



Walter H. Ehrenstein (1950-2009)

Walter H. R. Ehrenstein, known for his research in the fields of visual perception, audition, and ergonomics, died unexpectedly on January 30, 2009, following a long illness. He was 58 years old. His death is a great loss to psychophysics and vision science.

Walter was born in Heidelberg in 1950, the son of Walter and Marianne Johanna Ehrenstein. He attended the humanistic Landgraf-Ludwigs-Gymnasium in Gießen and went on to study ethology, physiology, and psychology at the universities of Gießen and Göttingen. In 1977, he received his doctoral degree (Dr. rer. nat. in psychology, physiology, and zoology) from the University of Göttingen for his thesis "Psychophysics of direction-specific aftereffects in auditory motion perception." This work was done at the Max-Planck-Institute for Biophysical Chemistry under Prof. Otto Creutzfeldt. The following year he was appointed post-doctoral fellow with Prof. Robert Galambos in the Neuroscience

Department at the University of California in San Diego. Thereafter, he held the position of research assistant at the University of Constance, before moving to Freiburg in 1980.

In Freiburg, he showed that brief light flashes could be more easily discerned than equally long dark pauses, thereby suggesting an asymmetry between the neuronal subsystems for brightness and darkness. He then demonstrated that the clinical diagnosis of patients suffering from multiple sclerosis correlates with the psychophysical measurement of latency differences between the two eyes, thus the Pulfrich effect (with Manny & Oepen). It was also in Freiburg that he met Munehira Akita and Jiro Hamada from Kyoto, an event that inspired his appreciation of Japanese science and culture.

In 1985, Walter accepted a tenured position in neuroscience at the *Leibniz Research Centre for Working Environment and Human Factors* (Prof. C. Richard Cavonius, director) in Dortmund. It was there that he took up his earlier studies on auditory motion, eventually extending them into the realm of visual motion and eye movements. An example is the localization and estimation of target motion during ocular pursuit (with Mateeff & Hohnsbein). He also measured the motion-onset visual evoked potential as a function of retinal eccentricity (with Schlykova & van Dijk). This work was followed by experiments on auditory motion aftereffects. With Lewald, he engaged in a series of cross-modal studies on auditory lateralization and perceived egocentric direction. A subsequent experiment (with Sokolov, Pavlova & Cavonius) dealt with the perceptual extrapolation of visual target motion in various spatial contexts. Utilizing motion contrast, Walter (jointly with Wist & Schrauf) developed a dynamic visual acuity test based on form-from-motion. This test became widely known and was applied to large populations of all ages. Papers on the Munker-White effect in stereo-vision (with Taya & Cavonius), the scintillating Hermann grid (with Lingelbach) and lustre in the Ehrenstein figure (with Pinna & Spillmann) closed a circle with his father's work on brightness illusions. His latest study, performed in collaboration with Wagner and Papatomas, investigates vergence of eye movements in response to veridical and illusory depth.

In addition to publishing in scientific journals and books, Walter was a frequent contributor to scientific conferences. Numerous short reports (over 250) in the fields of visual illusions, dynamic viewing, visual size induction, visuo-motor tracking, velocity estimation, and visuo-motor laterality attest to his wide range of interest. They also show his many national and international contacts.

Being an avid reader and having been exposed to Kurt Gottschaldt in Göttingen, Walter was unparalleled in his understanding of the history of our field, especially Gestalt psychology and theory. He was a co-author (with Spillmann) of several book chapters, reviewing the neurophysiological correlates of Gestalt phenomena.

His conference talk in Graz (2005) on “Phenomena in search of brain functions: From inner psychophysics to correlational neuroscience,” and in Zadar, Croatia (2008) on “Gestalt approaches to visual neuroscience” were in this vein. One of his last papers examines the role of Leibniz’s philosophy for holistic psychology and correlational brain research.

During his time in Dortmund, Walter held additional appointments as an adjunct professor at the universities of Bielefeld, Düsseldorf, and Wuppertal. He was a visiting scientist at the Academy of Science, Sofia, Bulgaria, the Kyoto Institute of Technology, the University of Tokushima, Japan, and the University of Sassari, Italy. He was elected an Editorial Board Member of *Gestalt Theory* in 2005, and was, in 2008, Guest Editor for the current issue on Perceptual Research in Japan. Two papers jointly written with his Japanese colleagues, J. Hamada and R. Taya, on long-range brightness induction and the Pulfrich effect can be found there.

Publicly, Walter was a keen observer and a critical, although quiet, commentator. The continued research on his father’s (1941) illusion, vis-à-vis the Kanizsa triangle, gave him great satisfaction. His extensive knowledge of the literature, his conceptual strength, and unfailing memory enabled him to see relationships between old and new, suggest associations across sensory modalities, and draw comparisons between academic disciplines. His articles show him as a rare scholar. He readily combined phenomenological observation with psychophysical measurement, neurophysiological interpretation, and clinical application. When he spoke, he did so in a halting and soft voice. Long telephone conversations sparkled with unexpected scientific and personal insights. In private, his shyness gave way to spontaneity, enthusiasm, and a fine sense of humor, making him a warm and caring host and a loving husband and father. His endearing personality, modesty, and integrity invited lasting friendships that he honored with unselfish help when called upon. He was a loyal friend to many, an invaluable partner in challenging research tasks, and an inspired and inspiring companion. Walter, a wayfarer in the field of perceptual neuroscience, has gone, but his memory will endure.

Walter H. Ehrenstein is survived by his wife, Rabiana, an acclaimed pianist, and their 16-year-old daughter, Anna.

Lothar Spillmann, Freiburg

Selected publications by Walter H. Ehrenstein

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The complete list of Walter H. Ehrenstein's publications may be obtained upon request from the Institute's library in Dortmund, mail to: lindeman@ifado.de