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ERNEST ROPIEQUET HILGARD
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A Biographical Memoir by
GORDON H. BOWER

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Biographical Memoir

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July 25, 1904–October 22, 2001

BY GORDON H. BOWER

AN ELOQUENT AND RENOWNED spokesman of 20th-century psychology, Ernest R. Hilgard, passed away on October 22, 2001. He died peacefully at his home in Palo Alto, California, at age 97 from cardiopulmonary arrest. His death brought to a close the career of one of the more prominent and influential figures of the behavioral sciences. A member of the National Academy of Sciences early in his career and leader of many professional organizations of psychologists, Hilgard profoundly affected the substance and direction of the profession of psychology.

Known as Jack to his friends and colleagues, Hilgard enjoyed a most productive and lengthy professional career as an academic psychologist—essentially the last 75 years of his life. A longtime professor in the psychology department at Stanford University, he took mandatory retirement at age 65. But true to form, as an emeritus professor he continued to work on research grants and write books.

Hilgard made lasting contributions to many facets of academia: first, as a teacher and writer of influential textbooks and as a scholar who synthesized and advanced important areas of behavioral research; second, as an academic administrator who played key roles in the development of Stanford university and of its strong psychology department;

third, as a critical voice for restructuring the governance of the discipline and the profession of psychology; fourth, as a prominent advocate and example of serious study of the history of psychology; and fifth, as a citizen who contributed initiative, ideas, time, and money to civic organizations and causes. He was a person known for his broad interests, consistent fairness, charity, good humor, balanced objectivity, and deep love of family and friends.

CHILDHOOD AND EARLY LIFE

Jack Hilgard was born on July 25, 1904, in Belleview, Illinois. He was an only son, between an older and younger sister in the family. The family's moderate living standard was supported by his father, a practicing physician in the community. During the First World War, Jack's father served as a medical officer in the armed services. Although too young to have strong vocational interests, Jack early on was expected to follow in his father's footsteps as a physician since it was a familiar and respectable profession. However, his father died in France in 1918; after that, Jack gave up thoughts of becoming a medical doctor. Nonetheless, his family expected him to accomplish great things in life.

He was a bright student and was skipped two grade levels at school. A consequence of those early promotions is that he arrived at high school much smaller than his more mature classmates. Thus, he was not able to engage in the rough-and-tumble competitive sports of his classmates. Perhaps in compensation he developed his social-organizing skills. As illustration, he led the Boy Scout troop in his home town and he gave public speeches urging his adult audiences to buy Liberty Bonds and War Savings Stamps to help America's effort in World War I. This motivation and ability for organizing civic groups and public service was to continue as a constant theme throughout Jack's life. So, early in life he

acquired the requisite skills, assertiveness, and initiative to be effective in such activities.

UNIVERSITY YEARS

In 1920 at age 16 Jack matriculated in the University of Illinois at Champagne-Urbana, about 100 miles from Belleville. Having given up the thought of becoming a physician, he cast around for an academic major. Considering that he had done well in science classes in high school, he decided to major in chemical engineering. As he had done throughout high school, Jack soon plunged into many extracurricular activities at the university. He worked on a student committee of the chemistry department and on the staff of the college annual yearbook, eventually becoming the managing editor. Jack also began active participation in the college's branch of the YMCA. Due to his diligent work there, this affiliation was to become an important determinant of his later career path. He was soon elected president of the local YMCA and attended national conferences as a delegate. He was also elected vice president of the university's student council and its honor society. He said that at that time these election awards meant more to him than his several academic honors in chemical engineering.

He graduated in 1924 and looked for a job that would use his knowledge of chemistry. However, lacking a master's degree he was unable to land a job as a chemical engineer. While awaiting job prospects in engineering, Jack accepted a year's appointment working with the local YMCA of Champagne-Urbana and with the university's student employment office. He was in charge of organizing and conducting a number of discussion groups at the YMCA and at the university; these groups typically discussed issues of social justice, national welfare policies, and ethics. It was in these circumstances that Jack became more interested in social

welfare, ethics, and vocational counseling than in chemical engineering.

