

Max Wertheimer and Gestalt Psychology

BY RUDOLF ARNHEIM

MAX WERTHEIMER arrived on the scene of American psychology in the early thirties as a conspicuous and disquieting figure. It was a time at which a fundamental change of attitude and outlook became apparent in the new generation of scientists. Reassured by the precision of their equipment, their measurements, and formulae, many of these new practitioners of the sciences seemed not particularly impressed by the endlessness of their task, the complexity of nature, the delicacy of organic functioning, the awesome recesses of the mind. Business-like and matter-of-fact, they were trained to go about their work by asking some particular question, selected in such a way as to fit the measurable dimensions of controllable situations; they made the experiments, calculated the results, published them, and proceeded to the next job. Not that they were insensitive to the charm and fascination of the oldtimers, whose faces were engraved with the haunting awareness of the unfathomable. They saw the quiet smile that greeted their confident assertions, and they listened, as children will to fairy tales, when the head of the department quoted from the classics. They sensed that here was something strangely beautiful, but related to their own work only in an outdated, quaint fashion, something they were deprived of but that had to be saved for a hobby after retirement.

Hence the powerful effect of Max Wertheimer on the few hundred students and colleagues who, during the decade of his American years, came in direct contact with him. Here was a man who called for a fuller vision and less mechanical procedure not as a dream but as a technical research requirement, to be applied immediately and in practice. Romantic and frail, with the Nietzsche moustache of non-conformity, Wertheimer lectured in his improvised English at the Graduate Faculty of the New School for Social Research. He described aspects of the mind which gave the shock of recognition to his listen-

ers but seemed beyond the grasp of accepted procedure. And while the vision was humane and gentle, its application demanded an unexpected discipline, a stringency of argument and proof for which the students were not trained. Hence their devotion, irritation, despair.

Wertheimer was one of the three principal proponents of gestalt psychology, who had come to the United States. Owing to their presence in this country, the strange-sounding name of the new doctrine became familiar to American psychologists; but to what extent were theory and practice influenced by the new ideas? Wolfgang Köhler, who went to Swarthmore, was well known for his experiments on the intelligence of chimpanzees. But while his results were recognized as substantial, his explanatory concepts — “insight,” for example — seemed uncomfortable to the touch, and there was little realization that this special study in the psychology of problem solving belonged in the framework of a totally new and comprehensive approach to psychology in general. Köhler’s early book on *gestalten* in physics has never been translated, and his later experiments on the figural after-effect in visual perception were again received as an interesting specialty without broader implications. The third man of the gestalt triumvirate, Kurt Koffka, at Smith College, wrote the representative treatise on gestalt psychology, a book densely packed with valuable facts and ideas, but so hard on the reader that it served philosophers better than psychologists.

What do the textbooks of psychology say about gestalt psychology, about Wertheimer? Students learn that, according to gestalt theory, a whole is more than or different from the sum of its parts — an innocuous-sounding statement, unlikely to impress them as revolutionary or practically relevant. Of Wertheimer they hear that he performed early experiments on illusory movement and on the perception of visual shape. But again, as in the case of Köhler, the connection of these studies with the basic gestalt thesis will seem to them by no means obvious.

The textbook describes Wertheimer’s rules of perceptual grouping: when a person looks at an assortment of shapes, these elements will be seen as related to each other if they are similar in size or shape or color or some other perceptual trait. Now such a combination of pieces does not look like an example of a gestalt process, and in fact the rules of grouping constitute only the first part of a paper in which Wertheimer moved from a more traditional approach to the revolutionary switch, showing that a perceptual pattern cannot be accounted for merely *from below*, that is, by tracing the relations among the

elements, but requires an approach *from above*. Only by describing the overall structure of the pattern can one determine the place and function of each part and the nature of its relations to other parts. This reversal of the customary scientific approach, calling for totally different methods, is generally omitted from the report a student receives about Wertheimer's study of shape perception.

However, piecemeal and preliminary though the rules of perceptual grouping are, they can be shown to involve the basic characteristic of the gestalt attitude, namely, a respect for the inherent nature of the situation confronting the observer. In Wertheimer's view, the rules of grouping are not arbitrarily imposed by the perceiver upon an incoherent collection of pieces. Rather the constellation of the elements themselves, their own objective properties, steer the groupings performed by the observer's mind.

