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Stanley Smith Stevens

1906–1973

S. S. Stevens, professor of psychophysics in Harvard University was born in Ogden, Utah on 4 November 1906, and died in Vail, Colorado on 18 January 1973. He was, without question, the strongest voice in psychophysics since G. T. Fechner. Indeed, Stevens' Law and Fechner's Law represent the most widely known quantifications of stimulus-response relations in all of experimental psychology.

"Smitty" Stevens' scientific contributions bridged the Second World War. Before the war, his major work divides into three components: the analysis of methods and theory in psychology; empirical scaling studies to relate human physique to temperment; and experiments in hearing. The earliest work resulted in several classical papers on operationism and metapsychology. His second interest culminated in a two volume collaboration with W. H. Sheldon on physique and temperment. His work on hearing led to the book of the same name in collaboration with Hallowell Davis which, even today, represents a first rate overview of this complex area.

During the Second World War, the Psychoacoustics Laboratory was established at Harvard in the basement of Memorial Hall, a warren in which the greatest part of Smitty's intellectual career was spent. Under Smitty's sponsorship, those heavy-walled basement rooms hosted a corps of scientists who helped shape the major conceptual forms of experimental psychology at mid-century. Many of these ideas entered as chapters in the monumental *Handbook of Experimental Psychology*, edited by Smitty, and published in 1950.

By 1955, Smitty Stevens had developed methods for assessing sensory magnitudes that he believed were sufficient to be given the name "sensation scales". I remember vividly their greatest challenge. A west-coast psychologist appeared in Mem Hall one morning with data from judgments of highway truck noise. He thought that they would interest Smitty for they represented category judgments of noisiness plotted against log sones, and the function looked like a straight line. What excitement! How could a judgment about loudness not be linear with sones? Was Fechner right? Were category judgments Fechnerian? Were category judgments even judgments of loudness? Was this phenomenon universal?

The same answers to these questions and others generated by them occupied most of Smitty's scientific effort thereafter. He and his collaborators

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showed that indeed the non-linear relation of sensation scales and category scales was almost universal; that certain sensory continua gave linear relations between these scales, and that such continua were of a different sort (metathetic) than those yielding the non-linearities (prothetic).

These experiments also proclaimed the universality of the power function—Stevens' Law—as a parsimonious description of the relation between magnitude estimation judgments of stimulus magnitudes and the physical representation of the stimulus. Along with this work, Smitty continued his substantive research on problems of hearing. He extended his study of the additivity of loudness, masking, and the nature of critical bands.

During the post-war years, Smitty's contributions to the science were not only the fruits of the laboratory, but also his personal service to various agencies of the scientific community at large. He served as chairman of the Division of Anthropology and Psychology of the National Research Council. He was an early member of the NIH study section on Sensory Diseases, and he served on the Space Science Board of the National Academy of Sciences. His membership in a variety of professional societies attests to his concern for the development of psychology as a proper member of the community of sciences. He was personally pained by the divergence of the APA toward professionalism, and consequently devoted his energies to scientific organizations concerned more directly with the advancement of psychology as a science. To this end, he was a founding member of the Psychonomic Society.

His advancement of psychological science was internationally recognized by the honors and awards bestowed upon him, among which were the Warren Medal of the Society of Experimental Psychologists, the Distinguished Scientists award of the APA and the Rayleigh Gold Medal of the British Acoustical Society. He lived to see his sone scale accepted as the international standard for the measurement of loudness.

A pillar of Smitty's laboratory was Geraldine Stone, executive officer of the Psychoacoustics Lab, director of social affairs, secretary, chief technical assistant and partner in Smitty's beloved hobby, skiing. "Didi" Stone led well the administrative machinery that converted research ideas and their hastily forged reports into the handsomely articulated papers that came from P.A.L. Smitty's literary craftsmanship was honed to a fine edge by Didi's exceptional editorial talents. Smitty and Didi were married in 1963.

Smitty Stevens is survived by Peter, his son of his first marriage, and his three grandchildren, and by the never-ending procession of scholars and scientists leading into the future who will be touched by his work.

EUGENE GALANTER
Columbia University
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