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HILGARD, ERNEST ROPIEQUET (*b.* Belleville, Illinois, 25 July 1904, *d.* Palo Alto, California, 22 October 2001), *psychology, education, learning, hypnosis, consciousness.*

Hilgard, commonly known as Jack, enjoyed one of the longest and most productive careers in twentieth-century American psychology. As a scholar who synthesized and advanced important areas of research, a teacher of leading scientists and writer of influential textbooks, an administrator who played key roles in the development of academic and professional organizations, and a strong advocate for the application of psychological knowledge in the improvement of human life, Hilgard left a lasting mark upon the scientific, educational, professional, and social spheres in which he lived and worked. His most notable scientific contributions were his integration of cognitive and motivational factors in the analysis of conditioning and learning, his development of techniques to measure susceptibility to and the effects of hypnosis, and his theoretical speculations about different levels of consciousness.

Overview of Hilgard's Life and Work. Hilgard's father, George Engelmann Hilgard (1876–1918), a physician, was killed in France during World War I. His mother, Laura Sophie Ropiequet Hilgard (1876–1964), lived a long life, as he himself did. Hilgard considered a career in medicine before receiving a bachelor's degree in chemical engineering from the University of Illinois at Urbana-Champaign in 1924. He then spent a year working at the national headquarters of the Young Men's Christian Association (YMCA) and another year studying social ethics at Yale Divinity School before turning to psychology and earning his PhD in that field at Yale in 1930. He taught and pursued research at Yale from 1929 to 1933, then moved to Stanford University, where he remained for the rest of his career, except during occasional absences, most notably during World War II, when he spent from 1942 to 1944 in the Offices of War Information and Civil Requirements and in the Bureau of Overseas Intelligence in Washington, D.C.. His wartime experiences confirmed his commitment to the development of a scientific psychology that would serve the public good. His presidential address before the American Psychological Association (APA) in 1949, on "Human Motives and the Concept of the Self," was emblematic of this commitment and of his public role in strengthening the connection between scientific and applied psychology—a role that also included major contributions to the rapprochement of scientists and practitioners in the reorganization of APA in the mid-1940s.

Hilgard was promoted to full professor of both psychology and education at Stanford University in 1938. When he returned to Stanford from Washington, D.C., in 1944, he served successively as head of the Department of Psychology and dean of the Graduate Division, contributing significantly to the development of the university. In this period he turned down an offer from Harvard for the position that eventually went to B. F. Skinner, as he had turned down earlier overtures from other leading universities. Among the factors in his consideration of other positions were the opportunities that would be available for his wife, Josephine R. Hilgard, who had earned a PhD in psychology at Yale and an MD from Stanford, received psychoanalytic training as a psychiatrist, and wanted to combine research and clinical practice. They shared many scientific interests and occasional collaboration over the years in the areas of personality, psychodynamic theory, and the use of hypnosis in the relief of pain.

When Hilgard returned to his faculty position in 1951, he shifted the focus of his teaching and research from prior work on learning and conditioning to the scientific investigation of psychodynamic theory, the nature of hypnosis, and the factors and potential benefits of hypnotic susceptibility. Having concluded that hypnosis, though controversial, would provide a means of understanding unconscious processes, he persuaded the Ford

Foundation to support his proposed line of research, used a fellowship year at the new Center for Advanced Study in the Behavioral Sciences (which had been located, with his assistance, on Stanford University property) to review the vast and varied literature on this topic, and then, in 1957, opened the Stanford Laboratory of Hypnosis Research. The research produced in this laboratory over the next two decades (1957–1979) brought scientific order and respectability to its subject, just as Hilgard's earlier work and writing had helped to organize the nascent field of conditioning and learning. Hilgard remained active as a scientific researcher, and his laboratory remained a highly visible and influential site for training and research for ten years after his formal retirement in 1969. Many other researchers on hypnosis spent time working under his direction at Stanford.

Blessed with remarkable health and vigor until the final years of his long life, Hilgard continued to write and speak through the 1990s, serving as a living link to psychology's past. Having known many of the early giants in the field, having created some of its major conceptual distinctions, having helped to establish many of the institutional structures that supported its advancement, and having guided that advancement through his own research, teaching, and perceptive judgments of actual and potential developments within the field, Hilgard deserved the frequent plaudits he received for a lifetime of achievements and contributions.

