

## HOW FORM FUNCTIONS: ON ESTHETICS AND GESTALT THEORY

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In an entry in his journal, Gestalt psychologist Rudolf ARNHEIM remembers a certain convention one year of the American Society of Aesthetics: "Much confusion arose," he recalls, "when the Society for Anesthetics met at the same time in the same hotel" (ARNHEIM 1989).

The terms "esthetic" and "anesthetic" (or, as also commonly spelled, "aesthetic" and "anaesthetic") are historically closely related. In the original Greek, they were counterparts of the same root concept, *aisthetikos*, which referred not just to works of art but to all sensory input. Any experience could be regarded as esthetic if provocative, striking, and stirringly felt, whereas anesthetic experiences were numbing or stupefying. Esthetic quality was not a question of prettiness nor pleasantness, but of vividness and cogency.

Since the 18th century, the meanings of these terms have changed. Today, despite their common origins, "esthetic" is rarely if ever defined as the antonym of "anesthetic". Perhaps most contemporary philosophers, along with virtually everyone else (as witnessed by dictionary definitions), regard esthetics as the study of beauty, and, especially, the study of beauty in art. So, understandably, it seems like a madcap, surrealist event for estheticians and anestheticians to convene at the same hotel at the same time.

Beauty, one hears increasingly, is in "the eye of the beholder". Esthetic standards are subjective; there is no reliable critical gauge, and formal issues have drifted in the vapor of what is derided as "taste". (Among artists, it is now customary to use the word "esthetic" as a synonym for any artistic "point of view", so that any person's likes and dislikes constitute his or her "esthetic".) As a result, discussions of art and esthetics are seen as innocuous, "academic" digressions, in part because things that are beautiful, while pleasurable to witness, are most likely of little significance in the prosaic, pragmatic utility of the "real world". Even among artists, esthetics is discredited because many (perhaps most) no longer assume that an artist's responsibility is to make beautiful objects. As the Czech-born American painter Barnett NEWMAN once said, "Esthetics is for me as ornithology must be for the birds" (quoted in CROFTON 1989, 46).

The word "anesthetic", on the other hand, has evolved in a subtle, less radical way. It still means the partial or total loss of sensation, the opposite

of perceptibility. But it almost always refers to chemically-induced anesthesia, administered before or during surgery. Only rarely does it mean a non-chemical loss of sensation, as when, for example, a person experiences a meditative trance, brought on by sustained exposure to extreme similarity (or humdrum), such as monotonous chanting, resulting in “hypoarousal”; or an ecstatic trance, brought on by sustained exposure to extreme diversity (or hodgepodge), such as spasmodic song and dance, resulting in “hyperarousal”. The Ancient Greeks, like presumably most cultures throughout history (including our own), were aware of and made willful use of trance-induced anesthesia, as in the Hippocratic use of dance as a cure for bacchanalian madness.

Meditative and ecstatic trances are anesthetic mental states. Those who engage in them (whether Balinese dancers, Masai warriors, Indian Yogis, Buddhist priests, Haitian voodoo worshippers, Pentecostal Christians, or more subdued practitioners of secular stress-avoidance techniques like Transcendental Meditation) experience a relative lack of connection with sensory stimuli, a partial anesthesia, a state of oblivion (more or less) in which they may not fully sense the kind, location, and timing of the ephemeral, sensuous phantoms that constitute one's life on earth.

There are countless eyewitness examples of this. Among the most vivid is the prison diary of Arthur KOESTLER, the Hungarian-born novelist, who was captured by the fascists while working as a journalist in Spain in 1937. Accused of spying, KOESTLER was placed in solitary confinement, awaiting execution. From his cell, he could hear other prisoners in neighboring cells as they were taken out and shot. Not surprisingly, he developed fits of fear, or what we now commonly call anxiety attacks.

In *Dialogue with Death*, he documents what he describes as the “anesthetizing” strategies by which he was able to manage his anxiety: In one, he chose a certain line from literature and “repeated the same verse thirty or forty times, for almost an hour, until a mild state of trance came on and the attack passed” (KOESTLER 1966, 116). This, as he was well aware, was the proven tactic of the Catholic rosary, “of the prayer mill, of the African tom-tom, of the age-old magic of sounds” (KOESTLER, *ibid.*). It was meditative trance, brought about by monotony or boredom.