YALE DIVINITY SCHOOL

Through his many contacts with national leaders of the YMCA organization, Hilgard was invited to apply for and was awarded a special Kent Fellowship to attend the Yale University Divinity School the following year. There he specialized in social ethics and philosophy. His interest in and commitment to issues of social justice and democratic ideals were reinforced and strengthened during his time in the Yale Divinity School: a dedication to democratic liberalism that was to remain through his remaining years. For example, as part of the Divinity School's requirements, students were to work during their summer in an American industry. Jack went with a group of students to the Ford Motor plant in Michigan, where he worked on the assembly line that was manufacturing Model T Fords. There he became closely familiar with the hardships and tribulations of the American labor force and he developed strong sympathies for the poor and underprivileged. One result of those experiences was that he became a dedicated promoter of labor unions and consumer cooperatives for the rest of his years. For example, soon after arriving at Stanford, Jack became a founding member of the Palo Alto grocery cooperative that served the community for nearly half a century.

Although Jack excelled in his courses at the Divinity School, he felt the continuing attraction of the more rigorous exact sciences and mathematics that he had experienced in engineering. While still a divinity student but needing living expenses, he had taken a part-time job at the Yale personnel office where he was assigned the task of counseling Yale undergraduates who were trying to decide what career path they should follow. He enjoyed these counseling experiences

so much that he became interested in the pursuit of vocational psychology—what later became known as vocational, or career counseling, psychology. So with those newly found career aspirations, he applied for admission to the Yale psychology department for the next year. He was admitted that fall and, happily, was allowed to keep his Kent Fellowship. So, in the autumn of 1926 he enrolled to study for a master's degree in psychology. Thus began his career as a prospective professional psychologist.

YALE GRADUATE SCHOOL OF PSYCHOLOGY

Having concentrated on engineering classes at Illinois and ethics at the Divinity School, Jack had some serious catching up to do during his first year at Yale psychology. He promptly overcame his deficiencies by taking laboratory courses in experimental psychology, in abnormal psychology, educational psychology, and vertebrate anatomy. The summer after his first year, wishing to pursue his interest in career counseling, he attended a summer conference on student counseling at Teachers College, Columbia University. He was sufficiently engaged and impressive to his elders at that conference that he was invited to coauthor a report describing the major themes and conclusions of the conference. This, his first publication, as a first-year graduate student, was a harbinger of the extraordinary productivity that marked his subsequent career. As was characteristic of Jack, he later said that the most memorable moment of that conference was his distinct pleasure of meeting and conversing with John Dewey, who was a major figure in educational psychology and strong advocate for educational reforms in American public schools.

Upon his return to Yale in the fall of 1928, he was appointed as a teaching assistant in the introductory psychology course for undergraduates, a teaching interest that was to engage

him the rest of his career. Later due to a shortage of teaching personnel in the department, he was elevated to the position of a regular instructor (lecturer) of the introductory course even before he had finished his dissertation, a rare distinction at the time.

A significant event for Hilgard was his selection in the fall of 1929 to assist in the arrangements for the International Congress of Psychology to be held in New Haven. His selection was endorsed by his research adviser Raymond Dodge, who was in charge of the program. That congress provided Jack a golden opportunity at a young age to meet the most distinguished and famous psychologists from around the world: Pavlov, Kohler, Lewin, Piaget, Pieron, Michotte, Spearman, and many others from overseas. From the United States the attendees included such famous figures as Lashley, Cattell, Woodworth, Thorndike, and McDougall. Jack was able to recognize and meet them because he was chosen to formally introduce each honored guest to Professor Angell, the president of Yale, during the opening reception of the congress. His early acquaintance with the major "stars" of psychology surely inspired Jack's motivation for a life of research and scholarship in emulation of those stars.

