James J. Gibson

January 27, 1904 — December 11, 1979

In an autobiography published in 1967, James Gibson wrote: "What I have most wanted to do all my life is to make a contribution to knowledge. If you feel you are doing this it is much more fun than running things, or being a military commander, a departmental chairman, a participant in the brotherhood of workers, a mountain climber, or even an actor. And it seems to me that one can contribute to knowledge without being very bright (which I am not) but merely by being stubborn about it. Such a contribution, of course, has to be expounded and clarified, and this is where teaching comes in. It is a two-way process, and no one does it for himself. One must listen as well as talk; read as well as write. Knowledge is not knowledge until it is preserved in dusty libraries for the future. But despite all that, the big satisfaction comes from the thinking that first went into it, the satisfaction of seeing old facts and new data fall into place."

Gibson grew up in the midwest; his father was a right-of-way man for the Northwestern Railroad. He went to college for a year at Northwestern University and then went to Princeton University, where he majored in philosophy. He remained at Princeton for graduate work in psychology, studying with the behaviorist E. B. Holt. On receiving his Doctor of Philosophy degree in 1928, he took his first academic position at Smith College. The famous Gestalt psychologist Kurt Koffka had recently come to Smith from Germany and exposed Gibson to a conceptual system very different from Holt's; much of his later work showed the Influence of these two men. At Smith he taught what must have been one of the very first courses in social psychology, but his primary commitment was to the teaching of experimental psychology and to experimental research, which he conducted with the help of a dedicated group of undergraduate students. He later married one of them: Eleanor J. Gibson, herself a psychologist of great distinction, is now Susan Linn Sage Professor of Psychology Emerita at Cornell; Their two children are Dr. James Jerome Gibson, a physician, and Dr. Jean Gibson Rosenberg, an economist; both are also following academic careers.

Gibson entered the Army Air Force in 1942 as a captain and was discharged in 1946 as lieutenant colonel. He was attached to a psychological unit where his education was actually used: he worked on the training of gunners, the use of films in training flight personnel

and the recognition of enemy aircraft. These experiences convinced him that traditional theories of vision had little application to everyday seeing. After the war he began to work his insights into a book, *The Perception of*

the Visual World; it was published in 1950 just after he had left Smith to take up a professorship at Cornell where the study of perception was already a strong tradition. This book introduced the description of the information available for vision in terms of gradients of optical texture and gradients of motion, descriptions that have now been generally accepted.

Graduate students soon began coming to Cornell expressly to work with Gibson, and those already here were attracted by his ideas. The Thursday afternoon seminar on perception became a permanent institution, which continued until shortly before his death. Almost every week Gibson prepared a short dittoed paper, a "purple peril," to summarize his thinking and start what was always a lively and stimulating discussion. The discussion continued during the rest of the week in the laboratory, which he and Eleanor Gibson maintained in a temporary building at the airport until the construction of Uris Hall in 1972. In this as well as in his undergraduate teaching—he taught perception for many years, and took his turn with the introductory course—Gibson made significant contributions to the Department of Psychology. He chaired the department from 1961 to 1964, when a senior career award from the National Institute of Mental Health enabled him to concentrate fully on research.

Honors came to Gibson in full measure. He was a senior Fulbright Fellow at Oxford University in 1955-56, a fellow at the Institute for Advanced Study at Princeton in 1958-59, a fellow of the Center for Advanced Study in the Behavioral Sciences at Stanford University in 1964-65. He was elected to the National Academy of Sciences and to the American Academy of Arts and Sciences; he received the Warren medal from the Society of Experimental Psychologists and the Distinguished Scientific Contribution Award from the American Psychological Association; he served as president of the Eastern Psychological Association and of two divisions of the American Psychological Association as well. His reputation was international: he received honorary degrees from the University of Edinburgh in 1974 and the University of Uppsala in 1976. None of these honors ever turned his head, affected his habitual modesty, or spoiled his sense of humor.

Gibson's contributions to the study of perception span half a century. Even some of his earliest papers are still cited, especially those dealing jvith the aftereffect of looking at curved lines that is often called the "Gibson effect." But his most important work came later, when he began to study the rich optical information that is available in the natural environment (as opposed to the minimal stimulation that is usually presented in laboratory studies). In his years at Cornell He gradually developed these ideas into an entirely new and radical

approach to perception, one that redefined the nature of the problem itself. He rejected the prevailing assumption that the eyes receive only fragmentary and meaningless inputs of light, which must then be interpreted by higher

centers. On the contrary, he insisted that the visual system resonates directly to patterns of optical structure that always exist in the ordinary illuminated environment. Though much of what is seen changes whenever the perceiver moves, there is also a type of structure that is invariant during movement. These invariants specify the real characteristics of the environment so precisely that perceivers rarely make mistakes. Gibson was impatient with the psychological study of illusions, and insisted that natural perceiving was direct and veridical.

Gibson called his theory *An Ecological Approach to Visual Perception*; this was the title of his last book, which appeared in 1979 a few months before his death. It was an ecological approach as opposed to a mentalistic or mechanistic or neurological one. He felt that the proper study of vision must begin with an analysis of the light available to the eye, with an "ecological optics" not with the postulation of hypothetical mental processes and not with extrapolation from fragmentary neurophysiological findings. This position put him increasingly at odds with prevailing trends in his field. In his last years he occupied a peculiar position in that field, being simultaneously its most eminent and most dissident member. But he was not alone: a "Gibsonian" intellectual movement has been gathering strength for more than a decade. It is now recognized in both psychology and philosophy as a major alternative to established views of the nature and acquisition of knowledge. If the leaders of that movement are to follow].]. Gibson's example, they will have to be intellectually unyielding and yet unfailingly courteous to those of other persuasions, highly imaginative and yet closely attentive to the most ordinary experiences of daily life, at once determinedly experimental and deeply theoretical. A reviewer of his last book called Gibson " . . . our one original, irreplaceable creative genius/' And so he was.

Harry Levin, Thomas A. Ryan, Ulric Neisser