In a second method, he selected an intricate concept (“such as FREUD's theories about death and the nostalgia for death”) and then free associated until, “after a few minutes, a state of feverish exaltation was evoked, a kind of running amok in the realm of reasoning, which usually ended in a day dream” (KOESTLER, *ibid.*). It was an ecstatic trance, induced by unbridled meandering thought.

Thinking about esthetics in relation to anesthetics, it may be of value to picture them on a linear continuum, like that of a color spectrum (Fig. 1). At opposing poles are the two varieties of anesthesia, high similarity (humdrum, monotony, meditative trance, and hypoarousal) and high difference (hodge-

podge, mayhem, ecstatic trance, and hyperarousal), while the fluctuating central zone is esthetic experience<sup>1</sup>.

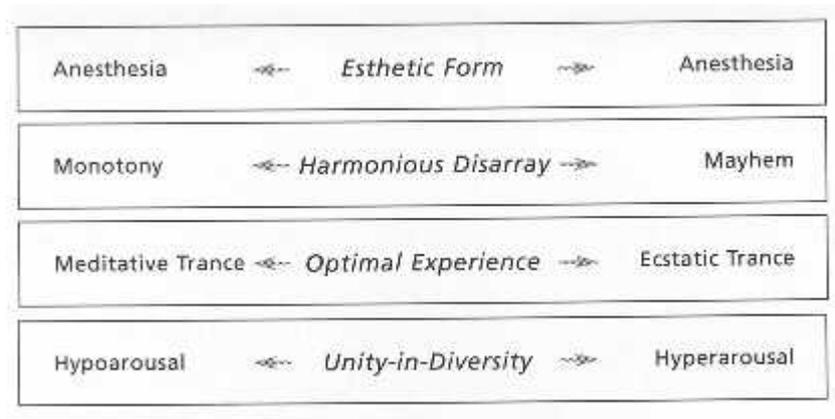


Fig. 1. Comparative chart of polarities related to the continuum of esthetics and anesthetics.

This concurs with the age-old, familiar belief that esthetic compositions (in visual art, music, literature, dance, theatre, and so on) have in common the elusive form attribute of “unity-in-diversity” (also sometimes cited as “repetition with variation”, “strict wildness”, or “harmonious disarray”), which is to some extent explained by the perceptual organizing tendencies (e.g., similarity, proximity, and continuity) that Gestalt psychologist Max WERTHEIMER described in 1923 (WERTHEIMER 1939), and that Fritz HEIDER later called “unit forming factors” (HEIDER 1983). It is also consistent with the writings of American philosopher and educator John DEWEY, who contended, in *Art as Experience*, that “the non-esthetic [or anesthetic] lies within two limits. At one pole is the loose succession [or mayhem] that does not begin at any particular place and that ends - in the sense of ceasing - at no particular place. At the other pole is arrest, constriction [or monotony], proceeding from parts having only a mechanical connection with one another” (DEWEY 1958).

British philosopher Alfred North WHITEHEAD once wrote that the defining trait of an esthetic pattern (whether utilitarian or nonutilitarian, visual or non-visual, artistic or nonartistic) is “the fusion of sameness and novelty; so that the whole never loses the essential unity of the pattern, while the parts ex-

<sup>1</sup> The phrase “fluctuating central zone” is used purposely to imply that there is no fixed point where esthetic patterns firmly stand, precisely in the center between the two anesthetic extremes. Indeed, the most inventive art tends to drift precariously toward the edges. As music theorist Leonard MEYER has noted, “[...] some of the greatest music is great precisely because the composer has not feared to let his music tremble on the brink of chaos, thus inspiring the listener’s awe, apprehension, and anxiety and, at the same time, exciting his emotions and his intellect” (MEYER 1956, 161). In contrast, the work of other composers, such as Philip GLASS, may favor the high similarity end.

hibit the contrast arising from the novelty of their detail". More recently, art historian E.H. GOMBRICH said that "the most basic fact" of esthetic experience is "that delight lies somewhere between boredom and confusion" (GOMBRICH 1979, 9); while Gestaltist Rudolf ARNHEIM wrote that "Complexity without order produces confusion," and that "order without complexity produces boredom" (ARNHEIM 1964, 1).

