NATIONAL ACADEMY OF SCIENCES

WALTER BOWERS PILLSBURY

1872—1960

A Biographical Memoir by
WALTER R. MILES

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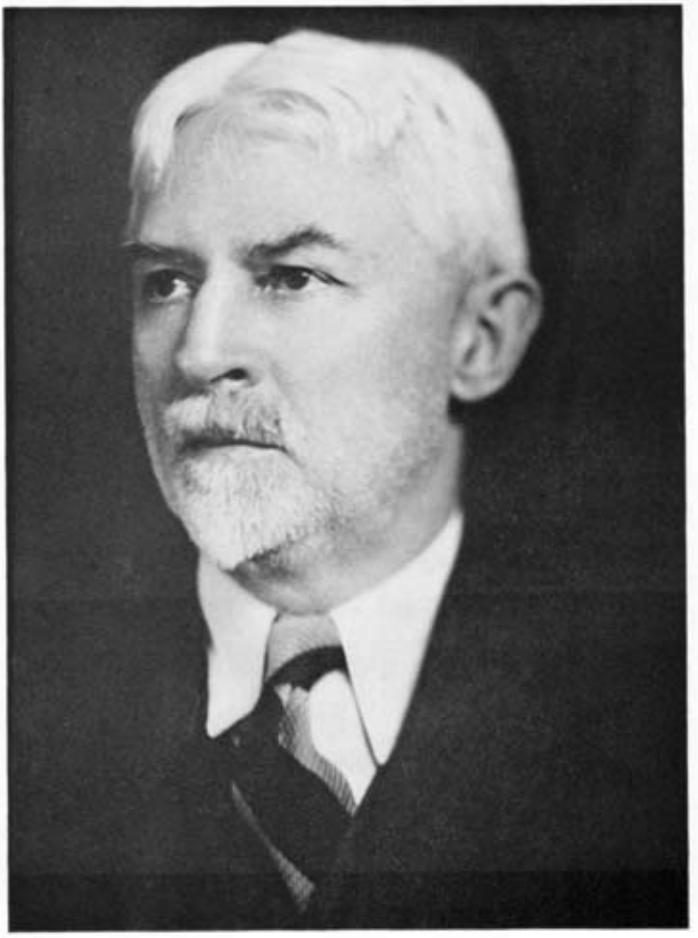

W. B. Pillsbury

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July 21, 1872—June 3, 1960

BY WALTER R. MILES

ELECTED to the Academy in 1925, an outstanding scientist and writer in the field of experimental psychology, Walter Bowers Pillsbury has been widely known and respected by generations of college students and by the teachers of those students. He was one of the early prominent American psychologists to complete his graduate training in the United States under what were considered quite ideal and stimulating circumstances. During his graduate studies in America he advanced the international front of his chosen science by the translation of important German publications into English. Within a year after receiving his doctoral degree at Cornell University he joined the faculty of the University of Michigan. Here he developed and headed a productive laboratory and department of psychology. He had been a member of the University of Michigan community for sixty-three years when he died suddenly in Ann Arbor on June 3, 1960, at the age of eighty-seven. During the last week of his life he was moving about apparently in good health, associating with friends and colleagues on the campus and at the University Club.

In 1635 Pillsbury's ancestors were living in Newport, Massachusetts, and it is recorded that one ancestor was given land in southeastern Maine after serving in the Revolutionary War. His mother's ancestors were sea captains who lived near Mt. Desert, Maine. His mother, Eliza Crabtree (Bowers) Pillsbury, was graduated from Kent High School and later taught in Rockford Seminary, Rockford College,

Illinois. Walter Pillsbury's father, William Henry Harrison Pillsbury, D.D., after college graduation was a Union soldier in the Civil War. After his discharge he enrolled at Boston University and was graduated in theology. He then served as pastor in a Methodist church in Portland, Maine, for three years. The succeeding appointment was to Burlington, Iowa, and it was here that Walter Pillsbury was born, July 21, 1872. During the early years of Walter's life his father because of his success in building up churches was moved quite frequently, serving a succession of congregations in county seats of southeastern Iowa.