THE YALE PSYCHOLOGY DEPARTMENT

The Yale graduate psychology program of those days did not offer many formal courses, so the students set up their own journal clubs and discussion groups, in which they taught themselves, a method that Hilgard was later to say was the best way to learn the material in preparation for their preliminary Ph.D. examinations. Yale also required each student to delve deeply into the writings of two famous psychologists, one living, one deceased. Hilgard chose to become expert on the writings of William McDougall and William James, respectively. He later claimed that reading those two as

models for “psychologizing” about pertinent observations that set the larger issues and topics of psychology was a very wise choice. McDougall and James were far preferable to more contemporary authors, whose writings buried the student reader in a plethora of “the latest established facts” of the experimental psychology of those days. This preference of Hilgard for the grand masters of astute psychologizing about the larger problems of the field was a continuing theme throughout his life. Those interests came to fruition in his last book, *Psychology in America: A Historical Survey* (1987).

Jack completed his dissertation and obtained his Ph.D. from Yale in 1930. His dissertation was a thorough study of classical (Pavlovian) conditioning of eyeblink responses in adults. The study was carried out under the supervision of Professor Raymond Dodge and was published in a monograph (1931). Jack was retained as a lecturer at Yale for the next several years (1931-1933). He taught introductory psychology and a laboratory course in experimental psychology that were required of all graduate students. He spent the summer of 1931 at the Yale Laboratories for Primate Biology in Orange Park, Florida, which was directed by the famous Yale professor Robert Yerkes. There Hilgard and Yerkes formed a close friendship that continued throughout the following years. At the Orange Park station Jack learned about primate (especially chimpanzee) behavior, so that upon returning to Yale he was better prepared for teaching a course in comparative psychology.

In September of that year (1931) Jack married Josephine (“Josey”) Rohrs, who was a student in Yale’s graduate program in child development. She continued with her graduate education and received her Yale Ph.D. degree in 1933 with a dissertation supervised by Professor Arnold Gesell, a major figure in research on child development. Jack and Josey were

to remain a devoted and inseparable couple until Josey's death some 58 years later.

During these years, 1930-1933, the Yale department moved from its old quarters in Kent Hall on the Yale campus to the new Institute of Human Relations building farther out from the central campus but near the medical school. The psychology department at this time consisted of a collection of small fiefdoms with separate programs centered on major professors: Arnold Gesell in child development, Robert Yerkes in primate behavior, Raymond Dodge and Walter Miles in perception and general experimental psychology, and Clark Hull in learning theory. Unfortunately, the separatism created problems for the graduate students and their program. About the only unifying factors were the department's graduate students who wanted to work towards psychology Ph.D.s by meeting the university requirements, consisting primarily of passing Ph.D. preliminary examinations and completing a dissertation project.

The proximity of the medical school allowed graduate students to expand their purview and work with medical school professors. Thus, during his later years at Yale, Jack not only completed his dissertation research on eye blink conditioning in the psychology department but also worked around the fringes of the department, especially in the psychiatry department. There he conducted one study using conditioning methods to cure one patient's hysterical paralysis of an arm, and a second conditioning study of another patient with hysterical blindness. These brief forays were to be harbingers of Jack's later studies of personality psychology and the use of hypnosis in the treatment of psychosomatic disorders.

During the early 1930s, there were several administrative attempts to integrate the separate fiefdoms and programs in psychology and bring them together, not only with one

another but also with sociologists, anthropologists, psychiatrists, and others. These researchers were all to be brought together under the umbrella of “The Institute for Human Relations” at Yale. That goal of a truly collaborative interdisciplinary group was not to be fulfilled during Jack’s years at Yale. However, with the groundwork set up in the early 1930s the enterprise came into fruition several years later (albeit after Jack had gone to Stanford). Centered on Director Mark May and the learning theory of Clark Hull, the integrated institute became a lively intellectual environment in the late 1930s, fostering interdisciplinary research and bringing together social science researchers. The institute was a major force in the experimental psychology of the 1940-1960 era.

Hull attracted to the institute a number of young researchers in learning theory who were to become important figures of psychology over the ensuing decades. Among them were Neal Miller, Kenneth Spence, Hobart Mowrer, and Robert Sears. Hilgard had befriended these men and was caught up in their enthusiasm for extending learning theory to cover many social, educational, and cultural phenomena. This theme of extending learning theory into applications in related fields was to persist in Jack’s lifelong affiliation with educational psychologists and educators.