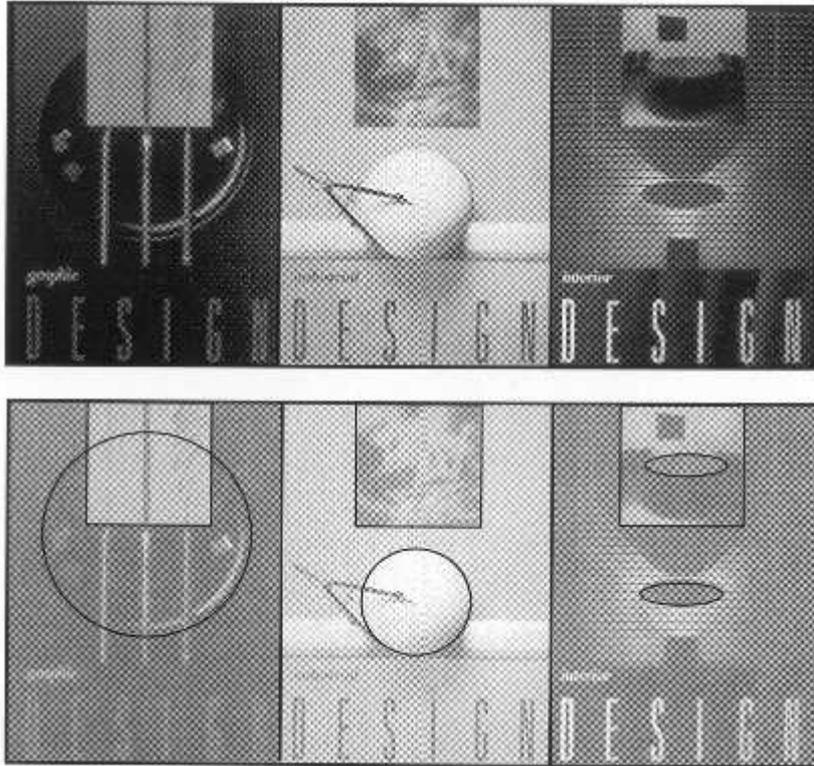


Fig. 2a. Designer unknown. Series of three posters about graphic, industrial, and interior design, produced and distributed by the Champion Paper Company, c. 1980.

Fig. 2b. Diagrammatic analysis of Fig. 2a

Among visual artists, concern for esthetic arrangements is called "design" or "form" or "layout". Evidence of this is found in the work of those visual artists who call themselves "designers", including graphic designers, typographers, publication designers, illustrators, industrial designers, interior designers, architects, and so on. A particularly striking example is seen in a set of three design-related posters that were first published about twenty years ago (Fig. 2a).

The funding for this project came from the Champion Paper Company, an American corporation that manufactures and sells printing papers. These posters were promotions for a new kind of paper, and were given out free of

charge to people who were likely to order paper for future printing projects, especially graphic designers. Presumably, the designer in this case was asked to create a series of posters that would arouse the interest and loyalty of designers, while also demonstrating ways to use this paper. If designers admired the posters, they might display them or share them with other designers, whether graphic, industrial or interior, all of whom are potential customers of paper companies.

To come up with esthetic arrangements, such as this set of posters, a designer has to understand WERTHEIMER's grouping principles, if only intuitively. As ARNHEIM has written, "The relative degree of similarity in a given perceptual pattern makes for a corresponding degree of connection or fusion" (ARNHEIM 1961, 201). Consistent with that, the designer of these posters chose certain components (shapes, sizes and colors), then arranged them to make them appear to connect (by using similarities) or to disconnect (using differences). When the components of a design look fused or connected, they are likely to support the perception of unity; when dissimilar or disconnected, they contribute to diversity.

Looking closely at these posters, it is evident that certain components have deliberately been repeated: The center square at the top of each poster; the type style, size and placement of the word *DESIGN* at the bottom; the words *graphic*, *industrial* and *interior*, which are always in italic type in lower-case letters. In addition, a circular shape is in each; and the overall poster size is always the same, repeating a rectangular proportion that approximates 8 by 13 (its exact proportion is 9 by 13), or what is traditionally known as the *golden section*.

At the same time, important distinctions are made. In the graphic design poster, for example, the circle appears in the form of a plate (to suggest the flatness of page layout and publication design); in industrial design, it has become a sphere (to symbolize the fullness of functional, three-dimensional products); and in interior design, it is represented by two ellipses, which are of course tilted circles, or circles in perspective (to allude to an architectural interior). There are other differences as well (brush, pencil, scalpel, compass, venetian blinds, table lamp), most of which are details that distinguish one design category from another (Fig. 2b).