Walter was the eldest in this family which came to include seven children, four boys and three girls. He perforce attended a succession of public schools and in spite of the handicap of discontinuity seems to have made good progress, due in part, no doubt, to the strong educational influences exerted by his parents. He learned to read early and by the time he was seven reading had become his avocation. His father, described as an avid book buyer who was often seen studying secondhand book catalogues, accumulated a library of two or three thousand volumes. Although his shelves held a goodly number of books on theology, there were also many on philosophy, literature, popular science, and standard history. In this family there were often discussions of questions and problems which resulted in suggested readings among the books in the home library. The pastor's wife sometimes tutored her children in Latin. As she was interested in botany, she developed a herbarium and was always trying to add other specimens to it. Parental educational influence was continuous, even though residence might be transitory.

When Walter was thirteen he had three brothers and three sisters, and his parents decided that living on a farm would be a good way to meet the needs of this family. About 1880 Pastor Pillsbury had purchased some land when an Indian reservation was abandoned near Fullerton, Nebraska. In 1885 he decided to farm this land and with team and wagon moved his family and chattels to a small house that stood on the place. The hilltop location of this dwelling gave a wide

view of almost unbroken prairie. Life was not unlike that of pioneers. The small church in Fullerton was not far away from his farming pasture and, furthermore, the town had a high school. It was not all work and no play in this country community. Hunting and fishing and other recreations were enjoyed. Two teachers constituted the faculty at this high school, and Walter, attending as a new student, seems to have impressed his teachers favorably. He took more courses than would usually be permitted and, it seems, within one school year was given two years of high school credits. When summer vacation came he started to learn the printing trade as an apprentice in the shop of a weekly newspaper. Also he occasionally served as a reporter. These interesting activities had become possible because the family had moved into town. The farming adventure had actually proved impractical before the end of the first winter. In 1886 Pastor Pillsbury was assigned to a church in Oskaloosa, Mahaska County, Iowa, and his eldest son entered high school with junior standing. The Iowa schools were at that time more formal than those in Nebraska, and Walter was allowed to take only the regular number of courses. He was graduated in the spring of 1888. That autumn he enrolled as a freshman in Penn College, which had been founded by Quakers in Oskaloosa in 1873. This institution was small, young, and vigorous. Walter, having lived nearby for two years, knew much about Penn and was enthusiastic to become a student there. He described the college faculty as ranging from the high school level to men with doctor's degrees. He noted that chemistry was taught by a man with a degree from Johns Hopkins in geology, and German by a man who had earned his degree in theology in Germany. Both these men he described as competent scholars and inspiring teachers. The other faculty members might compare well with the teaching fellows who now give much of the elementary work in large universities.

Freshman Pillsbury, two months past sixteen, was about two years younger than most of his classmates. However, he was tall and of medium build, he had accumulated experience and knowledge

from living in different communities including Oskaloosa, and, moreover, he had probably read in as many or more books than others of his class. Inspection of the college records shows he was a leading student. Within the two years spent at Penn College he had eight term courses in Greek and Greek literature, three in German, three in Latin, and three in English. He did courses in geometry, trigonometry, algebra, analytic geometry, engineering, and chemistry, all with flying colors. Almost without exception his grades were in the 90s. In conduct he was marked 100% except in the spring term of his freshman year, when he seems to have kicked over the traces so noticeably as to receive only 98%. At the end of his sophomore year Walter joined his parents who now lived at Grand Island, Nebraska, where his father was pastor of another Methodist Church.

There was no sophomore course in psychology at Penn College. There was a course labeled Moral Science, which Walter had taken along with three terms of Greek Testament. The combination, including his other Greek and Latin studies, may have given the impression that he planned to follow his father in the Christian ministry. This inference was incorrect. He knew about psychology two years before entering college. At fourteen he had discovered in his father's library Carpenter's *Mental Physiology,* and had read it with much interest. He has recorded that, on finishing this book, he told his father he intended to become a psychologist. Now, after his completion of the sophomore studies, his continuation in college was a matter of concern to his parents. They would have wished him to attend an institution founded by the Methodist Church. However, after visiting one such college and talking to members of that faculty and later talking to some other faculty members of the University of Nebraska, the parents left the choice to their son. He chose Nebraska, founded in 1869, and was admitted to the junior class.

