

WRITTEN RESEARCH PAPER

THE GESTALT THEORY OF PERCEPTION
AND SOME OF THE IMPLICATIONS FOR THE ARTS

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The Gestalt theory of perception is an original, direct, natural approach to life, man's thinking, acting and feeling. The Gestalt view is built around various interrelating principles which are in turn constructed into a wider psychological outlook. Taking into account a wide range of psychological issues, such as anger, depression, alienation, and so on, this theory of perception naturally has implications in the problems that have been taken up by art theorists. Perceptions of space and form, and understanding the creative process are all problems that shall be discussed briefly below, after a more detailed discussion of Gestalt theory.

Gestalt theories of perception were the outcome of investigations and experiments in psychology, logic, and epistemology. Beginning in the early Twentieth Century, the Gestalt view was developed by its founders Kurt Koffka, Wolfgang Kohler, and Max Wertheimer, and dominated thinking in psychology until about 1960 (Yussen & Santrock, 1982:145). Ellis (1938:2) describes basic Gestalt theory in this way: "There are wholes, the behavior of which is not determined by that of their individual parts, but where the part-processes are themselves determined by the intrinsic nature of the whole. It is the hope of Gestalt theory to determine the nature of such wholes." Put more straightforwardly, the basic idea is that perception is organized and dictated by several properties of the perceptual field, the perceptual field being the total

sensory field taken in at any one moment by one or all of the senses. A major property of the perceptual field is that perception of it is a holistic event. Perception of the parts takes on a special collectivity and thus the whole becomes something different from the sum of its parts (Yussen & Santrock, 1982: 145-146). Wertheimer (Ellis, 1938:4) gives an example of this situation in the experience of hearing music. We hear a melody consisting of a compound of elements and upon hearing it again memory enables us to recognize it and hold its parts together as a whole melody. Even if a familiar six tone melody has six tones added to it one may still recognize the melody. "There is a seventh something", Wertheimer says, "something more than the sum of the six tones which is the "form quality", or "Gestaltqualitat", of the original six. The physical stimuli are considerably changed but their relations are kept constant and therefore the Gestalt qualities remain about the same" (Ellis, 1938:4). Kohler (Henle, 1961:3) describes Gestalt psychologists as paying particular attention to the fact that perceptual groups are established by interactions, interdependence, and interrelations within the underlying physical processes of the field, which will be discussed below.

There are a number of forces operating simultaneously to determine how the field is perceived. These are called "laws of organization", "good form", or "Pragnanz", as Gestaltists term it. Kohler (Ellis, 1938:54) attributes

this designation, which describes the tendency of perceptual field to move towards simple Gestalten, wholeness, or organization, to Wertheimer. This tendency exists not as a description of inorganic physical behavior only, but of phenomenal and therefore also of physiological process structures. Similarity, proximity, closure, good continuation, an figure-ground are all principles involved in Pragnanz (Yussen & Santrock, 1982:146-147).

The principle of similarity describes the tendency one has to group elements of the field that are similar (Yussen & Santrock, 1982:146). This is apparent from the following examples:

```
. o . o . o . o . o .  
. o . o . o . o . o .  
. o . o . o . o . o .  
. o . o . o . o . o .  
. o . o . o . o . o .  
. o . o . o . o . o .  
. o . o . o . o . o .
```

(figure 1)

Or:

```

. . . . .
0 0 0 0 0 0 0 0 0 0 0
. . . . .
0 0 0 0 0 0 0 0 0 0 0
. . . . .
0 0 0 0 0 0 0 0 0 0 0
. . . . .

```

(figure 2)

In figure 1, the similarity of solid dots form an implied vertical line. So do the circular images. In figure 2, the similarity among dots form horizontal lines. Similarity may also contribute to a perception of direction. For example:

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      . .
    . .
  . .
. .
. .
. .
. .

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(figure 3)

In figure 3, the similarity of paired dots to one another forms a diagonal line, upon which the eye moves in an upward or downward direction.

Another principle is that of proximity, by which grouping that involves the smallest interval is most natural (Ellis, 1938:74). For example:

.

(figure 4)

In figure 4, the dots seem to be arranged in six pairs rather than twelve separate dots because of the small interval between the first two dots, the second two dots, etc. In figure 5, below, proximity works to create rows of vertical dots.

