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Jaeger, Thomas Arvid

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CIRCLE OF FORM

Thomas Arvid JAEGER

Associate Professor PhD, Aalborg University Denmark, Institute of Architecture & Design

ABSTRACT

Teaching aesthetics belongs to one of the most flourishing part in education. The variety of methods, terminology and tradition differs from country to country, school to school and from person to person. The ability to make aesthetic judgments which are coherent is difficult because, we don't have a common professional language like in mathematics, colour and music. The result is a weaker professionalism in the aesthetic competences compared to the professionalism and competences in other areas. A research project [1] on contrasts or opposites in form investigated the phenomenon in the fields of architecture, design, art, art theory, and perception. It was then obvious in related areas to look for systems or models which organized opposites. The colour system has the same fundamental dualistic structure based on complementary colours, on light and dark (black and white), cold and warm. Inspired by this model, and using the knowledge gathered from the other areas, especially perception psychology, it showed to be a possible way to organize contrasts in form, a system of 4 different opposites, geometric, organic, mass and structure: The Circle of Form.

Keywords: Circle of form, teaching basic form, analyzing form and aesthetics, basic elements of form

1 INTRODUCTION

“The two types of contrasted art - geometrical and organic - persist all through the history of art.” Herbert Read. [2]

In relation to form we don't have any common theoretical system, and therefore our professional discussion and teaching of form and aesthetics suffers from the lack of common terms, just like f.ex. Mathematics would suffer if we had not agreed upon a system of terms and principles.

Instead we have a huge and rich amount of literature and terms, that describe form and aesthetics from various aspects. Those forms connected to mathematics are of course well described. We have common names of geometric elements such as: cube, rectangle, ball, cylinder, curved, straight etc. Abstract organic forms are much less consistent in terms, because we usually describe organic (abstract organic!) form with terms from nature, such as flower like, leaf like etc. We do however have abstract terms for some basic elements such as concave and convex. But discussions of aesthetics are rarely limited to description of basic geometric/organic elements, often they will focus on compositions. Here we have an overwhelming amount of themes and phrases: Dynamics, space, function, order, symmetry, light, rhythm, variation, repetition, mass, ornament, structure, signs, etc.etc. “Most of our misconceptions of art arise from a lack of consistency in the use of the words

Art and Beauty. It might be said that we are only consistent in our misuse of them.” [3]

Contrast has always been known and used in art, architecture and design. This paper describes how an investigation into the field of contrasts resulted in a model to describe compositions: The Circle of Form (or the circle of contrast) which gives us an opportunity to understand, qualify our aesthetic arguments and describe forms and compositions on a simple solid ground, which is relevant and needed in education on university level.

2 TRADITION OF CONTRAST THINKING

In the Denmark an architect and professor, Carl Petersen, held some famous lectures at the academy in Copenhagen 1919 [4]. One was on Contrasts. He claimed that he had seen so many talented architects waste their efforts, because they didn't know the basic aesthetic rules of contrasts. He had been working with the subject for years, but had never found a system, so it could be taught more systematically.

The same year Johannes Itten was hired by Gropius in Weimar to teach at his newly opened Bauhaus School. Itten also had a dualistic philosophy and his teaching in basic form was based on dualism and contrasts. Contrasts are dramatic and the same was Itten's teaching methods and lessons. Contrast has always been known and used in art and Itten collected some of the most common used. His system is based on the 3 basic geometric forms, the circle, the square and the triangle.

We have a handwritten note (Figure 1) from Franz Singer describing Itten's "system" [5].



At the top of the note the list of contrasts are written:
 angular-round
 narrow-width
 sticky-round
 long-short
 high-depth
 small-big
 Still-moving
 will-?
 Light-dark

Figure 1: Note from Johannes Itten's lecture at the Bauhaus

Itten's system was a revolution in teaching design at his time, because he returned to the basic elements of form and colour – without applying styles. His teaching investigated the extremes of form (which is the same as elements of form) and the tensions between them we experience, when they are put together. In opposition to the De Stijl movement he focused on the dynamics and experience of form, not only the composition of geometric elements. This could recall the famous dichotomy by Wilhelm Worringer: "Abstraktion und Einfühlung" [6]. In short Itten mixed basic abstract geometry with experiences of fundamental contrasts, but didn't create a model or system. (He also tried to unite colour and form, but this was never really successful.)

3 DUALISTIC MODELS: CIRCLE OF COLOUR

Contrast-models were already known from Goethe's colour circle Figure 2 [7] and Itten was familiar with it. Goethe's circle is interesting in this context, because it organizes the elements of a complex phenomenon such as colours using opposites: Red, yellow and blue. (complementary colours).