In making this choice Pillsbury was quite lucky, for he came under the instruction of Professor H. K. Wolfe, who was the third American student to get his doctor's degree in psychology with Wundt at Leipzig. Pillsbury found Professor Wolfe an inspiring teacher, who

stimulated his students to consider the attractiveness of a career in psychology. He offered his students unusual opportunities in conducting experiments and made himself available for consultation and conferences, even though he was at that time responsible for teaching university courses in education and philosophy as well as those in psychology. Pillsbury took several of Wolfe's courses and as usual did much independent reading. On graduation with his A.B. from Nebraska, he was offered an opportunity to teach mathematics and English branches in a small denominational school which was started under the name Grand Island College at Grand Island, Nebraska. He accepted and at first found the experience quite frustrating since it involved teaching courses for which he had had no proper training or background, according to his own evaluation. But he was astute and shifted some courses and students, except freshman, to other members of the faculty whose classes were small. The new college had buildings but no endowments, and at the end of the initial year the faculty was much reorganized. Pillsbury had made a sufficiently good teaching record to be requested to continue as a faculty member. However, he decided to accept a scholarship in psychology, for which he had applied at the suggestion and with the recommendation of Professor Wolfe. This offer of a Sage Scholarship in Psychology at Cornell University was a more stimulating challenge. At Cornell for the year 1893–1894, he became Professor Edward Bradford Titchener's second graduate student—it was also Titchener's second year at Cornell. The graduate student in psychology who preceded Pillsbury at Cornell was Margaret Floy Washburn (1871–1939).[1] Pillsbury was one year and four days younger than Washburn, and they found their companionship as graduate students mutually enjoyable. Washburn, well on her way in a research problem on cutaneous space perception, used Pillsbury as one of her experimental observers. She was investigating the influence of visual interpretation on the localization of a point touched

[1] Elected to the Academy, 1931. A biographical memoir of Miss Washburn, written by Professor Pillsbury, was published in *Psychological Review*, 47 (1940), 99–109.

on the skin of the subject's arm. From his experience serving as a subject observer, Pillsbury got a problem on which he wished to work. This was to test the accuracy of vision alone when attempting to identify the contacted skin points by reference to a life-size photograph of the subject's arm. He had his observers indicate on a picture the point that had been touched. The localization proved to be more accurately indicated on the skin than on the photograph. This experiment resulted in Pillsbury's first scientific paper, "Some Questions of the Cutaneous Sensibility," published in the *American Journal of Psychology* in 1895.

For his doctoral dissertation he formulated a problem which he first described as a study of reading. Specifically, he proposed to examine how images from the printed page become words in association with memory. He tried to determine the relative importance of a sensation and of the memory in the development of the perceptual process involved in reading. As a title for this research he chose "The Reading of Words: A Study in Apperception." This thesis contained a large amount of theoretical discussion, and some of these early formulations in Pillsbury's thesis later became bases for his classification of conditions for mental attention which were detailed in his book *L'Attention* (Paris, 1906).

In his second year at Cornell Pillsbury devoted a large portion of his time to an English translation of Oswald Külpe's *Einleitung in die Philosophie,* which he later published in association with Professor Titchener as joint translator. Titchener, as a devoted student and follower of Wundt, sent the first doctoral thesis written under him, that of Washburn, to Wundt to be translated into German and published in *Philosophe Studien,* which Professor Wundt edited. Pillsbury's doctoral thesis was published in English, but not until that of Washburn had appeared in print, since the two studies bore a relationship to each other.

With his dissertation completed, Pillsbury had a third year at the Cornell Laboratory as an assistant and devoted this period to the study of related sciences and also to teaching some independent

courses. He had received his Ph.D. in June of 1896, and his translation of Külpe's book and his own thesis were published in the spring of 1897. These publications did much to build his reputation as a rising scholar in the new field of experimental psychology. He received offers of academic positions. One was an instructorship at the University of Michigan. There was also a welcome invitation from Cornell, but he chose Michigan and this proved a choice for life.

As in other American institutions at that time, psychology was taught in the Department of Philosophy at the University of Michigan, and this department was under the chairmanship of Professor R. M. Wenley. However, when Pillsbury occupied his position as instructor, he was immediately given responsibility for the work in psychology. Considering the early history of this new branch of science at Michigan this was quite an honor.[2] And another professional recognition came to Pillsbury in his twenty-fifth year, just as he was transferring from Cornell to Michigan. President G. Stanley Hall of Clark University invited him to become a member of the Cooperating Board of Editors of the *American Journal of Psychology,* which Hall had founded in 1887.[3] Pillsbury accepted this invitation and was active in this connection during the remainder of his life, that is, for about sixty-two years.