Hilgard's Scientific Contributions. Hilgard's research in the 1930s and early 1940s focused primarily on conditioning. In particular, it focused on experimental studies of eyelid conditioning in dogs, monkeys, and humans. However, Hilgard also explored human learning, especially motor skills and verbal learning, as well as levels of aspiration. Although it may not have been apparent at the time, several themes emerged from these seemingly disparate projects—themes that ran somewhat against the grain of contemporary research and that became characteristic of his later, more innovative contributions to the discipline: His research increasingly demonstrated an interest in voluntary as well as involuntary factors in human learning, and it increasingly revealed an interest in cognition as well as motivation. Specifically, Hilgard showed that conditioned behavior, previously assumed to be unconscious and automatic, could be brought under the control of conscious deliberation. Subjective ideas, in other words, could intervene between objective stimuli and responses. In addition to this incipient focus on cognitive factors in human learning—long before psychology's cognitive revolution in the 1960s—Hilgard's study "The Effects of Personal Heterosuggestion and Two Forms of Autosuggestion upon Postural Movement" (with Joel V. Berreman in 1936) foreshadowed his later research on hypnosis.

It is impossible to separate Hilgard's influence as an experimentalist from his influence as a writer of historically significant textbooks. The first of his major textbooks, *Conditioning and Learning* (coauthored by Donald G. Marquis in 1940 and reissued in revised form by Gregory A. Kimble in 1961), was quickly recognized as a classic. Like his later texts, it pulled together an active but disorganized area of research, established a more common vocabulary, defined a coherent set of issues, and thus gave clearer focus and direction to the field. (Among the distinctions coined in this work was the differentiation between classical conditioning, as represented by Ivan Pavlov, and instrumental conditioning, as advocated by E. L. Thorndike and B. F. Skinner.)

In 1948, Hilgard published *Theories of Learning*, which became and remained a standard reference for psychologists and their students well beyond the publication of its fifth and final edition in 1981. (Gordon H. Bower coauthored the third through fifth editions.) Although this work brought together the research of many others, it conveyed a distinctly Hilgardian spirit of cooperation and synthesis that was not always apparent in the contentious controversies of the time. Noting that "we have not yet reached agreement upon the most appropriate concepts to use in stating our problems and in interpreting our data," Hilgard "approached the task with the desire to be friendly to each of the positions represented, on the assumption that each of them has been proposed by an intelligent and sincere person or group of persons, and that there must be something which each of them can teach us." This might sound like a recipe for uncritical eclecticism, but in fact Hilgard did not shy away from "pointing out such weaknesses as I have detected" after giving each alternative position "a fair hearing" (p. v). His extraordinary ability to extract and relate relevant insights and conclusions, without overlooking relative shortcomings, helped to orient, direct, and advance this important field during a crucial period in the discipline's development. Even in the first edition, Hilgard's openness to cognitive factors and his encouragement of practical applications were readily apparent. "A principle once discovered in a better controlled situation can be validated in a less well-controlled one," he argued (p. 358). While admitting that many theoretical disagreements still awaited resolution, he underscored that "many plain facts about learning, important in practice, have nothing of controversy in them" (p. 359). This emphasis on practical outcomes was typical of Hilgard, who never forgot the real-world needs highlighted by the Depression and World War II.

Accordingly, after spending the first half of the 1940s conducting war-related survey research in Washington, D.C., Hilgard returned to Stanford and turned his teaching and research toward understanding human motiva-

tion and dynamics. One of the early manifestations of this turn was a carefully crafted overview of "Experimental Approaches to Psychoanalysis," which appeared in *Psychoanalysis as Science* (edited by E. Pumpian-Mindlin in 1952, based on a lecture series at California Institute of Technology in 1950). With his typical open-minded but critical approach, Hilgard discussed research findings relevant to both psychodynamics and psychotherapy, concluding that "the topics of psychodynamics ... lie at the very heart of psychological subject matter" (p. 24) and that "the obligation is clearly upon experimental, physiological, and clinical psychologists ... to conduct investigations either independently or in collaboration with psychoanalysts" (p. 45). (This was written in a period of considerable controversy and criticism of psychoanalysis.) Hilgard's own subsequent research on hypnosis represented his personal response to this deeply felt obligation.