This respect for the structure of the physical world as it impinges upon the nervous system has been stressed by gestalt psychologists in conscious opposition to the subjectivism of British empiricist philosophy, on which the training of most American psychologists is based. According to that tradition, the sensory stimulus material, by which a human being or animal is informed about the outer world, is in itself amorphous, an accumulation of elements; and it is the recipient mind that ties them together by connections established in the past. In consequence, association by frequent coincidence in subjective time and space became the dominant explanatory principle of experimental psychology in this country.

Needless to say, the two antagonistic theories were based on opposing world views: the one, proudly asserting the dominion of the individual's views and judgments over the environment, the other, distinctly irritated by such egocentrism and affirming that it was man's task to find his own humble place within the world and to take the cues for his conduct and comprehension from the order of that world. Equally, gestalt theory demanded of the individual citizen that he derive his rights and duties from the objectively ascertained functions and needs of society. Here, then, the deeply ingrained individualism of the Anglo-Saxon tradition, the suspicion against central power and planning from above, was challenged implicitly by a scientific approach, which, in moments of bad temper, was even accused of totalitarianism.

One of Wertheimer's favorite epithets of defiance was the word "blind." It referred to self-centered, prejudiced, insensitive behavior, a lack of openness to the "requirements" of the situation — another

key term of gestalt theory. Here is the common theme of Wertheimer's seemingly dispersed interests, his own explorations of perceptual structure as well as the research problems his disciples worked on at the New School. Of these, I will give three examples. One of his assistants, Solomon E. Asch, developed a social psychology intended to replace the dichotomy of individual and group with an integrated view of the social interaction and its intrinsic dynamics. A Chinese student, Miss Gwan-Yuen Li, explored the Taoist concept of non-willing (*wu-wei*) as a philosophical doctrine of how man may accord himself with the powers inherent in the cosmos and society. A third disciple, Abraham S. Luchins, showed in an experimental study on rigidity how a pre-established mental set prevents a person from searching a problem situation freely for a solution suggested by the particular given conditions.

Wertheimer himself devoted several of his last papers to philosophical discussions of ethics, value, freedom, and democracy, pointing in each case to the difference between wilful, personal preference and the objective requirements of the situation. These objective components of the situation, however, are not to be sought only outside, in the physical world, but also in the physiological and mental functioning of the person himself. The nervous system and consciousness, as a part of man's world, make their own contributions and have their own needs — not to be confused with the merely subjective inclinations of the individual. For example, the way in which a certain visual pattern is seen depends (a) on the stimulus configuration and (b) on the formative tendencies of the nervous system, as distinguished from the effects of the particular observer's interest, past experience, or capricious choice. One senses here an impatience with individual differences, which is indeed characteristic of gestalt psychologists. This brought forth no protest from behaviorists, but it tended to disappoint those American psychologists who concentrated on the genetic, social, and clinical aspects of the human personality with a strong practical emphasis on the character and needs of the individual person. Gestalt psychology was largely concerned with "human nature" — man as he perceives, man as he grows, man as he comprehends. Wertheimer approached psychology as a pure scientist, interested in the laws of general functioning, and at the same time with the attitude of the poet, who speaks of mankind.

It will be seen that the primary impulse of Wertheimer's psychology was a respect for nature, human as well as organic and inanimate. From this respect derived the protest against the "atomistic" method,

that is, the dissection of integrated entities and against the pretension of rebuilding a whole by the summation of its elements. Only when these neat and convenient methods of analysis were put aside, did the entities of nature reveal that they were not amorphous, but possessed a structure of their own, inherent dynamic tendencies, and indeed an objective beauty. Thus the "law of the good gestalt" was formulated by Wertheimer in opposition to the doctrine of subjective association.

The gestalt law describes a striving, inherent in physical and psychical entities, toward the simplest, most regular, most symmetrical structure attainable in the given situation. This tendency has been demonstrated most clearly in visual perception, but it also shows up as the drive toward tension reduction in motivation. In the thinking of gestalt psychologists, this fundamental bent of the mind reflects the identical tendency operative in the nervous system. It holds in the field processes of physics, as Köhler has pointed out. Historically it relates to the law of entropy in thermodynamics, although this affinity is not apparent when the gestalt law is described as a tendency towards order and the entropy principle as one towards disorder.

