IN MEMORIAM

KENNETH W. SPENCE

With the death of Kenneth W. Spence on January 12, 1967, we have experienced the loss of a major intellectual force in psychological science. It is difficult to comprehend how one man, within a time span of slightly less than sixty years, could have led such a richly productive life in terms of outstanding scholarship, creative thought, and incomparable teaching impact. Until shortly before his death, his laboratory at The University of Texas, to which he came in 1964, was a place of intense research activity centering about his latest contributions to the field of learning and motivation.

Born in Chicago on May 6, 1907, Kenneth Spence moved to Montreal when he was a very young child and graduated from McGill University in 1929. Even at that time he had manifested his vigorous approach to life, having become on the one hand an accomplished athlete and on the other the recipient of the Wales Gold Medal in Mental Sciences in recognition of his scholarly attainment for the baccalaureate degree. This early honor was the first of a continuing series of scientific awards he would earn, including the Governor-General's Medal for Research in 1930 from McGill University when he received his master's degree in psychology. Subsequently he received the Howard Crosby Warren Medal of the Society of Experimental Psychologists in 1953, was elected to the National Academy of Sciences in 1955, and in 1956 was presented an American Psychological Association's Distinguished Scientific Contribution Award, the first year of the awards. In 1955 Kenneth Spence received the signal honor of being the first psychologist to be invited to

deliver the Silliman Lectures at Yale University, which were published the following year in his book Behavior Theory and Conditioning.

It was to Yale that Spence came in 1930 to embark upon his doctoral training. As an assistant to Robert M. Yerkes, he completed his dissertation in 1933 on visual acuity in the chimpanzee and remained at Yale the following year on a National Research Council Fellowship. From 1934 to 1937, Spence was an instructor and research assistant at the Yale Laboratories of Primate Biology, Orange Park, Florida, continuing his studies of behavior in the chimpanzee. As a graduate student at Yale, Spence began his intellectual association with Clark L. Hull which was to have profound effects on the thinking of both men and on the development of learning theory in the several decades to follow. Spence's interests in the field of learning were reflected in several experimental papers that were published prior to obtaining his doctoral degree. The prominence of the contributions of these two men in the field of learning during the 1930s and 1950s is still reflected in the common reference to their viewpoint as the Hull-Spence position. The high regard which Hull had for Spence's cardinal contributions is recognized in the preface of Hull's book, Principles of Behavior (1943), in which he wrote, "To Kenneth W. Spence I owe a debt of gratitude which cannot adequately be indicated in this place." One major theoretical contribution of this book was the systematic introduction of the intervening variable concept, which Spence had urged Hull to incorporate from the work of Edward C. Tolman. At the same time, it must be noted that Spence's thinking diverged in important respects from that of Hull and that his independent contributions to learning have been recognized in their own right.

The locus of these contributions for many years was the State University of Iowa, where Spence moved in 1938 following one year as an assistant professor

at the University of Virginia. He was to stay at Iowa for the next 26 years, the last 22 as head of the department of psychology. These years must rank as among the most productive in the life of any American psychologist. Not only was his personal research productivity reflected in a high rate of influential publications, but also he was extremely active in the supervision of doctoral dissertations. Between 1940 and 1964 Spence was responsible for no less than 73 Ph.D.'s most of whom remained in academic settings and many of whom have attained major stature within psychology. Among these outstanding students was Janet A. Taylor, whom Spence married in 1960, and who is currently Professor of Psychology and Educational Psychology at The University of Texas.

Spence's contributions to the field of learning fall into several major categories. One of his earliest interests, discrimination learning, was the topic of a classic paper published in 1936 which is still widely quoted today. His theory of discrimination learning, containing as it did the basis for explaining such phenomena as transposition, set the groundwork for subsequent research in this area and clearly established Spence's strong support of the continuity position in learning theory. Another central interest was in motivation, a topic to which Spence devoted many of his major publications. He was especially interested in delineating the interaction of incentive and motivational variables in learning, favoring an additive formulation in contrast to the multiplicative function proposed by Hull. Spence developed a complex, finely articulated conception of motivation which was attuned to the many nuances of behavior in the animals he studied, including man, the chimpanzee, and the rat. Thus, Spence underscored the motivational properties of the goal object operating through the mechanism of the fractional anticipatory goal response. Further, he postulated that the amount of motivation stemming

from aversive stimulation functioned through an internal emotional response. In this, as in other aspects of his work, he took pains to point out how basic principles of motivation could lead to predictions of behavior in both simple and more complex situations.

A major concern in later experimental work was with classical conditioning, particularly as it related to the phenomenon of extinction. In this program of research, we have available a series of contributions dealing with cognitive factors in extinction, presence or absence of the unconditioned stimulus, number of trials, and the discriminability of the change when extinction was begun. Spence's work in this area was once again characterized by ingenious techniques of experimentation and the careful accumulation of data upon which sound conceptualization was being built. At the time of his death, his eyelid conditioning laboratory at The University of Texas was the source of important contributions to this field.

Spence's high regard for systematic theorizing in psychology is mirrored in his interest in the logic of science. In at least a dozen articles and chapters dealing with scientific logic in psychology, he argued persuasively for appropriate methodological considerations in psychological theorizing. The broad sweep of his theoretical awareness was indicated by his efforts to seek essential conceptual similarities in the several forms of learning theory which were extant at that time. He served as a major interpretor of the philosophy of science to his fellow psychologists.

The force and incisiveness of his thought reflect the qualities of his forthright and challenging personality. Kenneth Spence held high goals for himself and expected the same of his students and colleagues. His earnest commitment to a hard empirical approach to psychology was consistently

displayed through his entire professional life. He was a prodigious worker, exercising the greatest care whether it be in the preparation of a scholarly article or in the preparation of a lecture. His enthusiasms, his convictions, and his annoyances were expressed with equal alacrity and vigor, and he left a deep personal imprint on all who came to know him. His charming manner of relating a personal experience, his vivid and detailed recollections, and his utter devotion to his chosen field of science formed a blend that was unique among psychologists. Kenneth Spence as a person and a scientist exerted an influence on psychology for which we will all be thankful in the years ahead.

Norman Hackerman, President
The University of Texas

Eugene W. Nelson, Secretary
The General Faculty

These resolutions were prepared by a Special Committee consisting of Professors E. J. Capaldi, Quinn McNemar and James Bieri, Chairman.