.
.
.
.
.
.
.

(figure 5)

When the two principles of similarity and proximity appear simultaneously, they may co-operate, or they can be set in opposition. By appropriate variation either principle may be strengthened or weakened (Ellis, 1938:77).

In this example, proximity overrides similarity to pair dots and circles.

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o      .      o      .      o      .      o
.      o      .      o      .      o      .

```

(figure 6)

In the following example, similarity is dominant because of the proximity of similar images and great interval between unlike images.

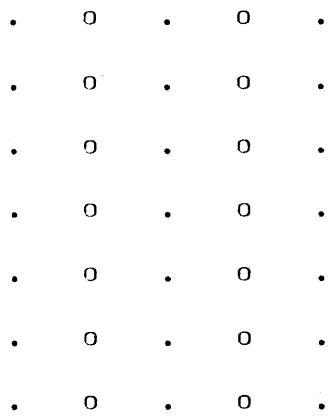
```

.      o      .      o      .
.      o      .      o      .
.      o      .      o      .
.      o      .      o      .
.      o      .      o      .
.      o      .      o      .
.      o      .      o      .

```

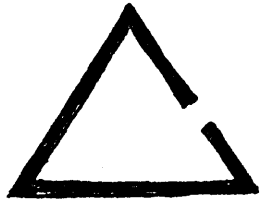
(figure 7)

In figure 8 a decrease of horizontal interval but a retention of similarity allow both principles to cooperate toward the same end, that is, verticality.



(figure 8)

The principle of closure refers to the tendency one has to see integrated figures, or to close or continue a line perceptually when blank spaces appear in a regular pattern (Yussen & Santrock, 1982: 146). Figure 9, 10, and 11 are example of closure.



(figure 9)



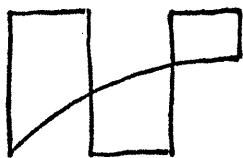
(figure 10)



(figure 11)

In these figures, closure occurs provided that there is a similarity of form and the interval (proximity) is not too great to bridge.

The principle of good continuation, illustrated below, allows for the tendency to see smooth, continuous wholes over abruptly changing particulars (Yussen & Santrock, 1982: 147). Good continuation, or inner coherence, is achieved when one realizes a resultant "good" Gestalt simply from the inner necessity of the field. This does not mean, however, that simplicity will result. In fact, a unity within complexity will result (Ellis, 1982:83). Figures 12 and 13 are examples of good continuation..



(figure 12)

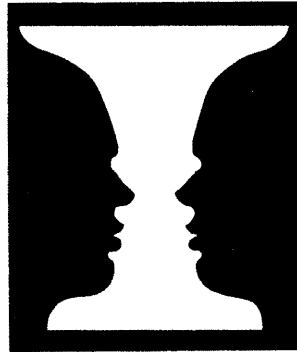


(figure 13)

In these figures the smooth, curved lines seem to continue uninterrupted over the abrupt, angular lines.

The last and perhaps most important principle is that of figure and ground by which the perceptual field tends to be organized into figure (the distinguishable form) and ground (the background) (Yussen & Santrock, 1982: 147). When an object appears upon a homogeneous field, there is a differentiation so that the object may be perceived.

According to Wertheimer (Ellis, 1938: 88), a perfectly homogeneous field appears as a total field opposing subdivision or disintegration. For segregation to occur within this field would require a relatively strong differentiation between the object and its background. The best case for the resulting figure-ground distinction is when in the total field a closed surface of simple form is different in color or value from the rest of the field. The resulting perception of the field would not be of two figures but, because the contours of the colored area serve as boundaries, and since the background is limited by the figure and seems to continue unbroken behind it, the perception would be that of the figure over ground. In some situations, figure and ground may interchange, as in this famous example:



(figure 14.)

Wertheimer adds that within figures there may be further subdivisions of perception in addition to and including the principles discussed above

All of the above principles contribute to stable perceptual organization. But perceptual change is also considered by the Gestaltists. They consider this change to occur in abrupt steps or stages. A person viewing a scene

may have a sudden, Eureka-like experience in which the field appears dramatically altered. An example of this sudden positive-negative reversal can be seen in the example of figure-ground relations in figure 14 above. The term "insight" is given to this experience by Gestaltists and refers to the degree of awareness of the perceptual field and how this awareness contributes to the solution of a problem situation. Very often a viewer will restructure or reshuffle relationships in a field which, in turn, results in a sudden novel solution. Past experiences and present events stand in a different relationship than before leading to creative problem solving (Brammer & Shostrom, 1968: 60-61). Gestalt concerns with creativity will be discussed later.

Why should the perceptions of visual (and otherwise sensed) patterns organize themselves by the above principles? Gestaltists, such as Arnheim (1971:4), theorize that perceptual order is "the conscious manifestation of a more universal physiological and indeed physical phenomenon." Activities in the brain correspond structurally to the structure prevailing in the perceptual field. Wolfgang Kohler, impressed by the corresponding phenomena in the physical and psychological sciences developed the idea he termed "physical gestalten". In an article on this subject he describes his basic idea, "[in the theory of nervous functions]... we have an immediate correspondence between mental and physical processes and the