Psychology became an academic subject in Europe in the period 1872–1880, and in America in the late eighties and early nineties. It was often called mental philosophy. At Michigan psychology proper had begun with John Dewey, who was an assistant professor of philosophy there from 1884 to 1888 and again from 1889 to 1894. Dewey had written a textbook entitled *Psychology,* published by Harper and Brothers, in 1886. Under the encouragement of Dewey, in 1890 James H. Tufts, with a Ph.D. from Freiburg, who was an instructor of philosophy, gave a course at Michigan in physiological

[2] See K. M. Dallenbach, "Walter Bowers Pillsbury: 1872–1960," *American Journal of Psychology,* 74 (No. 2, 1961), 165–76.

[3] Pillsbury's appointment as instructor in Experimental Psychology had been announced in the *American Journal of Psychology,* 8(1897):430.

psychology and conducted it as a laboratory course. Later George H. Mead added some experimental work and also gave what was called an advanced course. These early courses in psychology at Michigan captured the interest of some outstanding students who later became important figures in this field. One was James Roland Angell. Michigan thus had an interesting and rather recent tradition in psychology on which Pillsbury, with his rich years of experience at Cornell, could build effectively. He worked hard, teaching large elementary classes, developing demonstrations and experimental apparatus, reviving interest, reassembling and procuring the makings of the psychology laboratory, and training some advanced students. His interest, scholarship, and effectiveness in psychology were recognized by his colleagues in philosophy and in 1901 the words "Director of the Psychological Laboratory" were added to his title in recognition of the separateness of the two disciplines. Almost from the beginning of Pillsbury's work at Michigan he resumed a pattern he had adopted as a boy. This was to pursue a reading course outside his prescribed school work schedule, with the aim of broadening his education and scholarship. To this end he followed courses that two Michigan professors were giving in anatomy and, particularly, made a study of the nervous system. Also he engaged in some cooperative research with Professor W. P. Lombard, physiologist at Michigan, who was one of the founders of the American Psychological Association. They made studies of respiration and pulse rate under a variety of conditions and published two papers based on these investigations. These extradepartmental activities were not undertaken because of slack duties in connection with teaching and laboratory work in psychology during the first few years. Although these departmental duties were heavy and were well executed, academic promotion under the wing of Philosophy was slow. Pillsbury was a gentle and friendly man and did not overexert himself to become divorced from philosophy. Finally he was promoted to a full professorship in 1910. He was elected a member of the American Physiological Society in 1905 at its eighteenth meeting, held in Ann Arbor.

During the period when Pillsbury was an instructor at Michigan he first met socially an undergraduate woman who would become his wife. She had previously attended a normal college course at Potsdam, New York, and at Michigan was majoring in English. She was, or became during their acquaintance, president of her sorority, and was elected to Phi Beta Kappa. Her home had been in New York City, and later she lived in Rye and Portchester, New York. Her name was Margaret M. Milbank. They were married on June 16, 1905. Mrs. Pillsbury became closely associated with her husband's work, particularly in the final preparation of his scientific manuscripts.

As a scientific scholar Pillsbury deserved to be rated unusually proficient. He had a special sense or intuition of how to follow a scientific path and not be led into byways, and he could ingeniously make his scientific efforts do double duty by providing in themselves data for study of attention waves, fatigue, and other complex problems of human behavior.

As an example of his being his own experimental subject while getting his schedule of professional work done, one semester when he was teaching a schedule of forty-two hours a week and had also volunteered to take a group of medical students every afternoon of the week, he fixed up the delicate Masson disk test to examine how faint a visual stimulus he could discriminate under a standard condition morning, noon, and evening. His records showed a progressive decrease of sensory efficiency throughout the day. These results prompted him to determine the correlation between the "attention waves" and the amount of work he accomplished while engaged in revising his translation of Külpe's *Introduction to Philosophy*. He did his work on the typewriter and inserted a mark on the sheet every quarter-hour, and at certain other intervals made interruptions to record the "attention waves." The manuscript which had served as the vehicle for this series of self-experiments was unfortunately placed in the hands of an English publisher shortly before that firm became bankrupt and in the confusion of its reorganization the

