

and the multifinality of the various manifestations of emotion. The thinking in Frijda's book harked back to a philosophical tradition linked to John Dewey, whose writings stressed that to understand emotion, we must first understand what the person was trying *to do*. Finally, Frijda's approach to emotion liberated the field from the limitations of the study of six or seven so-called *basic* emotions, and opened up the study of significant emotions previously ignored by the field, such as shame, guilt, jealousy, pride, and embarrassment—among dozens of others. The book is a prototype of broad yet selective scholarship and strikingly creative reconceptualizations about the nature of emotion. The impact of *The Emotions*, I believe, has been both subtle and widespread. Subtle because many researchers have adopted Frijda's thinking without awareness of its origins of the adoption, and widespread because it has influenced scholars ranging from esthetics to neuroscience.

What areas of emotion are neglected in the current tsunami of emotion research? As I said in an invited address at the 2004 meeting of ISRE in

New York City, the study of emotional development thrives, as does the study of emotion in non-human animals. However, these fields seem to make little contact with each other, or with the field of emotion in the adult human. What we have, therefore, is a situation conceptually analogous to the Galapagos Islands—like the life in those islands, each subarea of emotion seems to be evolving separately despite the proximity of neighboring influences. Nowhere is the lack of a comparative approach to emotion more evident than in the current interest in so-called “self-conscious emotions.” Emotions such as pride, shame, and guilt that in the adult may appear to require a sense of self for their generation may not need such a sense of self in either the human infant or some non-human animal species. Alternatively, the sense of self in the toddler or non-human animal may be different than the self studied in adults. We thus need to determine whether findings from studies of infants and non-human animals constrain our interpretations of the generation of certain emotions in the adult human. Furthermore, the study

of development of emotion presents fascinating issues for the researcher on emotion. For instance, what does the emotion of fear of heights in the infant have in common with the fear of rejection by a romantic partner in adolescence, or the fear of loss of one's pension in late adulthood? What does the expression of disgust about ingestion of food in a toddler tell us about the disgust we experience when we learn of genocide in Africa? Still another important issue for the future is that of the development of emotion and the brain. The strides we have taken in affective neuroscience are limited once one begins to conceptualize maturational and experiential factors in children at ages where methods of neuroimaging have not yet been developed, and neither have paradigms designed to provoke recordable brain activity in the infant or child. There is a treasure-trove of findings awaiting the researchers who conceptualize and initiate explorations into the development of emotion, the species-specificity of emotion, and the cerebral underpinnings of both.

Obituary

Robert Zajonc



Robert Boleslaw Zajonc, a grandfather of modern emotion research, died on December 3, 2008 in his home in Stanford, California of pancreatic cancer. He was 85 years

old. This sad news has by now reached most members of ISRE. Most emotion researchers are also familiar with details of Bob's life, and with his overall contributions to psychology. We highlight some here, but because so much has already been written about that, we revel more in remembrances of Bob's impact on emotion research, his style as a scientist, mentor (to both of us at the University of Michigan) and as a friend.

Born in Poland in 1923 and 16 years old when WWII began, Bob's life was profoundly shaped by the war. His parents died in a Nazi bombardment of Warsaw, and Bob himself was injured. Later, he was captured and was held in a labor camp in Germany, from which he escaped, only

to be recaptured. After the war, Bob pursued university studies in Europe, among others in Paris – a city he fondly returned to throughout his life. Bob emigrated to the United States in 1948, and earned a Ph.D. in psychology 1955 from the University of Michigan where he remained for forty years, directing the Research Center for Group Dynamics and the Institute for Social Research. Amongst many institutional accomplishments there, Bob was particularly proud of his role in establishing a sister Institute of Social Studies in Warsaw. In 1995 he moved to Stanford University. Along these paths Bob touched many lives and careers, and profoundly influenced research on social psychology, and on emotion.