Perhaps most people associate the words "design" and "layout" primarily with page design. But illustration (or pictorial design, with few if any text elements) is also a species of graphic design, and is accomplished in much the same manner. An apt example is a recruiting poster for the School of Visual Arts in New York (Fig. 3a), first published in 1986, with an illustration by Jerry MORIARITY (see SIKES 1986). In that poster, a layman walking on the street stops to admire the work of a sign painter (a commercial artist), who in turn, looking through the window, admires the work of a painter (a fine artist) inside. The caption reads: "To be Good is not enough, when you dream of being Great".

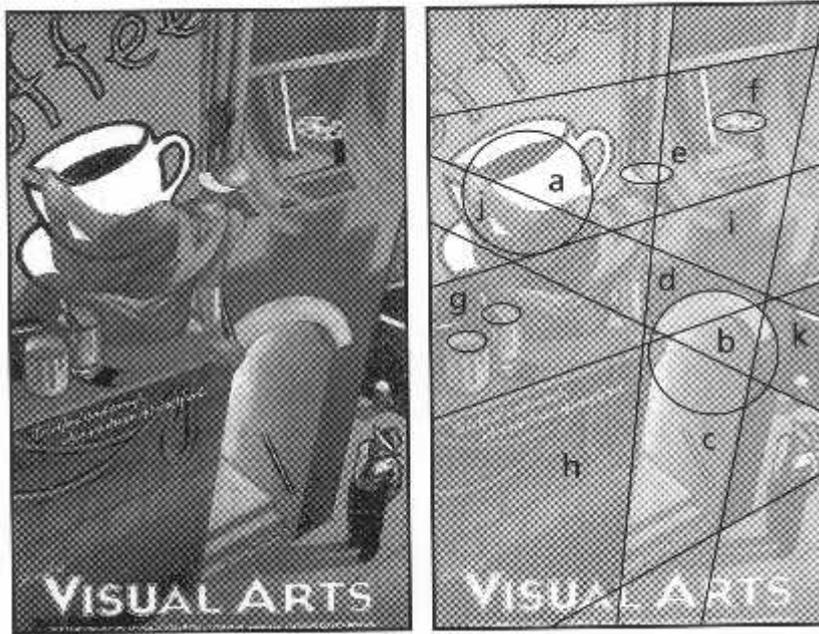


Fig. 3a. Jerry MORIARTY, illustrator and designer. Fig. 3b. Diagrammatic analysis of Fig. 3a.  
 Bill KOBASZ, type designer. Poster advertising the School of Visual Arts, New York, 1986.

As a diagram shows (Fig. 3b), this painting is filled with examples of how one visual attribute can purposely rhyme with another (through similarity grouping) or how one area of a painting can connect with another (through edge alignment). The bottom of the coffee cup (a), for example, is the same size and shape as the arch of the door (b). The railing (c) aligns with and echoes the rod at the end of the scaffold (d). The visor on the painter's cap (e) repeats the shape and position of the artist's palette (f), while the crown of his cap is the general size and shape of the lips of the paint cans (g). The shape of the loop in the scaffolding rope (h) is the shape of the tail of the curtains (i). And there is a precise correlation between the sign painter's brush (j) and the edge of the wall on the right of the work (k).

In the past three decades, with the dominance of Postmodernism, the ground rules of art have dramatically changed. While the historic contribution of the Gestalt psychologists is still acknowledged by designers, there are artists who find it constricting. *Gestaltung* is the German word for design, and the subtitle for the Bauhaus in Dessau (the most influential art school of the twentieth century) was Hochschule für Gestaltung (or College of Design). That artists have long been aware of the link between design and Max WERTHEIMER's grouping principles is confirmed by the author's acknowl-

edgments in György KEPES' *Language of Vision*. First published in 1944 and used widely as a textbook in American courses in art and design, it opens with KEPES' admission of his indebtedness to the Gestalt psychologists (WERTHEIMER, Wolfgang KÖHLER, and Kurt KOFFKA), whose ideas and visual examples, he notes, are used "in the first part of the book to explain the laws of visual organization" (KEPES 1944, 4).



Fig. 4. Detail of a catalogue sample of the typeface Gestalt, designed by Jonathan HOEFLER, c. 1993. Copies of this font can be ordered online at [www.typography.com](http://www.typography.com).

A more recent explicit reminder of this is a typeface named Gestalt, designed by Jonathan HOEFLER, an American type designer, in the early 1990s (Fig. 4). This font, which is described in its promotion as "a typographic interpretation of a principle from Gestalt psychology", pays homage to the notion that "the whole is greater than the sum of its parts", or, in HOEFLER's words, "that no idea is comprehensible out of context" (HOEFLER 2000, 44). It does this by making the type characters (letters, numbers, marks, et al.) so abstract, so ambiguous, that few are recognizable out of context. Some of the letters can only be clearly identified when combined with other type characters to make higher-level words, phrases, and sentences.

