, C. F. Prutton to assistant professor of chemical engineering, H. D. Churchill to assistant professor of mechanics, Max Morris to assistant professor of mathematics and K. H. Donaldson to assistant professor of mining engineering.

PROFESSOR R. W. REID has handed in his resignation from the chair of anatomy at the University of Aberdeen, which he has held since 1889.

PROFESSOR RICHARD GOLDSCHMIDT, junior director of the Kaiser Wilhelm Institute for Biology, Berlin, has declined the chair of zoology in Berlin University.

DISCUSSION AND CORRESPONDENCE

THE "UNDERTOW"

PEOPLE who have had long experience in bathing in Lake Michigan state—and they state correctly—that there are, at certain times and places, currents which may carry a swimmer away from shore and therefore put him in danger of drowning. The bathers speak of such currents as "undertow." Professor Walter C. Jones¹ writes that the undertow is a myth, and he gives the impression that there are no currents dangerous to bathers in Lake Michigan. It is possible that some reader who trusts this impression and acts upon it may be drowned in consequence. Therefore I write to state that there are dangerous currents in Lake Michigan and that they are the currents which the bathers (correctly or incorrectly) name "undertow"; and I shall give a brief account of *one* set of conditions under which these currents are produced.

During a northeast storm at Chicago there is a very considerable movement of surface water toward the shore. But this movement is complicated by certain local conditions. The wind from the lake blows, as a rule, not at right angles to the shore, but obliquely from a northerly direction. Consequently, as the wind drives the surface water before it, it causes a drift along-shore southward. At a point here and there on the beach the southward drift is blocked by a pier—a straight, solid wall extending vertically out from shore. On meeting the pier, the southward drift is turned from its course, and in some cases it produces a current which flows directly away from shore, which is strong at the surface and extends to an unknown depth, and which is swift enough to prevent the average swimmer (at least)

from making any headway against it. Near 75th Street, Chicago, when I used to swim there, we bathers made it a rule to keep far away from such piers as I have described during a northeast storm.

The fact that Professor Jones never encountered such a current is not at all surprising. It simply means that he never swam in the lake under the special conditions of time and place under which the current comes into existence. Shore currents in general are local and variable phenomena; that very fact makes them dangerous.

The warning here given to bathers in Lake Michigan should be extended to surf bathers elsewhere. There are many surf beaches on which a dangerous outward current exists at certain times, and the people call it an "undertow." I do not know whether they are correct in naming it an undertow, but the important fact remains that the dangerous current exists and that "undertow" is the common name for it. At any bathing beach in the United States, if an intelligent and trustworthy native tells you that he has at times observed an undertow on that beach, do not dismiss his statement as a myth, but understand what he means by it. He means that he has observed a dangerous current of some sort. Give heed to his warning.

WALLACE CRAIG

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I HAD just got the salt water out of my throat after an encounter with what would commonly be called an "undertow" when I read Professor W. M. Davis's article on the subject, and believe that I can offer some relevant observations. They will support Mr. Davis's protest against the common conception of an "undertow," although I can assure him that the seaward current is sometimes more persistent than he is willing to concede.

I might, perhaps, be classified as an expert swimmer, although not as a powerful or fast one. That is, I can swim several miles without resting, when in practice, and use the breathing system employed in the Australian crawl. Because swimming and breath control are automatic, I was able to observe the conditions in this "undertow," despite the alarm one feels when the conditions of the bath are not of his choosing.

I went swimming a few days ago at Carmel-by-the-Sea. There was a light offshore breeze. Carmel has a "pocket beach" of the most pronounced type, about three miles across at the entrance, a couple of miles deep and rounded in the center. It is exposed to the full sweep of the Pacific, and shelves quite rapidly to deep water.

¹ SCIENCE, Vol. LXI., April 24, 1925, p. 444.