Goethe's method and theory was anchored in a "physiological" explanation of the phenomenon, that we live in a dynamic world of contradictions and balance. When the eye perceives a pure colour (blue) the sensation forms its contrast in the afterpicture (orange) in order to establish a balance/harmony.

This makes the experience of opposition and the quest for balance rooted in man's own physiology and gives Goethe a good argument for placing the basic colours in a specific relation to each other.

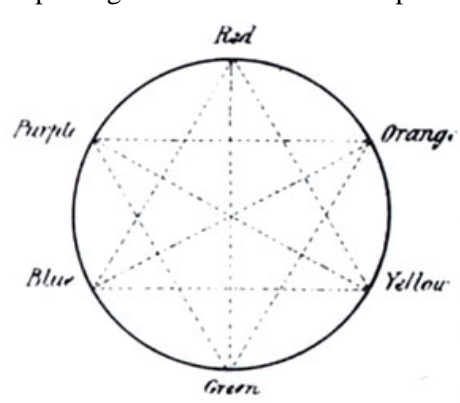


Figure 2: Goethe's dualistic colour model

4 PERCEPTION – TENSIONS BETWEEN OBJECTS

Rudolf Arnheim, wrote in “Art and visual Perception - a psychology of the creative Eye [8] “Visual experience is dynamic”: “What a person or a animal perceives is not only an arrangement of objects, of colours and shapes, of movements and sizes. It is, perhaps first of all, an interplay of directed tensions. These tensions are not something the observer adds, for reason of his own, to static images. Rather, these tensions are as inherent in any percept as size, shape, location, or colour. Because they have magnitude and direction, these tensions can be described as psychological “forces”. [9]

The diversity of a pair of opposites is not of any kind, it is relative. It is not possible to add anything together and experience the contrast effect. Their relationships are antipathetic, but they are not mutually indifferent. Their relationship is tense - but the excitement is something we experience and put into things.

In his later book “The Dynamics of Architectural Form” [10] Rudolf Arnheim describes basic contrasts, such as vertical and horizontal, mass and hollow, order and disorder. He argues that, the closer you are to study the basic elements of human experience, the more credible results because they are general and not dependent on individual preferences [11]. That explanation fits very well with the Bauhaus period and their search for a whole new start for art, architecture and design, “Neue Sachlichkeit” and functionalism – and gives us a hint about, that turning back to basic elements of form in the discussion of aesthetics could perhaps be fruitful.

If we return to Ittens model Figure 3 we find some of Reads dualistic structure we see left geometric and right organic forms:

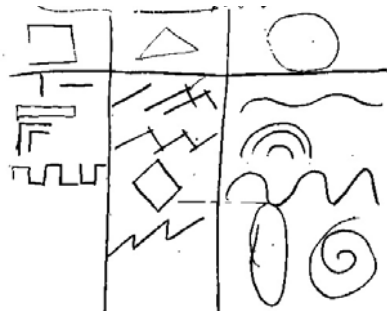


Figure 3: Note from Johannes Ittens lecture at the Bauhaus

In the middle Ittens puts the diagonals/oblique because movement is somehow a link between geometric and organic. If you add movement to a geometric form it becomes much more dynamic (and organic) – if you take the movement away from an organic form – such as the circle – it becomes much more static (and geometric). This could also be the reason why oblique and right-angled can be seen as opposites!

Basic opposites: Geometric

Lines: straight, Vertical/horizontal, right-angled/oblique. Movement: oblique

Digital: Analytical, Part, Sequential, Difference, Demarcation

Basic opposites: Organic

Lines: Concave, convex. Movement: s-curve/wave

Analogue: Holistic, More-less, Unity, Synthesis, Equal, Continuous

Balance

Furthermore Arnheim writes that a quest for balance permeates both the organic and inorganic world. Balance and harmony are closely interconnected with gravity, which is perhaps the most dominant “aesthetic force” we know, since all physical objects in some way must relate to its existence. Gravity, you might conclude, creates a physical experience of balance/unbalance in our body, and therefore courses both a sense of harmony and of drama.

The question of balance thus becomes incredibly central; in fact we are dealing with the “weight” which difference and similarity, harmony and contrast are weighed on.

So if we want to discuss aesthetics and compositions in physical form with a mass, we have to put gravity in relation to organic and geometric. We typically call this the contrast between mass and structure, closed form and open form or heavy and light.

5 CIRCLE OF FORM

In the world of forms, we know the pleasing sight of a precise geometric building situated in a green hillside landscape, but no one has ever seen red geometric forms as afterpictures, when turning his eyes away from this gaze. But on the other hand contrasted forms make each other much more vibrant, - just as contrasted colours.