This typeface is also a tribute to similarity and proximity grouping, to continuity through edge alignment (familiar to designers as “grid lines”), and to implicitness or closure. Many of its letterforms are abstract geometric bars, circles, and triangles, and may serve as a tacit reminder of WERTHEIMER’s early experiments with “apparent movement” (in which he used simple lines, arranged in sequence on a strip of paper, to observe the illusion of movement within a motion picture toy called a “zoetrope”), or the diagrams he used in his 1923 paper, which his students thereafter referred to as his *Punktarbeit* or “dot paper” because virtually all its examples were abstract patterns made of dots (see BEHRENS 1998 and 2002).

From the onset of Gestalt psychology, recalls ARNHEIM, its practitioners “looked to art for the most convincing examples of sensitively organized wholes” (ARNHEIM 1961, 197). People like Christian VON EHRENFELS, WERTHEIMER, and KÖHLER had interests in music and visual art, less in literature. It is with the help of their writings, ARNHEIM continues, that we are now able to realize that a well-designed work of art - an esthetic arrangement - is “a Gestalt of the highest degree” (ARNHEIM, *ibid*)<sup>2</sup>.

### **Zusammenfassung**

Die Abhandlung macht zunächst auf die doppelte Bedeutung aufmerksam, die das Wort „anesthetic“ im Englischen hat: Zum einen bedeutet es „unästhetisch“ (wird allerdings in dieser Bedeutung umgangssprachlich wenig verwendet); zum anderen (und in heute üblicherer Verwendung) bedeutet es „gefühllos“ – so wie wir es im Deutschen in „Anästhesie“ verwenden. Beide Wörter, „esthetic“ and „anesthetic“ leiten sich aber vom griechischen *aisthetikos* ab und lagen lange Zeit bedeutungsmäßig viel näher beieinander als heute, da sie sowohl Aspekte eines Kunstwerkes als auch des sensorischen Inputs kennzeichneten. Eine Erfahrung wurde somit als „esthetic“ bezeichnet, wenn sie provokativ und treffend war, hingegen als „anesthetic“, wenn sie gefühllos, starr und dumpf war. Der Essay plädiert nun dafür, diese beiden Begriffe wieder als Antonyme zu verstehen um so das Spannungsfeld zwischen „ästhetisch“ und „unästhetisch“ besser erfassbar zu machen. Dieses Spannungsfeld lässt sich gut mit dem markanten Satz ARNHEIMs charakterisieren, dass nämlich Komplexität ohne Ordnung als Konfusion empfunden werde, Ordnung ohne Komplexität hingegen als Eintönigkeit. Es kommt somit auf ein natürliches Verhältnis zwischen Chaos und Ordnung, bzw. zwischen Komplexität und Einfachheit an. Indem Beispiele aus dem Bereich visueller Kunst und Design herangezogen werden, vermag der Autor zu zeigen, dass die von der Gestaltpsychologen bereits 1923 beschriebenen ordnenden Faktoren oder Gestalt-Prinzipien (Ähnlichkeit, Nähe, Kontinuität, Geschlossenheit) bei bildenden Künstlern und Designern auch heute noch eine zentrale Rolle spielen, wenn sie sich um ästhetische Arrangements

<sup>2</sup> As I was completing this essay, I was saddened to learn of the passing of two important writers, both quoted here, who greatly influenced my notions about art, esthetics, and Gestalt theory. They were art historian E.H. GOMBRICH (1909-2001), who died on November 5, and painter and designer Gyorgy KEPES (1906-2001), who died on December 29.

zur Gestaltung von Büchern, Magazinen, Schrifttypen und Topygraphien, Postern etc. bemühen.

### Summary

The words "esthetic" and "anesthetic" evolved from the same Greek root word, *aisthetikos*, but in current English usage, they are no longer seen as related. To understand esthetic experience, this essay suggests it may again be useful to regard the two terms as antonyms. Using examples of visual art and design, it is shown that the perceptual organizing principles or unit forming factors (similarity, proximity, continuity, and closure), proposed in 1923 by the Gestalt psychologists, are still in widespread use today among artists and designers, in the design of esthetic arrangements for books, magazines, typefaces, posters, and so on.

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