gins rather than "hot," motivational ones. The question of how serious the errors are that the authors identify will provoke debate as well. Whatever the outcomes of these controversies, the field will surely bear the mark of this important work for years to come.

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## The Fortunes of a Psychologist

Human Science and Social Order. Hugo Münsterberg and the Origins of Applied Psychology. MATTHEW HALE, JR. Temple University Press, Philadelphia, 1980. xii, 240 pp. \$17.50.

Early in the 1890's Harvard University, following the lead of William James, sought an individual to develop the new science of experimental psychology at Harvard—an individual who would be the leader of the field and "a man of genius." The search was successful in the sense that the university, with James's considerable effort, won its first choice— Hugo Münsterberg of Freiburg, Germany. When Münsterberg accepted, James wrote, "I believe that this has been the best stroke I ever did for our University."

Münsterberg arrived in 1892 an instant luminary; he was made chairman of Harvard's philosophy division, which encompassed psychology, and soon he was elected president of the American Psychological Association. And more: he was received on a grand scale by American society, in which he traveled widely and at the highest levels. He was befriended by American presidents, industrialists, and starlets in the silent movie industry. Scarcely a year passed during his 25-year Harvard career in which his name did not appear in some sensationalistic article in the American press. On top of all that, Münsterberg was and may still be the most prolific writer in the history of American psychology; he had the capacity to dictate lengthy textbooks in the span of a month.

But today at Harvard there is no Münsterberg fellowship or professorship, no Münsterberg Hall, not even a Münsterberg Lounge. Once when visiting with graduate students in Harvard's William James Hall I saw no sign of awareness on their part of Münsterberg's identity. That situation is all the more ironic after a reading of the radical behaviorism that formed the core of Münsterberg's psychology (his "action theory"), particularly his motor theory of thinking and his prescriptions for a utopian society engineered on the basis of techniques of behavior control (the systematic delivery of rewards and punishments)—all this in the generation prior to John B. Watson's behaviorist revolution. (Although Münsterberg placed more emphasis on heredity than did most behaviorists, Watson still cited him as a source of inspiration.)

As a thoroughly assimilated German Jew, Münsterberg defended Teutonic superiority. He was propelled by a naïve faith in a Prussian style of planned social progress-a vision in which he perceived his German Fatherland as the model that all other nations should be taught to follow. He saw his mission in coming to America to be precisely that teaching. As this mission unfolded he explained that the problems of politics, of morality, indeed of all society, could be conquered through the application of his "psychotechnology." The only further elements required for utopia were, in his mind, techniques of administrative organization and authority (then well advanced in his homeland). Teddy Roosevelt, for one, was highly sympathetic.

Although he remained at Harvard for the rest of his life, Münsterberg would never relinquish German citizenship and he would fight desperately against the U.S. entry into World War I. At the time of that latter event, which just about coincides with his sudden death, Münsterberg had fallen in public esteem on this continent from a position about as high as an academician can attain to a position so low that it may well have been unsafe for him to walk the streets.

All of this drama and more is laid out in exceptional scholarly detail in Matthew Hale's book, which is a valuable contribution to the literature on the tangled and complex beginnings of modern experimental and professional psychology.

Although large portions of Hale's book concern academic politics and cultural and international affairs, historians of psychology will find many parts of it enlightening with regard to their more specific concerns. For example, there is the falling-out between Münsterberg and his teacher Wilhelm Wundt. As Hale shows us, Münsterberg's goal was "to provide an atomistic and mechanistic explanation of both society and the mind.' Wundt steadfastly opposed that orientation with his own organismic school of thought, then known as "voluntarism." Münsterberg had argued that Wundt's "creative volitional process" was noth-



Hugo Münsterberg interviewing movie actress Anita Stewart in 1915. [From Münsterberg's "Why we go to the movies," *Cosmopolitan* **60**, 23 (Dec. 1915), reproduced in *Human Science and Social Order*]

ing more than sensory-motor action. James, at Harvard, was much attracted to such views as Münsterberg's because they shared in the spirit of James's theory of emotion.

Inconsistency, however, may have been the clearest characteristic of Münsterberg's work. Or, perhaps more accurately, he showed a remarkable capacity to compartmentalize his mind. Thus when he lectured to psychologists they heard his mechanistic theories, but when he lectured to philosophers they heard a mentalistic idealism. This compartmentalization was not unconscious: it was deliberately advocated as constituting properly different "levels of discourse." And he was capable of radical changes in his views. In later life he moved back to a position close to Wundt's voluntarism.

