

after all, our language is but a symbol anyway, whether we be called psychotic or normal! Dr. White did much through his early espousal of the teachings of Freud to bring about an understanding of the unconscious mental mechanisms. The existence of these mechanisms is not denied to-day by many psychiatrists, and numerous happenings in everyday life emphasize the truth of the teachings of Freud. One of these truths, which may well be borne in mind in these parlous times of international name-calling, is that there is no such thing as pure reason, but that emotion colors every act and thought. A prominent English psychiatrist, Dr. Wilfred Trotter, has stated the case recently in a few telling words: "We can not separate off the reasoning process as such and set it to work in an emotional vacuum." He adds that if one says, "I am looking at it without prejudice," we may be sure that the statement is untrue—"We should do well on these occasions to inquire closely by what precise

mechanism this supernatural purgation has been effected." A tremendous expansion in the psychiatric approach to medicine may confidently be looked for, and in this field we shall be constantly indebted to the contributions of Dr. White. Through his profound philosophical insight he adumbrated many things which have perhaps yet to be demonstrated, but as time goes on developments corroborate his keen intuition, aided by his scholarship and deep humanity.

We need have no fears that the development of medicine is at an end. Even though the world be troubled, we may confidently look for peace and satisfaction in the field of medicine, a field which is only at the beginning of possibilities of service and benefit to mankind. That medicine will continue as a profession in the hands of men possessed of individual initiative and of professional ideals, we likewise need have no doubt.

## OBITUARY

### HENRY CHANDLER COWLES

HENRY CHANDLER COWLES was born at Kensington, Conn., on February 27, 1869. He died at his home in Chicago, Ill., on September 12, 1939, after a prolonged illness. He received his early education in the public schools and in the New Britain High School. He entered Oberlin College and was graduated with the degree of A.B. in 1893. He taught natural science at Gates College during 1894-95, and held a fellowship at the University of Chicago during 1895-96. His graduate studies were begun there in geology, but upon the appointment of the late John M. Coulter as professor of botany, he became a member of the first group in that science at the University of Chicago. While Cowles was a graduate student, the appearance of Warming's celebrated text-book of plant ecology inspired and guided him in becoming a pioneer leader in ecology in America. He received the degree of doctor of philosophy in 1898, presenting as his thesis his classical paper on the vegetation of the sand dunes of Lake Michigan. He then attempted to apply the principles of dynamic vegetation, so evident in sand dunes, to vegetation in general. The resulting "Physiographic Ecology of Chicago and Vicinity" formulated a philosophy of vegetation in which the central principle was that classification to be valid must be genetic and dynamic. In this monograph the concepts of succession and climax were for the first time adequately expressed. The principles thus enunciated were so vital and so fundamentally important that scores of graduate students were later guided in their researches by these two early publications.

In 1897 he became an assistant in the newly organ-

ized department of botany in the University of Chicago. From that time onward he was advanced repeatedly in rank until in 1911 he became professor, and in 1925 chairman of the department, a position he held until his retirement in 1934. In 1926 he became editor of the *Botanical Gazette*, a task in which he had assisted for many previous years and relinquished only at his retirement. His alma mater, Oberlin College, gave him the honorary degree of Sc.D. in 1923.

As a leader in plant science, particularly in dynamic plant ecology, he was enthusiastic but never dogmatic. He formulated no rigid system with complex classification and formidable new terminology, preferring to use non-technical language except when new ideas demanded new terms. From the beginning of his university work he was inspiring with facts, processes and principles, the basis of his stimulating teaching. He soon gathered about him a group of men and women who effectively spread the knowledge of dynamic ecology throughout the land. In 1914 the Ecological Society of America was organized, largely through the efforts of Cowles and his former students. One of these students, V. E. Shelford, now a leader in the field of animal ecology, became the first president of the new society. Cowles was its first secretary-treasurer, its president in 1917 and always a wise counselor regarding its welfare.

His world-wide leadership in the field of plant ecology was recognized in 1930, when at the International Congress, meeting at Cambridge, England, he was made president of the section of phytogeography and ecology.