If we try to put the opposites of form into a model inspired by the colour circle it could look like Figure 4:

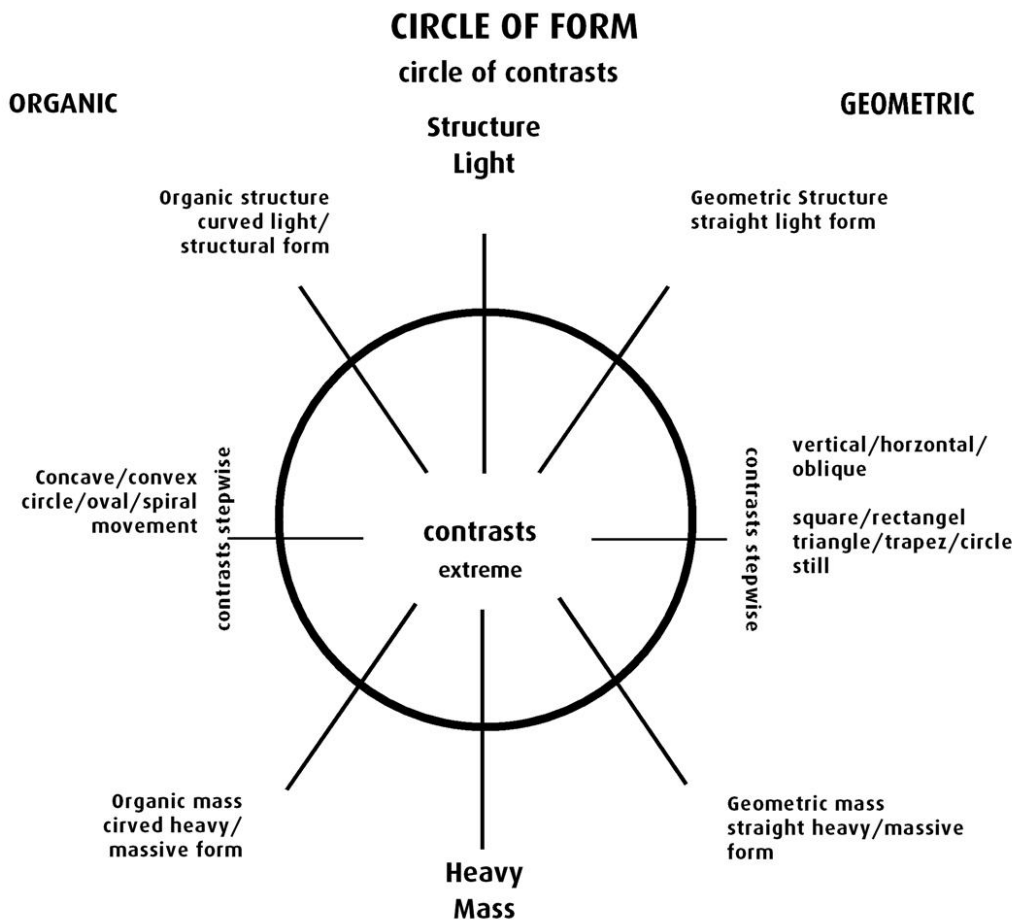


Figure 4: Circle of form and contrast by Th.A.Jaeger

The model shows that we only deal with two types of basic form: Geometric and organic. Both types can exist in a variety of forms between the light transparent structure and the massive closed form. Contradictions are phenomena which are mutually exclusive, while they belong together. Their diversity is not of any kind, it is relative. It is not possible to add anything together and experience the contrast effect. Their relationships are antipathetic, but they are not mutually indifferent. Their relationship is tense - but the excitement is like saying before something we experience and put into things.

The circle shows the most dramatic contrasts in basic form across the circle – and more related contrasts along the circle. Geometric mass has a strong contrast to organic structure, and a “weaker” contrast to organic mass. There is a stepwise change from mass to structure on each side.

The principle of contrast is both found across the circle and within the elements on each side, such as Vertical-horizontal, concave-convex, massive organic-structural organic etc.

If we put examples of industrial design into the model it becomes a structure to understand and discuss design in relation to the four parameters. It would look like Figure 5.