Hilgard's first publication on hypnosis was "Individual Differences in Susceptibility to Hypnosis," published in 1958 with his important early collaborator's André M. Weitzenhoffer and Philip B. Gough. In the following year, he and Weitzenhoffer published the methodological basis of their research, the *Stanford Hypnotic Susceptibility Scale*. In various forms and adaptations, this performance-based test placed experimental research on hypnosis on a firm basis and made hypnotizability a measurable personality trait. In 1965, after publishing many individual studies, Hilgard summarized what had been learned about hypnosis and hypnotic subjects in *Hypnotic Susceptibility*, a landmark work that included a chapter, "Personality and Hypnotizability: Inferences from Case Studies," by his wife, Josie. This book concluded with a chapter that presented a developmental-interactive theory of hypnotic susceptibility and clarified problems that still had to be addressed.

Over the next decade and a half, many additional studies were conducted by members of Hilgard's lab, including a twin study, a family study, brain-lateralization studies, and studies of the analgesic, or pain-reducing, possibilities of hypnosis. With Josie, in 1975, Hilgard published a groundbreaking monograph, *Hypnosis in the Relief of Pain*, which dealt with the control of pain through hypnotic means in both experimental and clinical conditions. (Josie followed up on this research with *Hypnotherapy of Pain in Children with Cancer*, coauthored by Samuel LeBaron, in 1984. She had published *Personality and Hypnosis: A Study of Imaginative Involvement* in 1970.)

In 1977, Hilgard published his major theoretical work, *Divided Consciousness: Multiple Controls in Human Thought and Action*, which he reissued in an expanded edition in 1986. Because he had closed his lab in 1979, most of the information incorporated into the second edition came from research conducted in other laboratories,

much of which would have been impossible without his foregoing contributions. Although the cognitive revolution in psychology was already well under way by 1977, the study of consciousness was not yet a typical part of this revolution. (Information-processing models, based on computer analogs and mathematical formulations, worked without reference to consciousness and unconsciousness.) Pulling together a vast range of phenomena and research not yet integrated into “normal psychology,” Hilgard discussed possession states, fugues, multiple personalities, hypnotic age regression, amnesia, dreams, hallucinations, imagination, automatic writing, and divided attention, in addition to hypnotic phenomena. In drawing out commonalities across these disparate mental and behavioral states, he proposed the concept of “the hidden observer” and offered his own “neodissociation interpretation of divided consciousness.” This interpretation represented an updated version of Pierre Janet’s dissociation theory, which had gone out of favor in the early twentieth century “without effective criticism,” Hilgard said, as behaviorism grew on the one hand and psychoanalysis on the other (p. 12). By showing how many psychological phenomena, both normal or abnormal, reflect divided consciousness, in which active and passive, conscious and unconscious, forms of functioning go on at the same time, Hilgard prompted—and helped to set the agenda for—the scientific study of states of consciousness in the 1980s and beyond. (In an important review of “Consciousness in Contemporary Psychology,” published in 1980, Hilgard laid out the historical as well as empirical and conceptual context for the reentry of consciousness into psychology.) A clear path can be drawn from Hilgard’s proposal of central control processes, which he characterized as executive and monitoring functions, to later theories of conscious, unconscious, and nonconscious cognitive and behavioral activity. His prediction of the increasing relevance of consciousness within the neurosciences, like so many of his predictions, has been amply confirmed.

Associated with his interest in hypnosis and psychodynamics as well as consciousness and unconsciousness was a concern about motivation. In fact, Hilgard himself, in a 1974 autobiographical chapter, said that the “core” running through the “diversity of my research” was “a concern for aspects of human motivation bearing on planning and choice” (pp. 151–152). This central concern was reflected in various ways throughout his career, including his teaching of a graduate course on human motivation in the years following World War II, but it was particularly apparent in his chapter, “Motivation in Learning Theory,” which appeared in volume 5 of the monumental *Psychology: A Study of a Science* (edited by Sigmund Koch) in 1963; his chapter, “The Teacher’s Role in the Motivation of the Learner” (coauthored by Pauline S. Sears), which

appeared in *Theories of Learning and Instruction* (edited by Hilgard) in 1964; and his chapter, “The Motivational Relevance of Hypnosis” in *The Nebraska Symposium on Motivation 1964*. These three chapters summarized the motivational significance of his two major areas of his research, with a special and very sincere nod toward the applied area represented by his secondary appointment as a professor of education at Stanford. Hilgard began the last of these three works with a statement that suggests at least part of his own motivation as a research psychologist: “There is no more important problem for psychology than that of human motivation. The perilous age in which we live would be less hazardous if men understood each other better, and were better able to predict and to avoid the circumstances under which they engage in dangerous and self-destructing actions” (p. 1). Far from concluding that motivation is something that can or should be manipulated by an external agent through behavioral technology, indoctrination, or hypnotic suggestion, Hilgard encouraged research on intrinsic motivation—the kind of self-motivation that had prompted his own career and research.