Importantly, during this time, Hilgard became friends with a number of Yale faculty who had moved there from Stanford University: Don Marquis, Robert Sears, Walter Miles, Neal Miller, and several others. Moreover, Jack’s friend Robert Yerkes was a close friend of Louis Terman who was then the very powerful executive head of the Stanford psychology department. Yerkes introduced Jack with high praise to Terman at some psychology meetings, and within a year or so Jack received an invitation to join the Stanford psychology faculty.

At first Jack and Josey hesitated to accept the offer; Stanford seemed so far away from New Haven, so unfamiliar, so out of touch with the rapid pace of East Coast psychological movements and research. To make their decision even more difficult the Yale department hinted that they might elevate him from a lecturer to an assistant professor position, and Josey was promised that she could stay on as a research associate with Arnold Gesell. Countervailing these factors was the realization that tenure-track assistant professorships at good universities were very scarce and greatly desired during these Depression years of academic desperation. Jack and Josey finally decided in 1933 to take the plunge and risk moving across the country to the unfamiliar, Wild West territory of Stanford University. It was there that Jack was to spend his entire career, soon becoming one of the University's leading lights, a guiding beacon, and a powerhouse of the Stanford faculty.

EARLY STANFORD CAREER

Hilgard brought with him from Yale most of his conditioning equipment, so he was able to set up quickly a small laboratory devoted to the study of human eye blink conditioning. He continued to publish on basic conditioning phenomena throughout the 1930s. Included among these studies were his articles evaluating the stimulus substitution view of conditioning, differences among adults in the ease of conditioning, and the role of people's foreknowledge or awareness of the conditioned vs. unconditioned stimulus relationship on conditioned responding. He threw himself into his teaching, began a steady output of published papers (e.g., 1936), and became a major contributor to the educational programs of Stanford's psychology department. His national and international reputation as a rising star of psychology became firmly established.

As often happens with young productive scholars, within the next few years he received offers to move to several other universities. These offers brought about a relatively fast rise in Hilgard's rank at Stanford, where he was promoted to a full professorship in 1938, a mere five years after arriving there. Following a familiar path laid down by Louis Terman and Quinn McNemar, Jack also accepted a joint appointment in Stanford's school of education, whose students flocked to his classes on learning theory and counseling psychology. Significantly, due to informal nepotism rules in force at that time, Josey could not be appointed to a faculty position in the psychology department. Instead she decided to move into the closely related field of psychiatry in the Stanford Medical School. She quickly polished off the required premedical classes, applied for and was admitted to the Stanford Medical School, and earned her M.D. degree there, all within five years. She was then appointed to a tenure-track position in psychiatry at the Stanford Medical School, a position in which she worked until her retirement many years later.

Jack's first sabbatical leave (1940-1941) took him to the University of Chicago, where he joined a program of studies on child development and education. There he studied and expanded his range of psychological expertise into child psychology, personality, and psychoanalysis. Characteristic of this young man, Hilgard also became acquainted with a large number of researchers in Chicago who either were greatly influential in psychology or were soon to become so. These included Harold Gulliksen, Samuel Stouffer, Ralph Tyler, Nevitt Sanford, Louis Thurstone, and Horace English. These professional colleagues were to remain friends of Jack and Josey's for the rest of their lives.

Jack returned to Stanford at the end of his sabbatical leave, but soon thereafter the attack on Pearl Harbor occurred, plunging America into World War II. Early in 1942 Jack was called to Washington by his friend Rensis Likert to work in governmental research related to the conduct of the war. Much of his work involved developing and analyzing surveys of civilian activities in connection with America's war effort. As was typical of academics working on the war efforts in Washington, Jack was moved frequently between agencies, offices, and study groups, wherever someone with his talents was needed. These included the Office of War Information, the Bureau of Overseas Intelligence, and the Office of Civilian Requirements. In these offices he was learning well the methods of survey research. Importantly, he was becoming acquainted with an ever broader network of social scientists working in Washington, including Eugene Katz, Helen Peak, Ruth Tolman, George Gallup, Paul Lazarsfeld, Elmo Roper, Bernard Berelson, Leonard Doob, Theodore Newcomb, and John Gardner. In retrospect one could not select a more "about-to-be-famous" collection of social scientists from that era.