demand seems inescapable that at this point organic functions be thought of as participating in and exhibiting essentially Gestalt characteristics" (Ellis, 1938:18). Proceeding from the instances of finding Gestalt principles in operation in the nervous system, Kohler began investigations into Gestalt processes in more comprehensive physical systems, such as electrical fields (Ellis, 1939: 18-33). These studies yielded information supporting theories by Gestaltists claiming that Gestalten of the same fundamental character as those in perception are involved in physical systems. From these ideas Kohler developed his "Law of Dynamic Direction" which is concerned with the direction of a system to the maximum orderliness obtainable under the given conditions. The world is seen as self-organizing and self-regulating (Arnheim, 1971: 51-52n). Kohler and other Gestaltists were often accused of "physicalism", "reductionism", or "materialism" but these assertions are inaccurate. What they tried to show was examples of structure not only at the phenomenal/physical level. Their work attempted to bridge the gap between nature and mind by showing a similar structural organization or "psychophysical isomorphism" as it is called by Kaniza & Gaetano (1979: 56-71).

On one hand Gestaltists were accused of reducing behavior into mechanistic bonds of physical units as stated above. On the other hand, Gestaltists were also accused of ignoring physical states of organisms, motivations, the past

experiences of the organism, and, in general, behavioral inquiries. But in fact all of these and more were included in Gestalt theories of the influence of perception in behavior as can be seen in this brief listing of the main value of the principles of Gestalt field theory (Brammer & Shostrom, 1968: 59): First, the physical state of the organism determines the nature of what is perceived. So how a person behaves is a function of the state of his perceptual field at the moment. Second, perception is a function of time since the exposure must be long enough to allow sensory organs to function adequately and for perceptions to form in memory. Third, perception cannot occur unless there is a concrete or symbolic experience. Fourth, the client's values, goals, or motivations influence perception. For the most part, people perceive what they want or expect to perceive, or are trained to perceive. Fifth, the ego and self-systems selectively determine what is perceived. Sixth, experiencing threat to self affects the range and quality of perception. Threat seems to narrow the perceptual field as well as to force the individual to maintain his personality organization by various defenses.

Gestaltists' basic idea concerning behavior is that it is a primary function of the person's perceptual field at the moment. People should be understood in terms of their unique perceptual or "phenomenal field." This view contrasts with both the psychoanalytic view that behavior is influenced by deeply repressed historical events in the

personality, and with the behaviorist view which stresses past learning (Brammer & Shostrom, 1968: 59). Even heredity is not discounted by the Gestaltists. But, whereas a Nativist would explain behavior exclusively in terms of inherited mechanisms in the nervous system which dictate behavior, the Gestalt view is that behavior is constructed of both thought and action and that these two influence biological changes, as well as vice-versa (Henle, 1961: 67, 75).

What are the implications of Gestalt theory in relation to art theory and practice? The often read Suzanne Langer incorporated Gestalt theory into her own wider ranging ideas in order to understand perceptions of space and form. She states that Gestalten are "the symbolic materials given to our senses....[they] furnish the elementary abstractions in terms of which ordinary sense experience is understood" (Langer, 1957a: 98). Langer sees the first contact with the total gestalt as "intuition" and since the gestalt is made of "symbolic materials" then "if our interest in Gestalten goes beyond their common-sense meanings it is apt to run us into their dynamic, mythical, or artistic meanings" (Langer, 1957a: 283). She further states (1957b: 165) that the "artistic form is a perceptual unity" of the experience of a feild organized under Gestalt principles.

To an even greater extent Rudolf Arnheim includes Gestalt theories in his writings concerning art. When discussing the Gestalt theory of expression, Arnheim states