As a law of nature, the striving towards a "good gestalt" was simply a matter of observed fact. It involved no evaluation, expressed no preference. However, there were distinct advantages to the state of maximum order in a system. For example, in visual perception, once the simplest version of a pattern was apprehended, it appeared more stable, made more sense, could be better handled; and a state of balanced order made for better functioning in a human mind, a team, a society. It was this sort of value to which Max Wertheimer as a person was passionately attached. He found the tendency toward balance, order, goodness in nature. He found it in the basic impulses of man, wherever they were not disturbed by culturally inflicted distortions and by unproductive cerebral complications. Man was basically well organized and therefore good (i.e., in proper shape for adequate functioning) because good organization was the state to which all natural systems aspired. For this reason, Wertheimer disliked persons who relished the trickeries and intricacies of sophisticated brains, and he bitterly inveighed against those philosophers and psychologists who proclaimed that selfish indulgence and destructiveness were the mainsprings of human nature. His aversion for psychoanalysis was clearly imbued with personal feelings, although it may be said that basically Freud and Wertheimer pursued similar goals, the one wishing to straighten out the deflections of instinctual resources in order

to impose a realm of reason, the other endeavouring to restore in his fellow men their innate, but badly mismanaged sense of harmonious functioning.

Wertheimer's pronouncements as a psychologist, then, were inspired by an attitude of optimism and trust, adopted as a creed and constantly present in his teaching. He insisted that the things of this world are basically the way they appear, that outside and inside, surface and core, correspond to each other, and that therefore the senses can be relied upon to report the truth, if only the weeds of secondary complication and distortion are cleared away. Hence his love for music and art, where the wisdom of the senses rules by definition.

There was implicit in Wertheimer's thinking the image of an ideal human being, a type familiar to us from the European literary tradition of Parsifal, Simplicissimus, Candide, Prince Myshkin, the good soldier Schweik — an unassuming hero whose childlike and spontaneous innocence penetrates the crust, reveals the core, embarrasses, amuses, and appeals to a hidden decency. In an essay on the nature of freedom Wertheimer wrote:

What differences! In the way a man faces a counterargument, faces new facts! There are men who face them freely, open-mindedly, frankly, dealing honestly with them, taking them duly into account. Others are not able to do so at all: they somehow remain blind, rigid; they stick to their axioms, unable to face the arguments, the facts; or, if they do, it is to avoid or to get rid of them by some means — they are incapable of looking them squarely in the face. They cannot deal with them as free men; they are narrowed and enslaved by their position.

Inevitably there were those who reacted to his message as did Dostoevsky's Aglaia Ivanovna when she filed Prince Myshkin's letter in her copy of *Don Quixote*.

And yet, Max Wertheimer was anything but a dreamer. His spiritual ancestors were Spinoza and Goethe. Spinozistic was the notion that order and wisdom are not laid upon nature from without but are inherent in nature itself; of great influence also was Spinoza's idea that mental and physical existence are aspects of one and the same reality and therefore reflections of each other. With Goethe, Wertheimer shared the belief in the unity of percept and concept, of observation and idea, of poetical insight and scientific scrutiny, and like Goethe he prided himself on his devotion to tireless experimentation.

He wrote *more geometrico*, in Spinoza's geometrical manner; he liked algebraic formulæ, and he filled his study with piles of notes intended to be reduced to the sparest expression. The responsibility of the final wording kept him in agony, and the one comprehensive book he published, *Productive Thinking*, was finished after some twenty years of preparation in a sudden outburst of initiative during the few weeks before his death in 1943. Although his constant references to the richness and beauty of the things of nature seemed to promise a respite from scientific rigor to the lazy, he was severe to the point of cruelty with those among his professional colleagues who glossed over problems and neglected verification in favor of a soft-minded, pseudo-poetical eloquence. He drove himself hard and settled for nothing less in his students.

Wertheimer loved America. A son of ancient Prague, he found in the young culture of the new world the unspoiled freshness he preached. He liked the spontaneous ingenuity of the young men and the naive imagination of the girls. And he was forever indignant with selfish politics and social injustice because these flaws tarnished not only the country that had given him a home but also the image to which he was committed as a scientist and a man.