The fact that so many social scientists of diverse backgrounds and training came to Washington during those years to join the war effort and were willing to cooperate in working toward a common goal showed Hilgard and others what intellectuals could accomplish when they were motivated and organized to do so. That demonstration stoked in Hilgard his enduring motivation during later times for bringing together a range of scientists and educators to work cooperatively on whatever common goal they shared. His extensive personal contacts also contributed to his ability to pull together professional groups or committees to work on some common national or professional goal.

In 1942 Jack was recruited to be a member of the Subcommittee on Survey and Planning, a National Research Council group led by his friend Robert Yerkes. That committee was charged with drawing up plans for the expansion and practical uses of psychology during and after the war. Among other concerns the subcommittee recommended several actions designed to bring the academic science of psychology into closer relations with the emerging profession of psychology (1942). Its proposals had a major influence after the war on the reorganization of psychologists' major organization, the American Psychological Association. Among the recommendations were proposals to adopt new bylaws allowing the creation of different divisions of APA, appoint initial officers of these divisions, set up a central office in Washington, D.C., and codify procedures for electing members to the Council of Representatives and the Board of Directors (1943, 1945). After being approved and adopted by the membership, these recommendations forever altered the nature of APA. Importantly, they kept together under one umbrella psychologists of disparate interests and professional allegiances. Later Hilgard was to play prominent roles in APA governance, serving on its Board of Directors and as chair of its powerful Policy and Planning Board. In 1949 Hilgard served a term as president of APA, the most prestigious and visible position for any academic or professional psychologist at the time.

RETURNING TO ACADEMIA

When the war ended, Jack returned to Stanford. Louis Terman had retired as executive head of the department so it was natural that Jack would be appointed to that position. It had a small staff: Howard Hunt, Maud James, Calvin Stone, Edward Strong, Quinn McNemar, Paul Farnsworth, and a few others. Hilgard had to deal with the usual problems of staff, faculty hiring, money, space, and the educational

programs of the department. The postwar years brought a huge influx of veterans arriving on the G.I. Bill, a flood that nearly overwhelmed the meager teaching resources of the small department. So with support from Stanford's administration, Hilgard and the tenured faculty hired several more teachers, including Donald Taylor and Douglas Lawrence from Yale.

With the assistance of the Veterans Administration and its hospitals in nearby Palo Alto and Menlo Park, the department also started a thriving program in clinical psychology. The VA also provided the funding for expanding the department's laboratories, equipment, and graduate students' training fellowships. As the department expanded it was moved into sharing quarters in a large building (Cubberley Hall) with the School of Education. The department also continued development of a nursery school on the edge of campus that would provide a continuing resource for studies of child development and childhood education. By continually expanding and upgrading facilities through modern times, Stanford's Bing Nursery School has evolved into a superlative venue for both studies of childhood education and developmental psychology studies.

After six years as executive head of psychology, Hilgard accepted the position of dean of the Graduate Division at Stanford in 1951. This powerful position provided him with several opportunities for fostering and guiding the growth of Stanford's social science departments. One of his first acts was to appoint Robert Sears of Harvard as executive head of psychology. Sears and Hilgard were key personnel in starting the Laboratory of Human Development attached to the department. One of their early hires was Eleanor Maccoby, who rapidly achieved eminence and is now a member of the National Academy of Sciences. Hilgard was also instrumental in receiving large grants from the Ford Foundation to

enhance the social sciences at Stanford. Some of that money funded several temporary professorships that were converted to regular funding after five years. The faculty hired under that program included such luminaries as Leon Festinger (psychology), Wilbur Schramm (communications), Samuel Karlin (statistics), and Sanford Dornbusch (sociology), all of whom became strong leaders exerting major influence on developments of their respective departments. Hilgard also played a critical role in bringing to Stanford the Center for Advanced Study in the Behavioral Sciences, a think tank that was built on the edge of the campus. Ever since its establishment that center has provided a continuing source of intellectual excitement for Stanford and the West Coast's academic community.