CIRCLE OF FORM

ORGANIC

GEOMETRIC

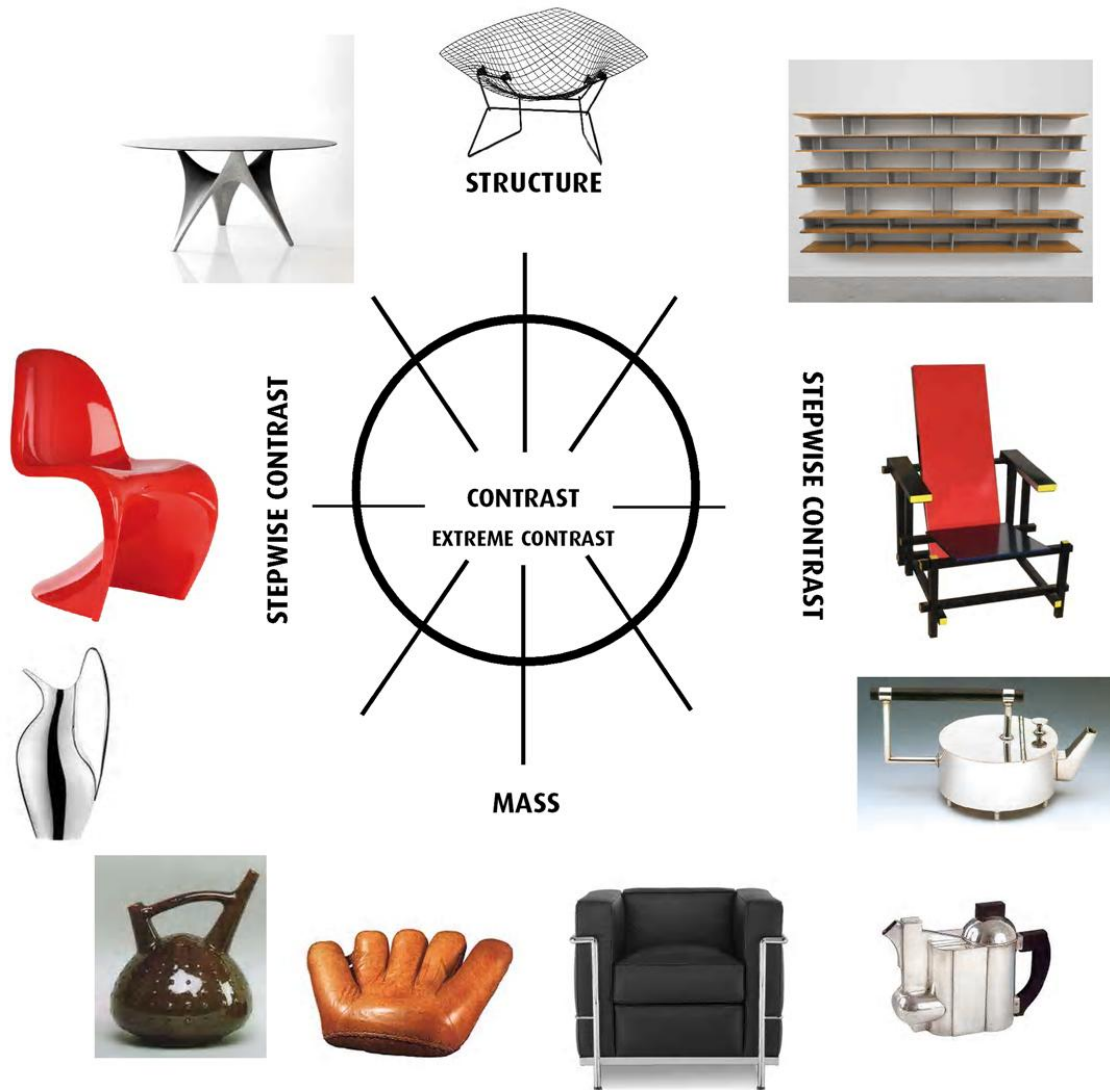


Figure 4: Circle of form and contrast with design objects

6 USE

We can see that Le Corbusiers chair at the bottom is a geometric mass with a geometric structure around, but the expression has slight organic character because as the cushions are soft and the metal tubes have rounded joints on the front. On the other hand the contrast between mass (warm soft leather) and structure (cold chrome metal) is absolutely clear and consequent. The wired chair on the top by Harry Bertoia is based on at similar but structural duality, with a geometric grid has been bent into an organic curved structure and put on at geometric structural base. There is a clear contrast between the seating and the legs – but also a harmony of materials and dimensions. Its only structure.

The model can describe some basic elements of form and their interactions/relations to other forms either as individual works or inside a composition of a single work. It makes it possible to describe with which consequence the composition is made and whether the contrasts are strong, moderated or weak or totally missing. The direct focus on extremes and opposites makes contrast analysis to a relative simple methodology to handle. We are on relative safe ground because we describe what we see without much interpretation.

By focusing on elements are contrasts a narrower way to examine form and by doing it we look into the artistic "crafts of composition". How the designer manages to control similarities and differences in form. It makes the method relevant to teachers and practitioners.

In comparison with other known analytical methods, which typically includes functional, constructive, stylistic, aspects, contrast analysis focus entirely on form. The method cannot tell everything about forms and compositions, but have the ability to expose some fundamental traits. It is very concrete and operational, because it is easy to make decisions and act on either-or. Contrasts are very banal or simple but they can however be much more subtle when they move into the area of tension and ambiguity.

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