manuscript was lost and the data thus disappeared. Pillsbury, in an extended review of his own professional life, tells of other instances in which he arranged to make studies of his progress in composition on the typewriter as he produced a book or shorter manuscript. He inserted marks representative of time intervals, making use of electrical contacts in the typewriter and he took blood pressure readings and "attention wave" records at different intervals. In this way he would study mental and physical changes during a period of two hours of consecutive work. Results of such studies are noted in his autobiography.[4] He was so thoroughly interested and occupied in his research work and writing that he lived and flourished under philosopher chairmanship more successfully than did some of his colleagues in other institutions. In the academic year 1896–1897 Robert Mark Wenley (A.M., Glasgow, '84; Ph.D., Glasgow, '95; LLD, Glasgow, '01; Sc.D., Edinburgh, '91) was appointed Professor of Philosophy and head of the Department of Philosophy at Michigan. Pillsbury had joined the department the succeeding year. Professor Wenley continued as departmental head until his death in 1929, after which a department of psychology was created as a separate entity, with Pillsbury as chairman. By that time Michigan had already granted twenty-three Ph.D.'s in psychology. Chairman Pillsbury's bibliography numbered some forty scientific publications, including textbooks covering different aspects of the new and rapidly developing field of experimental psychology.[5]

Pillsbury's first book developed from his doctoral thesis.[6] The problem that profoundly interested him at this time was the analysis, definition, and identification of predisposing conditions resulting in

[4] *History of Psychology in Autobiography,* ed. C. Murchison (Clark University Press, Worcester, Mass., 1932), II, 265–95.

[5] The titles of these books will be found in the bibliography at the end of this memoir. The book entitled *Attention* appeared first in a French edition, and later in English and Spanish. *The Essentials of Psychology* (1911) appeared in second and third editions in 1920 and 1930, respectively. The *Fundamentals of Psychology* (1916) had a revised edition in 1922 and a third edition in 1934. *The History of Psychology* (1929) appeared in a second edition in 1937.

[6] The thesis was published under the title "A Study in Apperception," in the *American Journal of Psychology,* 8 (1897), 315–93.

the psychological phenomenon called attention. He endeavored to seek out the antecedent processes which could be verified as real conditions for attending. These were divided into objective and subjective factors. He enumerated some of these as the idea in mind, the mood of the moment, background educational factors, and instinctive and hereditary factors. "The mood of the moment" seemed to him of central significance. Earlier psychology had posited a number of "faculties" often thought of as forces or entities such as attention, reasoning, et cetera.

For Pillsbury, "The essential point in the whole interpretation was the insistence that attending was an expression of definitely empirical factors which could be analyzed experimentally and that explanation could be given without reference to any force or faculty." No American or English publisher was found who would take the risk of issuing such a specialized scientific study in psychology. It was accepted by the French publisher Doin, was translated, and appeared in 1906, and found many interested readers. An English version was brought out in 1908 by Swan Sonnenschein and Company, Limited, London, in the series called "Library of Philosophy" edited by Professor Max Muirhead. It was dedicated to Professor E. B. Titchener. The manuscript had been read by Professor James Angell. The English edition could make use of suggestions offered by reviewers of the previous version, and new material was added. There were twenty chapters, a rather extensive bibliography for each chapter, an index of names including some 130, and an excellent index of topics. This 350-page octavo book contained no illustrations or tabular matter but offered a great many clearly stated results of psychological experimentation, with critical evaluations and citations of analogies from wide ranges of human behavior and experience. The mutual interaction of the different parts of the brain was stressed. Attention thus represented a focal point in a large complex, all of which was dependent directly upon neurological factors. The one-word title of this excellent book was propitious for the growth of its author's scientific reputation.

At a meeting of the American Psychological Association in Chicago in 1901 Pillsbury read a paper entitled "The Psychological Nature of Causality." This paper, which was an attack on Hume's theory that cause and effect could be regarded as one of the laws of association, was the beginning of a large investigation into the theoretical nature of reasoning. Pillsbury could not accept the idea that mere frequency of succession of two events could be taken to mean that one was the cause of the other. He held that one event had about it the characteristics of activity and that the other represented some passivity. In this paper and in these considerations he was initiating his second large piece of theoretical work, which would engage much of his interest for several years and result in the production of his second volume of experimental studies published under the title *The Psychology of Reasoning* in 1910. In the preface we learn that "this little volume" is based upon eight lectures given during Pillsbury's tenure of the Non-resident Lectureship in Psychology at Columbia University in January and February, 1909. He describes this undertaking as an effort to determine the ways in which reasoning has grown out of the simpler mental operations, and to discuss the uses that have been made of these materials in reasoning.