Hilgard resigned from the graduate deanship in 1955 in order to return to teaching and research. Before returning he had a sabbatical leave year, which he spent in England. As usual he attended and lectured at a large number of conferences where he became acquainted with the international luminaries of psychology, such as Sir Frederick Bartlett, Donald Broadbent, Jean Piaget, Barbel Inhelder, Joseph Nuttin, and Oliver Zangwill. Psychoanalysis and Freud had always been an interest of Jack and Josey's, so they were pleased to make the acquaintance of several European psychoanalysts, such as Anna Freud, Ernest Jones, and Melanie Klein. His interest led to an important article on the scientific status of psychoanalysis (1952).

HILGARD'S TEXTBOOKS

Alongside his many research publications Hilgard authored or coauthored several of the major textbooks of the 1940s, 1950s, and beyond. Hilgard's early scholarship culminated with publication in 1940 of the classic text *Conditioning and Learning*, which he wrote with Donald Marquis. *Conditioning*

and Learning, which he wrote with Donald Marquis. *Conditioning and Learning* was written when American behaviorism was in its ascendancy. Many psychologists believed that the mind was to be studied through behavior that was brought about largely by past learning. Thus, theories of behavior were supplanted by theories about learning, with some further ideas regarding how incentives and motives influence the expression of what had been learned.

Conditioning and Learning was exemplary in classifying and organizing key concepts, results, and hypotheses regarding the dynamics laws of conditioning. It codified the important distinction between classical, or Pavlovian, conditioning of automatic reflexes and operant conditioning of responses instrumental in obtaining rewards and avoiding punishments. It also promulgated the important distinction between learning and performance, which hitherto had been conflated in discussions. The authors provided balanced discussion of the controversies of the day between the followers of Clark Hull and those of Edward Tolman. Hilgard and Marquis noted the strengths of each camp but also chided both for their failure to extend conditioning principles to illuminate the nature of common learning tasks, such as school subjects. Despite its classic status, *Conditioning and Learning* was never revised by Hilgard or Marquis. Psychologist Gregory Kimble (a Yale friend of Hilgard's) later revised, updated, and largely rewrote the book (Kimble, 1961) so that its life continued for another decade.

In 1948 Hilgard published *Theories of Learning*. The volume was so comprehensive and well written that it strongly influenced teaching and research on learning for the next several generations of students. The book was organized primarily according to major psychologists whose names were attached to their theories regarding the processes of learning and motivation: Thorndike, Guthrie, Hull, Skinner, Lewin, Wheeler,

and Tolman. *Theories of Learning* became an immediate citation classic and standard reference work, studied by succeeding generations of psychology students. This “big names” organization of *Theories of Learning* continued throughout later editions, with revisions that incorporated new approaches to learning while replacing approaches that had declined in influence. The text was for many years among the two or three books most recommended for graduate students to study in preparation for their Ph.D. exams.

Hilgard’s research interests had turned elsewhere (to hypnosis) several years before *Theories of Learning* needed updating for its third edition in 1966. In the circumstances he invited me to draft chapters on new developments in learning theory and update some older chapters while he updated a few of his chapters. In later editions, published in 1975 and 1981, he contributed less and I more of the new material and revisions. Nonetheless, we continued our aim of having the text demonstrate the remarkable ways that the major theories continued to address contemporary issues.

A third text that established Hilgard’s reputation as a masterful integrator of psychological materials was his *Introduction to Psychology*, first published in 1953. During the following 57 years, it has gone through 15 revisions (editions) and continues to portray the central ideas that define the complex discipline of psychology. This text, shaped by the growing cognitive sentiment of the era, encompassed not only the standard “hard” topics of sensation, perception, learning, and neurophysiology of behavior but also the “softer” topics of child development, social and personality psychology, and varieties of consciousness. To keep the book current and topical, Hilgard in later editions enlisted the help of coauthors: first Richard and Rita Atkinson, later Edward Smith and Daryl Bem, then Susan Nolan-Heoksema, and others for later editions. Throughout the 1970s and

1980s *Introduction to Psychology* was the dominant textbook in its field. In the 1970s *Esquire* magazine rated it the most successful academic textbook in total sales for all fields. This widely used book has been significant in shaping the view of psychology acquired by the masses of introductory readers, and it was effective in attracting into the discipline some of the bright scholars who were to pursue the path Hilgard had outlined in his integration of the field.

