Origin of Gestalt Psychology

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Whereas the Würzburgers debated with Wundt mainly on matters of method, another German movement, centered in Berlin, took issue with the widespread assumption that the aim of psychology should be to break consciousness down into putative basic elements. Instead, they argued that the psychological "whole" has priority and that the "parts" are defined by the structure of the whole, rather than vice versa. Thus, the school was named Gestalt, a German term meaning approximately "form" or "configuration." It was led by Max Wertheimer (1880-1943), Wolfgang Köhler (1887-1967), and Kurt Koffka (1886-1941). Wertheimer had been a student of Austrian philosopher, Christian von Ehrenfels (1859-1932), who claimed that in addition to the sensory elements of a perceived object, there is an extra element which, though in some sense derived from the organization of the standard sensory elements, is also to be regarded as being an element in its own right. He called this extra element Gestalt-qualität or "form-quality." For instance, when one hears a melody, one hears the notes plus something in addition to them which binds them together into a tune - the Gestalt-qualität. It is the presence of this Gestalt-qualität which, according to Von Ehrenfels, allows a tune to be transposed to a new key, using completely different notes, but still retain its identity. Wertheimer took the more radical line that "what is given me by the melody does not arise ... as a secondary process from the sum of the pieces as such. Instead, what takes place in each single part already depends upon what the whole is", (1925/1938). In other words, one hears the melody first and only then may perceptually divide it up into notes. Similarly in vision, one sees the form of the circle first - it is given "im-mediately" (i.e. its apprehension is not mediated by a process of part-summation). Only after this primary apprehension might one notice that it is made up of lines or dots or stars.

Gestalt-Theorie was officially initiated in 1912 in an article by Wertheimer on the phi-phenomenon; a perceptual illusion in which two stationary but alternately flashing lights appear to be a single light moving from one location to another. Contrary to popular opinion, his primary target was not behaviorism, as it was not yet a force in psychology. The aim of his criticism was, rather, the atomistic psychologies of Hermann von Helmholtz (1821-1894), Wilhelm Wundt (1832-1920), and other European psychologists of the time.

The two men who served as Wertheimer's subjects in the phi experiment were Köhler and Koffka. Köhler was an expert in physical acoustics, having studied under physicist Max Planck (1858-1947), but had taken his degree in psychology under Carl Stumpf (1848-1936). Koffka was also a student of Stumpf's, having studied movement phenomena and psychological aspects of rhythm. In 1917 Köhler (1917/1925) published the results of four years of research on learning in chimpanzees. Köhler showed, contrary to the claims of most other learning theorists, that animals can learn by "sudden insight" into the "structure" of a problem, over and above the associative and incremental manner of learning that Ivan Pavlov (1849-1936) and Edward Lee Thorndike (1874-1949) had demonstrated with dogs and cats, respectively.

The terms "structure" and "organization" were focal for the Gestalt psychologists. Stimuli were said

to have a certain structure, to be organized in a certain way, and that it is to this structural organization, rather than to individual sensory elements, that the organism responds. When an animal is conditioned, it does not simply respond to the absolute properties of a stimulus, but to its properties relative to its surroundings. To use a favorite example of Köhler's, if conditioned to respond in a certain way to the lighter of two gray cards, the animal generalizes the relation between the two stimuli rather than the absolute properties of the conditioned stimulus: it will respond to the lighter of two cards in subsequent trials even if the darker card in the test trial is of the same intensity as the lighter one in the original training trials.

In 1921 Koffka published a Gestalt-oriented text on developmental psychology, Growth of the Mind. With the help of American psychologist Robert Ogden, Koffka introduced the Gestalt point of view to an American audience in 1922 by way of a paper in Psychological Bulletin. It contains criticisms of then-current explanations of a number of problems of perception, and the alternatives offered by the Gestalt school. Koffka moved to the United States in 1924, eventually settling at Smith College in 1927. In 1935 Koffka published his Principles of Gestalt Psychology. This textbook laid out the Gestalt vision of the scientific enterprise as a whole. Science, he said, is not the simple accumulation of facts. What makes research scientific is the incorporation of facts into a theoretical structure. The goal of the Gestaltists was to integrate the facts of inanimate nature, life, and mind into a single scientific structure. This meant that science would have swallow not only what Koffka called the quantitative facts of physical science but the facts of two other "scientific categories": questions of order and questions of Sinn, a German word which has been variously translated as significance, value, and meaning. Without incorporating the meaning of experience and behavior, Koffka believed that science would doom itself to trivialities in its investigation of human beings.

Having survived the onslaught of the Nazis up to the mid-1930s (see Henle, 1978), all the core members of the Gestalt movement were forced out of Germany to the United States by 1935 (Henle, 1984). Köhler published another book, Dynamics in Psychology, in 1940 but thereafter the Gestalt movement suffered a series of setbacks. Koffka died in 1941 and Wertheimer in 1943. Wertheimer's long-awaited book on mathematical problem-solving, Productive Thinking was published posthumously in 1945 but Köhler was now left to guide the movement without his two long-time colleagues.