Before Pillsbury published *The Psychology of Reasoning* he was familiar with Dewey's book *Logical Theory*. Dewey's *How We Think* and Pillsbury's *Psychology of Reasoning* appeared in the same year. There is a similarity of thought in these books. Both hold that thinking results only from something in the way of a definite occasion. Usually reasoning starts when some purpose is thwarted. The first step is to identify the obstacle and to see it in terms of some concept or at least something that is familiar. The next is to formulate some way of displacing or avoiding the difficulty. Various suggestions present themselves. These may involve immediate or remote implements. If a suggestion has the quality of seeming valid, then the reasoner must justify it to himself and perhaps to his hearers. In so doing he claims to have produced proof. These four operations may

be drawn out and made distinctive or they may be short-circuited and become almost indistinguishable. Pillsbury worked out his treatment of reasoning in great detail, from many different angles, and with many different illustrations. He took pains to show that thinking was the development of the ordinary mental processes and not something resting on a pedestal composed of a mysterious substance.

Professor Pillsbury was a gentle and rather shy personality. It seems probable that he found more pleasure in teaching through his writing than in lecturing to classes. He was or became a devoted, conscientious, and industrious author of textbooks dedicated to the advancement of the understanding of psychology. His general text, *The Essentials of Psychology,* appeared in June 1911. On page 1 the reader found a surprising definition: "We measure the intelligence of an animal by its accomplishments. Mind is known from man's activity. Psychology may be most satisfactorily defined as the science of human behavior." This definition was a breakthrough for psychology. It seemed to bring the subject out of the fog and into sunlight. Not a few were surprised, including J. B. Watson,[7] who commented: "I was greatly surprised some time ago when I opened Pillsbury's book and saw psychology defined as 'the science of behavior'." This brief explanation was to become popular. Watson's book *Behavior, an Introduction to Comparative Psychology* appeared in 1914. Pillsbury, in the third edition of his *Essentials of Psychology,* which appeared in 1930, continued to make use of his earlier definition. In the introduction he writes, "We can define psychology as the science of behavior and of the knowing functions of man. This definitely asserts that psychology studies the behavior of animals other than man, and at the same time makes it explicit that we intend to consider the problems connected with man's perceiving, remembering, and thinking as well as his mere objective behavior." The reader was told: "Our problem is to understand be-

[7] "Psychology as the Behaviorist Views It," *Psychological Review,* 20 (1913), 158–77.

havior, and to investigate the laws of human experience as the immediate antecedent and conditions of behavior." His fourth book, entitled *The Fundamentals of Psychology,* appeared in 1916. In the preface he wrote:

My own theory inclines towards a functionalism. The book is more concerned with what consciousness does than with what it is. As opposed to the extreme behaviorism, however, I am not concerned alone with understanding the movements of the organism and the function of the movements, but also with understanding knowledge and the way in which it develops. It is my belief that the content of the science is the same whatever the point of view from which the subject be approached, and that this content is essential and changes slowly and then through growth. The theories are less important and likely to change from decade to decade.

In both the *Essentials* and the *Fundamentals* the fore part of the book features up-to-date material on the nervous system. This impressed upon the student the close relationship existing between physiology and psychology. The *Fundamentals* was much revised in the edition of 1922.

Professor Pillsbury's books characteristically contained up-to-date discussions, diagrams, and first-class illustrations. The references, indices, and lists of questions were all planned with much care to aid the student and further his interest and advancement in psychology. Pillsbury made minimal use of secretarial assistance, and thus details of his writing, which he did on his typewriter, were looked after personally. His interests were broad; he had methodological and meticulous ways of working. Throughout his professional life he was not disturbed by shifting from one university post to another; he had steady drive; and he constantly received ample evidence of the success and usefulness of his publications, which led him to issue a procession of psychology texts.