Most of Münsterberg's serious theoretical works were written in German, never appearing in English. They were widely read and commented on in Europe but remained largely unknown in his adopted country. What Münsterberg's American audience did receiveand what he is most remembered for today-are his writings in English on applied psychology, every conceivable aspect of applied psychology. This fractional representation of Münsterberg in English is still enough (larger than the entire output of most of his American contemporaries) to allow Hale to present Münsterberg as the best-known psychologist in America early in this century.

The "behaviorist" influence that SCIENCE, VOL. 208

stems from Münsterberg stands out in many of the distinguished Harvard graduates who were his students (including Yerkes, Dunlap, Calkins, Holt, R. Elliot, and F. Allport). Following their teacher's preferred terminology they more often called themselves "objectivists" than "behaviorists."

Although Münsterberg's name was erased from the American consciousness after his fall from grace, Hale has shown that his impact on early-20th-century psychology was a large one.

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## Wundt and After

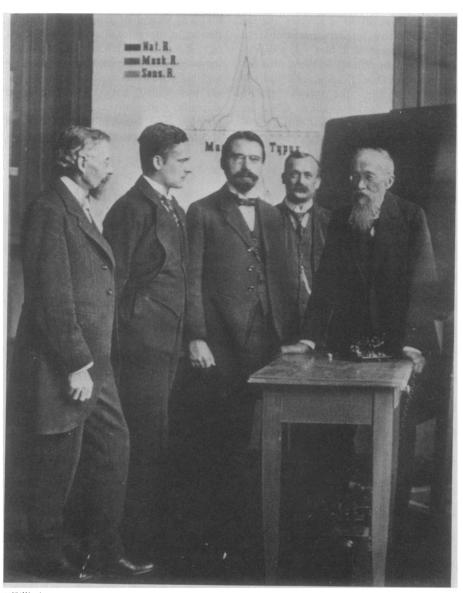
The First Century of Experimental Psychology. ELIOT HEARST, Ed. Erlbaum, Hillsdale, N.J., 1979 (distributor, Halstead [Wiley], New York). xxvi, 694 pp., illus. \$19.95.

Experimental psychology began gradually; it did not come about all at once. But there is one event at which experimental psychologists like to set t = 0. That was the establishment by Wundt of a physiological psychology laboratory at the University of Leipzig in 1879. Psychological sorts of research had been done before then, of course, but Wundt's lab was different. It was the first to be called a psychology laboratory, and it was the first such to have official recognition in the form of university funding. What could be more appropriate for the young science than for a centennial history book to appear in 1979? And what could be better than to have it sponsored by the Psychonomic Society (a group of 2000 active experimentalists) that would be celebrating its own 20th birthday in 1979

Seizing the opportunity, editor Hearst recruited a group of people who, like himself, are eminent in their research areas to write the chapters-for instance, Gottlieb on comparative psychology and ethology, Jenkins on animal learning, Cofer on human learning, Brown on motivation, and Posner and one of his students (Shulman) on cognition. To give breadth to the enterprise, some of the less experimentally oriented areas were included. There are Cairns and Ornstein on developmental psychology, Steiner on experimental social psychology, and the Mahers on psychopathology. Then, to glue the thing together there are a prolog by Hearst, an epilog by Estes, and a provocative chapter by Littman with a sociology of science point of view that describes the intellectual climate that made Wundt's lab possible. The writers of the content-oriented chapters were thus free to begin their respective narratives 50 years ago, or with Wundt, or with Descartes, or wherever their roots happened to be.

The venture was a resounding success, though not everything fell into place as expected. For example, it will be difficult for most readers to see any continuity of effort or concept in experimental psychology over the last 100 years. Nor will most readers see much relation among the different areas; psychology as a whole will tend to look rather disorganized (which it is). The purpose of the book was to take stock of a century's work, to see if there has been a century's worth of progress, and to have a celebration in any case. It was not intended as a textbook. However, I suspect that the book will be widely read by graduate students preparing for their qualifying exams. You may be sure that my graduate students will do so.

Some contributors had easier assignments than others. For example, emotion is a conceptually tricky area, but it is relatively delimited, with not too many data to worry about. Mandler took advantage of this situation and wrote a valuable essay on the conceptual basis of emotion. By contrast, physiological psychology spreads all over the landscape, and in trying to cover it Thompson and Robinson make it look like it spreads all over the landscape; they cite approximately 310 different names. On the other hand, Hochberg's responsibility was perception and sensation, which is also a



"Wilhelm Wundt, at eighty years of age (1912), with his reaction-time equipment. In the picture are (left to right) Ottmar Dittrich, Friedrich Sander, Wilhelm Wirth, Herr Hartmann (a research technician), and Wundt." [Photograph supplied for *The First Century of Experimental Psychology* by Wolfram Meischner, Karl-Marx University, Leipzig]