Bob contributed many social psychology “classics.” He elegantly and parsimoniously explained effects of social facilitation on performance, repeated exposure on preference, and birth order on intelligence. He pioneered what we would today call “social cognition”, exploring such topics in the 60-ties as cognitive tuning in communication and cognitive balance in judgment and memory. Bob had a sophisticated appreciation for higher-order mental processes, but from the beginning he was fascinated with how they interact with and can be captured by the biological, the primitive, the mere. This, we guess, was the root of his interests in emotion, and perhaps a way of understanding his past, where he saw the best and the worst of humanity. Thus, from early on, Bob wondered, and examined empirically, whether phenomena such as mere-exposure and social facilitation work similarly in people and animals (he explored these questions using audacious methods, including raising chickens with a mailbox, and having cockroaches run labyrinths in the presence of fellow “spectators”). Bob’s fascination with the mind-body interface also drove his later work on the “hard-interface”, unconscious emotion, and brain temperature and feeling.

The 1980s started the explosion of scientific research on emotion. Bob provided much of the spark and fuel with his energetic debate with Dick Lazarus in the pages of the *American Psychologist*. The 1980 APA award paper “Feeling and Thinking: Preferences Need No Inferences,” argued for independence of affect and cognition and affective primacy. Neuroscientific research had not yet come to the fore, and the Zajonc-Lazarus debate, as it came to be known, raged on the basis of behavioral data and logic as well as ardent disagreement about definition and process. In the midst of the fervor, one of us met Bob at Heathrow Airport to drive to a conference in Wales. Like everyone else, we made a sign to attract the attention of the person for whom we were waiting. Instead of “Robert Zajonc”, however, we wrote “Friends of Lazarus Club.” After descending the plane in a jetlagged but energetic whirlwind, Bob saw the sign and collapsed with laughter: Bob was

strong in his convictions, but never too serious to poke fun at himself.

An edited volume with Carroll Izard and Jerome Kagan, *Emotions, Cognition, & Behavior* was another important contribution to the burgeoning research on emotion. Published in 1984, the volume served as a bible for students grappling with the important models of the relation between cognition and emotion, as well as issues in development, biology, and language. In oral defenses of qualifying exams as well as of Ph.D. theses, Bob never failed to ask such humbling questions as, “Explain the difference between affect and cognition,” leaving the student to fumble toward a demonstration that he or her had read and understood the chapters of this book.

As was his way, Bob always moved along, leaving researchers to sort out details and implications of his ideas. In the mid-eighties, he became progressively interested in the links between the body and mind. The 1984 paper “Affect and cognition: The hard interface” with Hazel Markus foreshadowed much of what we currently assume and debate regarding the role of embodiment. Again, Bob’s cleverness was evident not only in conceptual prescience, but also in his research procedures. In one study, he used chewing gum to prevent facial feedback. In another, he compared similarity of spouses in their college-book and married pictures to test if many years of adopting similar facial expressions lead to convergence in physical appearance.

In the late eighties and early nineties, Bob expended the question of affective primacy into pioneering investigation of the relation between affect and consciousness. Then, fascinated by an 1907 book by an obscure French doctor Waynbaum, Bob turned to the relation between psychology and physiology. In studies inspired by his vascular theory of emotional efference (VTEE), he showed that facial expression could alter feelings by changing nasal air flow, which in turn influences brain temperature, presumably altering affective neurochemistry. Those of us working with him delighted in the methods that came along with the VTEE: Native German students were seen reading texts filled with many flat O or AE sounds or else nose-narrowing U-umlaut sounds. This was to alter nasal air-flow. Other experimenters had to convince participants to wear flowery hair dryers. This was to alter blood temperature in the brain.

So, not only did we learn so much from Bob. But also because he could too, we laughed. And sometimes, when it had to do with our ideas, we cried. In remembrance of all of these, and many more emotions, we miss Bob. And we are grateful that memory preserves them and him so well.

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