With publication of *Conditioning and Learning* (1940) Hilgard throughout the 1940s and 1950s slowly wound down his research on conditioning and learning. He began teaching courses on human motivation and personality. With his joint appointment in psychology and the School of Education his interests turned to the uses of psychology in education, and he was involved in several reviews of attempts at coordination of the fields (e.g., 1964, 1977, 1996). Indicative of his national eminence in education was that he was among a delegation of educators invited by General Douglas MacArthur to advise his staff and the Japanese Ministry of Education on demilitarizing the Japanese school system after World War II.

STUDIES OF HYPNOSIS

Having curtailed his research during his years as graduate dean and his sabbatical abroad, Jack had some serious retooling to do when that stint ended. He decided to alter course entirely and study hypnosis, a topic that was both challenging and fascinating to him. He persuaded the Ford Foundation to provide funds to help him set up the Stanford Laboratory for the Study of Hypnosis. It was from this laboratory that Hilgard was to make his major scientific contributions over the ensuing 25 years.

Before this time, there had been very few systematic investigations of hypnosis. The topic was considered somewhat mysterious and disreputable, more the province of stage

magicians, charlatans, and quacks than serious scientists. Hilgard nonetheless steeped himself in the phenomena and phenomenology of hypnosis before starting his systematic investigations. He noticed that individuals differed greatly in their hypnotic abilities; he conjectured that controlled experiments could nonetheless yield quite different outcomes depending on the abilities of the subjects. Understanding that replication was the foundation of a science, he argued that results from different experiments and labs would not be comparable unless the hypnotic abilities of the subjects were selected to be comparable. So, to reduce conflicting reports in the literature, one of his first steps, taken with his coworker Andre Weitzenhoffer, was the construction of scales that measured hypnotic ability or susceptibility in different subjects. Their extensive research, published in the book *Susceptibility to Hypnosis* (1965), brought to the research community several scales that measured people's susceptibility in a valid, stable, and reliable manner. The Stanford Hypnotic Susceptibility Scale (1978) became a standard instrument in the field, always used to determine the comparability of research subjects studied in different laboratories and experiments.

Hilgard's group also investigated many hypnotic phenomena, including suggested analgesia. They found that (a) hypnotic analgesia correlated strongly with hypnotic ability, (b) patients were rarely totally pain free but experienced greatly reduced pain, and (c) the reduction in pain had two components, one from reducing patients' anxiety and helping them relax, and the second, specific to the person's cognitive strategies for dealing with the painful stimulus. These coping strategies included reinterpreting the painful stimulation, dissociating it from his or her body, or distracting oneself with pleasant images. The reductions in pain were often sufficient for clinical applications. The

results of these applications were published by Hilgard with his wife, Josey, in their book *Hypnosis in the Relief of Pain* (1975; rev. 1994). In her clinical practice Josey frequently used hypnosis for helping patients at Stanford hospital deal with intractable pain from cancers and surgeries.

Hilgard's hypnosis research led to his major theoretical formulation, articulated in his book *Divided Consciousness* (1977) and later papers (1992, 1994). He proposed a hierarchical system of mental modules nested under central monitoring and executive functions, much like the system that was then becoming fashionable in cognitive psychology. Several mental modules were assumed to be accessed and activated by hypnotic suggestion, which bypassed initiative or conscious intention from the central executive. Thus, subjects would feel that their hypnotic actions were involuntary, or unwilling. Central to Hilgard's theory was a phenomenon he called "the hidden observer." As an example, a hypnotically analgesic subject, upon receiving an instructed cue, could call up some hidden part of himself and report the actual level of pain being felt, although the hypnotized subject (without the cue) would report practically no pain at all.

Divided Consciousness became a major reference work for students interested in the modern study of unconscious or nonconscious processes (e.g., Bowers and Meichenbaum, 1984; Kihlstrom, 1987). To be sure, proponents of the social-role-playing view of hypnosis had their alternative interpretations of Hilgard's observations (e.g., Spanos, 1986), and lively debates about the nature of hypnosis continue to this day.