During his professional career Professor Pillsbury attended several international congresses and many less formal meetings of psychologists.[8] For instance, he was a welcome visitor at the Fourth Annual

[8] He was a member of the six-man Council of the American Psychological Asso-

Meeting of the Western Psychological Association at Stanford University, August 8–9, 1924, and contributed a paper entitled "A New Type of Functionalism." He expressed the opinion that a definition of the purpose of psychology should formulate as closely as possible the actual ends and attainments of the majority of men and women who work in this field. It seemed to him that psychologists might agree on the existence of mental functions as such and study each function as a fact, leaving all theory as to ultimates until facts are exhausted, and even then might state the theory as an hypothesis or probable formulation of observed facts rather than as a major premise. His criticism of published statements on functionalism by both Dewey and Angell made the meeting a lively and memorable occasion. Perusal of Pillsbury's professional bibliography, especially the first half, reveals his continuing interest in an effort at defining and portraying psychology as a science distinctive from its philosophical background, with which he was so familiar. He was interested and well prepared, during many years, to write on the theme "The Present State of Psychological Science in America," as he did in the *Scandinavian Scientific Review* in 1925. His familiarity with the beginning and trend of the new psychology prepared him well for writing a very readable history of the subject.[9]

Pillsbury's manner of delivery as a lecturer or public speaker might sometimes be described as rather apologetic and lacking in

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ciation (1907–1909) and was President of the Association in 1910, when the annual meeting was held in Minneapolis. At that time the Council included the names of four other men who would later become members of the National Academy of Sciences: Raymond Dodge, Edward Thorndike, Robert Woodworth, and Robert Yerkes.

[9] Beginning in 1911 and continuing through 1920, Pillsbury published in the *Psychological Bulletin* an annual review of the international psychological literature on the topic of "Attention" or "Attention and Interest." He was editor of a series known as Studies from the Psychological Laboratory of the University of Michigan. These were studies by his students, his associates, and himself. They began in 1901, appeared in various psychological journals rather than as a separate publication, and were continued under this general title until 1905. Pillsbury was advisory editor of the *Psychological Review,* from 1910 to 1929 and associate editor of the *Journal of Social Psychology* from 1930 to 1960.

self-assurance. Still, he would deliver his lecture or paper with evident interest in the subject, and to those who might remain to talk with him individually he revealed a warm, friendly, and enthusiastic personality. He had a strong interest in people and their ideas; he was objective in his discussions and tolerant of points of view other than his own. Pros and cons could be worked over in much detail and with vigor, but the discussion was such as to give pleasure to those who engaged in such debates with him.[10] His writing was characteristically clear, factual, and concise.

It falls to the lot of senior scientists to be called upon to prepare necrologies and memoirs for scientific colleagues and acquaintances whose lives may end before their own. Pillsbury, as his bibliography will show, was very generous in this respect, and among such manuscripts which he prepared were those for James McKeen Cattell and John Dewey, both for the National Academy of Sciences.

In general the Pillsburys as a family had good health. It is true that the Reverend Mr. Pillsbury, Walter's father, died in 1893 at the age of fifty-three. However, this was due to blood poisoning. Walter was twenty-one and was just entering Cornell as a graduate student when his father died. His mother, Eliza Crabtree, lived to see her eldest son well established and widely recognized in his professional field; she passed away in November 1919, at the age of seventy-seven. As the eldest of the seven children, he partly supported his mother and also helped his six siblings as they attended and were graduated from the University of Nebraska. His mother made her home at Lincoln, Nebraska, after her husband's death. One sister, Susan, became a Latin teacher in a Detroit private school for girls. Hannah became Dean of Women at the University of Montana, and later married and took up ranching in Wyoming. She died in 1955. Margaret, the youngest of the seven, married Dr. F. E. Denny, who

[10] The psychology Ph.D.'s at Michigan found Pillsbury both stimulating and generous. He took the responsibility of guiding twenty-two doctoral dissertations; he shared responsibility for fourteen others with Professor John F. Shepard, Michigan's first psychology Ph.D.; and he guided five more jointly with other members of the psychology staff. All told, there were forty-one Ph.D.'s during Pillsbury's tenure.

took his Ph.D. at the University of Chicago and was Plant Physiologist, U. S. Department of Agriculture. Edward, after serving as a soldier in the Spanish-American War, took his medical degree at the University of Michigan, practiced successfully in Frankenmuth, Michigan, for forty-eight years, and died in 1951 at the age of seventy-four. William went into business, selling automobiles. Paul devoted himself to farming, first in Nebraska, and later had a business in grain wholesaling and crop insurance in California. On a slender and uncertain income, but with strong intellectual interests and consecrated efforts, the Methodist minister and his wife served well their day and generation. All of these seven children except Susan, the Latinist, had married. Five of the six couples had children. Walter's family consisted of a daughter, Margaret Elizabeth, and a son, Walter Milbank, both of whom survived him.