that "expressive behavior reveals its meaning directly in perception. The principle of isomorphism, according to which processes which take place in different media may be nevertheless similar in their structural organization. Applied to the body and mind, this means that...the forces which determine bodily behavior are structurally similar to those which characterize the corresponding mental states... (Henle, 1961: 307-308). This idea of isomorphism of muscular behavior and the resulting visual trace can be exemplified by various drawing techniques, action painting, abstract expressionism, and in Japanese painting which makes use of the principle of "living moment" (Sei Do). In the latter example the distinguishing feature is the strength of the brushstroke, called "fude no chikara" or "fude no ikioi". This technique requires that an appropriate quality of strength must be imparted through the artists arm and hand to the image painted (Henle, 1961:310).

Arnheim defines expression then as "the psychological counterpart of the dynamic processes which result in the organization of perceptual stimuli"(Henle, 1961: 311). The Gestalt thesis would imply that an observer could adequately gauge another person's state of mind by his bodily appearance or by the result of his physical activities. Such a theory of expression would make expression an integral part of the elementary process of perception. Basically the Gestaltists see expression as a physical manifestation of psychical processes and further that expression is not

limited to a physical organism which possesses consciousness. Rather, flames, trees, rocks, water, also express their unique characteristics which are structurally similar to psychophysical characteristics in humans (Henle, 1961:313).

Gestalt therapy is well known for its use of creativity as a technique of adjustment. As with the experience of "insight" discussed above, component parts of a problem are rearranged or viewed from varying, non-normal perspectives to effect a solution. Perls, Hefferline, and Goodman (1951: 393-394) accurately describe a fear of creativity existing on both the individual and social levels. This fear exists precisely because creative problem solving looks at problems outside the norm, thus risking social and personal stability. A usual political issue can be used as an example. The problem is thought to be "real" only if stated in the accepted framework, but neither of the opposing policies spontaneously address the problem itself. Our social problems are usually posed from inflexible viewpoints that conceal real conflicts and prevent real solutions. It is the accepted way of posing the problem, not the problem itself, that is taken to be "reality". One is therefore continually confronted with the choice of "lesser of two evils". This is what is called "being realistic". The creative approach to a difficulty, whether social or personal, is just the opposite: it tries to discover or invent third, fourth, or even fifth approaches that spring from the processes involved in the issue itself. Gestaltists

consider the self's creativity and the organism-environment adjustment to be polar: one cannot exist without the other. Contact with the environment must be a creative transformation. Creativity that is not continually destroying and assimilating an environment given in perception remains superficial. It remains superficial because the excitement of the unfinished situation is not drawn on, and interest collapses. Also, it is in manipulating the resistant that the self becomes involved and engaged, effecting change (Perls, Hefferline & Goodman, 1951: 406-407). In the excitement of creativity the self looses its security without being negated. With the acceptance of this excitement the self has the sense of readiness and draws power from contact with the environment (Perls, Hefferline & Goodman, 1951: 414-415).

An accurate criticism of Gestalt theory is that it is vague in describing how perceptual change takes place. What causes the sudden change, for example, in the face-vase diagram (figure 14)? There are limitations of Gestalt views because of the incompleteness of some of these views. For instance, when it comes to setting conditions whereby perceptual changes and insight are accomplished, and how an understanding of thought processes can be translated into affirmative action, Gestalt theory remains unclear.

Perhaps the greatest value in the Gestalt approach lies in the insight that the whole determines the parts, which contrasts with previous assumptions that the whole is merely

the total sum of its elements. The average person, having been raised in an atmosphere full of dichotomies, has lost his wholeness and his integrity. The unitary outlook of the Gestaltists dissolves the fragmented approaches to human experiences.

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