

a course of instruction at the Naval Medical School. During this course he receives full pay and allowances of his rank, and at the end of the course he takes a final examination. Two of these courses begin each year, one commencing about the first of October, and the second course beginning early in February. The examinations are held in several of the coast cities in the United States, both on the east coast and the west coast, and also at Chicago, Ill. Literature describing the navy as a special field for medical work, and circulars of information for persons desiring to enter the medical corps, may be obtained by addressing the Surgeon General, U. S. Navy, Navy Department, Washington, D. C.

#### UNIVERSITY AND EDUCATIONAL NEWS

By the will of Mrs. Mary W. Harkness, widow of Charles W. Harkness, about \$1,100,000 is bequeathed to public purposes. The largest bequest is \$300,000 to Yale University, the income to be used in the payment of salaries of officers of instruction.

BOSTON UNIVERSITY has received an anonymous gift of \$100,000 for scholarships for young men in the college. The gift is made in honor of Augustus Howe Buck, emeritus professor of Greek.

PROFESSOR AND MRS. WILLIAM A. HERDMAN, of the University of Liverpool, have given to the university the sum of £10,000 for the endowment of a chair in geology in memory of their son, who was killed in the war.

PAUL SABINE, of Harvard University, has been appointed assistant professor of physics at the Case School of Applied Science and will have charge of the physics laboratory.

DR. A. R. DAVIS, formerly research assistant at the graduate laboratory, Missouri Botanical Garden (Shaw School of Botany, Washington University), has been appointed assistant professor of botany at the University of Nebraska. Mr. R. A. Studhalter and Mr. H. C. Young, formerly Rufus J. Lackland research fellows in the same institution, have been appointed, respectively, assistant botanist in the Mon-

tana Agricultural Experiment Station and instructor in botany in the Michigan Agricultural College. Miss Ruth Beattie has accepted a position as instructor in botany at Wellesley College.

At the University of Sheffield Dr. W. E. S. Turner has been appointed lecturer in charge of the new department of glass technology.

---

#### DISCUSSION AND CORRESPONDENCE PSYCHOLOGY AND MEDICAL EDUCATION

TO THE EDITOR OF SCIENCE: In your issue of November 10, Dr. Cecil K. Drinker has approached the problem of advising students planning to enter the medical profession as to what courses over and above those required they can most profitably give their attention to during their college years. Dr. Drinker has urged the undergraduate to take as much physics and chemistry as possible: I should like to enter a similar plea in favor of psychology.

The importance of a knowledge of psychology to all persons engaged in the practise of medicine is, no doubt, widely recognized by both practitioners and teachers of that science and art to-day, and the value of psychological study as a part of medical education received special attention in a symposium and report on the subject in SCIENCE for October 17, 1913. Little has been heard of the matter recently, however, and I feel it can do no harm to bring up the subject again in the hope that real interest may be aroused in pushing it more effectively to the front.

The conclusions of the report referred to clearly enunciate the need of more cooperation than is at present existent between psychologists and—not only psychiatrists, whose concern is primarily with the problems of the diseased mind—but also the physicians of the body. For all schools of psychology to-day acknowledge and even emphasize the inseparableness of mental states and processes from the physiological conditions which underlie or at least invariably accompany them, and medical men are fully aware of the influence which mental states have upon the health of the body.

But I am especially interested here in adding to what was said by Dr. Franz's committee a word for the subject of *abnormal* psychology in a premedical course. A glance at any of the text-books on mental disorders—such as those of Stoddart or Diefendorf—reveals at once psychological conceptions of the crudest nature. In the medical school, when the student's attention is necessarily directed entirely to the body side of that complex affair called the human individual, it is but natural that a strongly materialistic bias should develop which, if not counterbalanced by a predirected emphasis on the side of the psychical, is certain to issue finally in a complete loss of the necessary scientific equilibrium. The medical school teacher delights in demonstrating to his pupils that the phenomena of insanity are merely symptoms of diseases of the brain and nervous system, which can be explained in purely physiological terms without invoking any non-material influences. Now this may all be true, but certainly it is but fair that the psychologist should be given his opportunity to demonstrate also that those same phenomenon can be fully described, and many of them explained, in purely mental terms without referring to the brain or nervous system at all, and that a purely psychological *description* is in many cases the only really valid and useful one. It would be well, of course, if all psychologists and all physicians were broad-minded enough to appreciate equally the mental and the physiological factors in human life, but this is perhaps too much to expect of any infra-angelic intelligence! Such being the weakness of the human intellect, therefore, we can but recognize it, and seek to overcome the one-sidedness of the physician's outlook by the other-sidedness of the psychologist's viewpoint.

For the reassurance of the physician it may be well to add that, on the principle that "he who laughs last laughs best," no possible harm can be done by accepting the suggestions I urge, as it is the medical school teacher who will have the last shot at the student and thus the better chance of influencing his views for the future. Furthermore I am convinced that

a firm preliminary grounding of the student in the principles of the normal *and abnormal* mind as the psychologist studies them can not but be of the greatest positive value to the physician.

JARED S. MOORE

WESTERN RESERVE UNIVERSITY

#### THE RETENTION OF OIL BY CLAY AT WATERVILLE, MAINE

WHILE attempting to unravel the extent of the post-Pleistocene terrace at Waterville, I had occasion to ask one of the railroad officials, Mr. Thomas Harrold, whether the railroad yards are underlain by clays or the slate ledge which outcrops near by. He informed me that they are underlain by clay and gave the following interesting facts in explanation of his knowledge. In March, 1911, he was superintending the installation of a new set of scales in the Waterville yards. During the excavation for the foundation, clay was encountered a few feet below the surface and a fluid, supposedly water, collected in the hole. Further examination showed this to be kerosene, and about five barrels were removed. The presence of the oil was explained when it was remembered that in 1909 the contents of a tank car had been lost in the yards.

Several years after the events recorded above, in the summer of 1914 or 1915, came a period of unusually heavy precipitation. The water table over the clay rose near the surface and kerosene began to collect in the drainage ditches near the tracks. One man is said to have collected eleven barrels of the kerosene and the adjoining population were so active in digging pits to collect the fluid that the tracks were undermined and the railroad officials found it necessary to prohibit the removal of the oil.

These are the facts as reported to me. I might add that the railroad yards are just to the west of the Kennebec River. The river flows in a slate gorge here, the rock extending to the top of the bank on this side; then comes a flat of 10-15 feet representing the old railroad bed; back of this the ledge is overlain immediately by the fill beneath the present tracks.