Professor Pillsbury purchased his first automobile in 1925. He learned to drive but preferred that Mrs. Pillsbury do the driving and thus have the car at her disposal while he was at the University. Usually he was driven to his office and called for before lunch; after lunch and a nap at home, he was taken again to his office. He worked in the Psychology Department at experiments, lecturing, consultation, or writing until about 3:30, when he would close up shop and walk over to the University Club. Here he met many warm friends. He would play bottle pool or bridge or engage in other forms of entertainment until Mrs. Pillsbury called for him in the family car. After dinner at home, he would usually spend the evening reading. He was strong physically and not one to be pampered; he looked after his own coal furnace and did other chores at home; when the weather was good he often walked to and from the University or used a bus. It was a regular routine for him to spend one or two hours of some afternoon during the week on a walk with a special friend. Two of the colleagues with whom he often enjoyed such occasions were Professor Arthur Cross of English History and Professor William Hobbs, a geologist. He also played golf occasionally until his retirement. He was good at skating, which he had learned

as a boy in Iowa. Almost any kind of outdoor activity or sport interested him, and he was especially fond of camping, canoeing, and swimming. During his early married life he and his wife had frequently canoed on the Huron River near Ann Arbor. They were members of a canoeing club that used a lake twenty miles away, and they spent one or more summers canoeing in the Algonquin Park area of Canada, and also in the Rockies in Colorado. In some summers Pillsbury went to Maine. He went to the University of Michigan's geological camp in the Jackson Hole country in Wyoming. In 1930 he went elk hunting in Wyoming from Hannah's ranch. In 1934, with Professor Hobbs, he climbed several 12,000-foot peaks in Colorado, looking for glacial cirques. He and Professor Hobbs had spent a considerable portion of the summer of 1915 in studying the only U. S. volcano, Lassen Peak, shortly after it had erupted. Spending summers in Europe, with long walking trips in Switzerland and elsewhere, was typical of Pillsbury's earlier professional life. In 1922–1923, when he was visiting lecturer at the Sorbonne for a semester, he also lectured a few times at nine other French universities. But he also did much traveling and walking in France, Germany, and Switzerland. His family was with him during that year abroad. He was in Europe the summers of 1925, 1926, and 1927. In the latter year he attended the International Psychological Congress at Groningen. Again his family was with him, and his daughter, who had been graduated from Bryn Mawr that year and had won a European fellowship to study physical chemistry in Germany, was his walking companion in the Swiss mountains.

It was in the Michigan Scientific Club that Professor Pillsbury found his deepest and most abiding fellowship outside his family. He was a member of this organization for half a century. His devotion to it was deep and enduring. The senior member of the group, he seemed younger in body, mind, and spirit than many of his juniors. He was the club's Nestor, without whose participation no gathering of the group seemed complete. His many honors brought no change in his innate modesty, which made his person-

ality so attractive to these intimate associates. The Scientific Club gave a banquet for him in honor of the occasion of his retirement from active duty at the University, and on this occasion he asked to be excused from making any formal response to the eulogies pronounced by his friends and colleagues.

Although Walter Pillsbury earned a Reserve Army Commission from his ROTC at Nebraska with General Pershing as his Professor of Military Science and Tactics, he never served on active duty in the U. S. Army. However, he did serve with great distinction as an active, tireless soldier for Science. And we may note he willed his eyes to an eye bank at the suggestion of his oculist, who found that his corneas were unusually clear.

KEY TO ABBREVIATIONS

Am. J. Physiol. = American Journal of Physiology
Am. J. Psychol. = American Journal of Psychology
Educ. Rev. = Educational Review
J. Abnormal Soc. Psychol. = Journal of Abnormal and Social Psychology
J. de Psychol. = Journal de Psychologie Normale et Pathologique
J. Exp. Psychol. = Journal of Experimental Psychology
J. Phil. Psychol. Sci. Meth. = Journal of Philosophy, Psychology and Scientific Methods
J. Soc. Psychol. = Journal of Social Psychology
Phil. Rev. = Philosophical Review
Pop. Sci. Monthly = Popular Science Monthly
Psychol. Bull. = Psychological Bulletin
Psychol. Rev. = Psychological Review
Rev. Phil. = Revue Philosophique de la France et de l'etranger
Scand. Sci. Rev. = Scandinavian Scientific Review
Sci. Monthly = Scientific Monthly

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