In 1911 appeared the "Chicago Text Book of

Botany" in two volumes, afterwards expanded to three. Cowles contributed the volume dealing with ecology covering the branch of the subject known as autecology. In it, the theory of mechanical causation was stressed rather than teleology and adaptation which had previously been somewhat widely accepted.

No teacher brought his students more directly to nature than Cowles. Field trips, varying in length from one day to many weeks, inspired others to use the out-of-doors classroom. This led to his useful activities in all lines of conservation. No one was more influential than he in establishing the State Park system of Illinois and the Forest Preserves of Cook County, Ill. For many years he was president of the Chicago Academy of Sciences and a charter member and an active supporter of the Illinois State Academy of Science. He was also a patron and trustee of the Geographic Society of Chicago and president of the society for a term of years.

A member of many other scientific societies he served as president of the Association of American Geographers in 1910, as president of the Botanical Society of America in 1922 and vice-president of Section G of the American Association for the Advancement of Science in 1913.

In 1935 the July issue of *Ecology*, the official journal of the Ecological Society, was dedicated to Cowles by his students and friends. It was filled with articles from students and colleagues from America and from several European countries. From an appreciation of their friend and teacher, written for that issue of *Ecology* by W. S. Cooper, we quote the following paragraph:

"A man may be a great scientist and a great teacher and yet inspire in his colleagues and students little affection or none at all. With Cowles it was far otherwise. Something more than mere respect for high scientific attainment is necessary to account for the fact that, when the plan of this special number of *Ecology* was made public, more than three hundred persons responded. With almost every contribution came a letter expressing admiration for Cowles as a scientist, as a teacher, and above all, as a man. These facts speak for themselves; formal tribute is superfluous. And yet, merely because it is a joy to do so, we make mention of a few of his many lovable traits—his unflinching good humor, his far-famed ability in telling a story, his readiness to give ungrudgingly of time and effort in the service of students and friends, his eagerness to discover and commend whatever was

meritorious in the work of a fellow scientist or admirable in the man himself.

"He relinquished his active labors secure in the consciousness of work well done, confident of achievement beyond the ordinary lot. He laid the foundation for a new and useful branch of science, he constructively influenced the thought of hundreds of investigators and teachers, and in his professional and personal contacts he made for himself a multitude of devoted friends."

GEORGE D. FULLER

THE UNIVERSITY OF CHICAGO

## RECENT DEATHS AND MEMORIALS

JOHN ALLEN FULTON, director of the Mackay School of Mines of the University of Nevada, who at one time was Republican nominee for Governor of Nevada, died on October 9 at the age of sixty-one years.

DR. H. O. KNIGHT, professor and head of the department of anatomy at the University of Texas, died on October 5 at the age of fifty-eight years.

DR. ROBERT ALEXANDER CRAIG, since 1904 professor of veterinary science at Purdue University, died as the result of a motorcycle accident on October 12. He was sixty-seven years old.

JOHN STUART CAMPBELL, assistant professor of optics at the University of Rochester, died by suicide on September 26. He was thirty-five years old.

FREDERIC THEODORE BIOLETTI, professor of viticulture at the University of California, died on September 12. A correspondent writes: "He was one of a group of young men who in the 1890s at Berkeley developed under the influence of Professor Edward L. Greene a permanent interest in botany. He made many critical plant collections which have been cited in Engler's 'Pflanzenreich' and other works. His vocation was viticulture. In this subject he was for nearly fifty years instructor and professor in the College of Agriculture of the University of California, save for an interruption of two years' teaching in South Africa. He published many papers in his field."

A PICTURE of Dr. Warren P. Lombard, a member of the faculty of the Medical School of the University of Michigan from 1892 to 1923, was recently presented to the Medical School library in honor of his memory by a close friend, Colonel Ambrose Pack. Dr. Lombard was eighty-four years old at the time of his death last July. An obituary appreciation by Dr. Robert Gesell appears in the issue of *SCIENCE* for October 13.

## SCIENTIFIC EVENTS

### BIRD PROTECTION IN THE BRITISH EMPIRE

REPORTS on the present state of legislation for the protection of birds and its effectiveness in more than

twenty different countries are printed in the fifth bulletin of the International Committee for Bird Preservation. The *London Times* gives an account of several relating to countries in the British Empire.