Hilgard’s Other Professional Contributions. Hilgard took his responsibilities as a teacher of undergraduates as well as graduate students very seriously, and he had a significant impact on the field through those whom he influenced in the classroom and laboratory. As already mentioned, his textbooks—an outgrowth of his teaching—were much more than mere expositions of what was known and taken for granted in the field. They elucidated sometimes obscure matters and helped to integrate or at least to bring some coherence to the wide range of topics, methods, and theories in psychology. Even more than his highly regarded and much used *Conditioning and Learning* and *Theories of Learning*, his *Introduction to Psychology*, first published in 1953, was for decades the virtual “Bible” of the discipline. (Revised twelve times up to 2000, the thirteenth edition of *Hilgard’s Introduction to Psychology* was published by Rita Atkinson, Richard Atkinson, Edward Smith, Daryl Bem, and Susan Nolen-Hoeksema.) Millions of students, many of whom became active psychologists, were introduced to the discipline through this well-organized, high-level text. (A related educational effort, aimed at practicing scientists as well as advanced students, was his long-term participation as an active contributor, board member, and president of Annual Reviews, the publisher of the *Annual Review of Psychology* as well as annual reviews of a variety of other major disciplines.)

Hilgard’s interest in teaching and in student development was apparent from the time of his 1928 publication (with R. H. Edwards) of *Student Counseling*, which explored how vocational dilemmas are resolved, and it

extended through his service on the U.S. Education Commission to Japan in 1946, various publications on human learning and education, his organization and summary of research reports on *Theories of Learning and Instruction* (1964) for the National Society for the Study of Education, and his frequent talks to professional and community groups. The same impulse toward clarifying the past achievements, current situation, and future prospects of psychology spurred his late-career research into the history of psychology. More than a merely avocational interest, his commitment to historical study and understanding spurred his contributions to the establishment of an APA division devoted to the history of psychology as well as the founding and development of the Archives of the History of American Psychology (at the University of Akron), later the major depository of historical records and artifacts pertaining to that history. It also led to a series of publications, including his magisterial history of twentieth-century American psychology, which appeared in 1987 as *Psychology in America: A Historical Survey*. Although the length and comprehensiveness of this work militated against its widespread adoption as a textbook, it was immediately recognized as a valuable addition to the reference shelves of teachers and historians of psychology.

As an academic administrator, both department head and graduate dean, Hilgard played a leading role in bringing Stanford University and its Psychology Department to national prominence in the postwar years. An active participant in professional affairs, he was instrumental in the revision of the bylaws and organization of the APA during World War II, a revision that kept scientists and practitioners under the same umbrella, thus enhancing the possibility of mutually beneficial exchange. He also served among small groups of leading psychologists and scientists who made long-term plans regarding mental health research, the cognitive turn in psychology, and the future of psychology among the other natural and social sciences. The first was sponsored especially by the Ford Foundation; the last by the National Academy of Sciences, of which he was a member.

Committed to public and community service, Hilgard devoted a good deal of time to different cooperative organizations, served on various policy advisory boards, and donated a significant amount of land for environmental protection at the end of his life. In the aftermath of World War II, he helped to organize and managed the Stanford Workshop on Community Leadership, which led to the publication of *Community Planning for Peacetime Living* (which he edited with Louis Wirth and I. James Quillen) in 1946. Though always honorable, forthright, and temperate, his liberal political views led to the most unpleasant experience of his professional life, when he concluded that he had to step down from his graduate deanship because his wartime membership in the League

Against War and Fascism and other liberal activities resulted in a cancellation of clearance to serve on certain governmental boards.

For his many contributions to psychology, Hilgard received a wide assortment of honors and awards, including election to the presidencies of many professional organizations (e.g., the American Psychological Association in 1949), the APA's Distinguished Scientific Contribution Award (1969), the American Psychological Foundation's Gold Medal Award (1978), and the APA's Award for Outstanding Lifetime Achievement in Psychology (1994).

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