RETIREMENT

Employment laws at the time dictated that Hilgard take formal retirement at age 65, thus he entered emeritus status in 1969. Nonetheless, Hilgard continued his research on hypnosis with federal support; in fact, he published more

during his early years of retirement than he had during the preceding five years. During retirement he also renewed his interest in writing about the history of psychology. This interest was encouraged by the American Psychological Association and by funding from other sources that enabled him to write two books: first, an annotated compilation with Hilgard's commentaries of presidential addresses by some of the historically significant, past presidents of APA (1978); and second, his monumental volume *Psychology in America: A Historical Survey* (1987). The latter, written with masterful facility and scholarship, covered almost every major field of psychology and contained profiles of most of the eminent American psychologists of the late 19th century and much of the 20th century. Hilgard could write authoritatively about these important figures because he knew most of them personally, interacted with them frequently at conferences, and followed their work closely. Moreover, he had an uncanny ability to distill and summarize psychologists' unique views in a few insightful paragraphs.

A tribute to Hilgard's good health and vigor of mind is that he continued lecturing and writing well into his late 80s, even traveling alone overseas at age 91 to give a public lecture upon receiving an honorary doctorate from the University of Oslo. He continued well into his 90s to come into his Stanford office to meet with people and attend departmental events.

PROFESSIONAL HONORS

Hilgard received many professional honors and awards for his scientific research and for his service to the academic community. He served a term as president of almost every psychological association he joined. He was elected early in his career to the National Academy of Sciences (in 1948), National Academy of Education, American Academy of Arts

and Sciences, Society of Experimental Psychologists, and American Philosophical Society, and he received honorary doctoral degrees from several universities. He was awarded the prestigious Warren Medal from the Society of Experimental Psychologists, the American Psychological Association Award for Distinguished Scientific Contributions and its Award for Outstanding Lifetime Contributions to Psychology, the Gold Medal Award from the American Psychological Foundation, the Franklin Gold Medal from the International Society of Hypnosis, the National Academy of Sciences Award for Scientific Reviewing, and the Wilbur Cross Medal as an outstanding graduate of Yale University. In 1991 in an article in the *American Psychologist* Hilgard was recognized as one of the 10 most important contemporary psychologists by graduate department chairs. In 2002 an informative study (Haggblom et al., 2002) ranked the 100 “most eminent” psychologists of the 20th century according to several criteria such as their citation index, mentions in surveys of psychologists, and scientific honors. Hilgard ranked 29th in that ranking, a clear indicator of his extraordinary eminence. He would have been pleased by such high praise and recognition from his peers.

Jack Hilgard was a respected and beloved man throughout his professional life. Several symposia at professional conventions and memorial services at Stanford recognized and praised his contributions to the behavioral sciences, the profession of psychology, and Stanford University.

Jack Hilgard was a devoted family man. Married in 1931 while they were students at Yale, he and Josey remained devoted to one another until Josie’s death in 1989. They were a delightful couple who exuded charm, warmth, and graceful hospitality in making newcomers and visitors to the Stanford community feel comfortable and welcome. He was politically liberal and dedicated to social and community service. He held

strong sympathies for victims of injustice—he was a friend of the underdog, the working poor, the downtrodden. He was exceedingly fair minded and charitable, and his personal wealth enabled him to give much aid anonymously to many community agencies and people down on their luck.

In demeanor Hilgard was a gentle, polite, positive man who practically never swore or spoke ill of anybody, not even his critics. No one in the Stanford psychology department ever saw him angry, frustrated, depressed, or upset. He enjoyed scientific bull sessions with colleagues and students. He and Josey had two children, Henry and Elizabeth, five grandchildren, and many great-grandchildren. He loved life, music, games, and having fun with his family and friends. For psychology he has left a wonderful legacy of his work and writings; for his students and colleagues he has left mellowing memory albums filled with lovable, personal images. He has been sorely missed by the profession and especially by all who knew him.

PREPARATION OF THIS ARTICLE was aided by the author's earlier obituary of Hilgard (Bower, 2002) and by information from Hilgard's autobiographic chapter in *A History of Psychology in Autobiography* (1974).

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