

NOVELTY — NOT IN HARMONY, BUT IN UNITY

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This paper studies the role of novelty in the structure of beauty in product design. While designing a product, the design elements are arranged in accordance with the design principles until unity is achieved. Unity in a design is achieved only after harmony and variety in a design are achieved. Variety in a design is achieved because of the differentiating factors and is primarily responsible for the *newness* in a design. Harmony in a design is achieved because of the integrating factors and is primarily responsible for the *sameness* in a design.

As novelty has been established as something new or different and unexpected, now it can be said that novelty is responsible for the newness in a design. Also from the structure of beauty in product design, it is evident that novelty lies in Variety. So, it is not in Harmony but in Unity.

This paper will discuss on how newness is important in achieving visual order in product design.

Keywords: Variety, Harmony, Unity, Novelty, Creativity.

1. INTRODUCTION AND OVERVIEW

While describing design of a good product one may say that the whole is more than the sum of parts. This implies that there is something more than what meets the eyes. This paper is an attempt to discover that ‘something’. It is done by decoding the role of novelty in achieving visual order in product design.

Initial part of this paper is about how visual order or unity is achieved using principles of organization like harmony and variety. Later the role of novelty in product design and its place in the structure of visual order are discussed. Further, how novelty is connected with variety in the construct of design is established through principled arguments.

2. PRINCIPLES OF ORGANIZATION IN PRODUCT DESIGN

While designing a product, the design elements are arranged in accordance with the design principles until a visual order or unity is achieved as shown in Figure 1. Unity in a design is achieved only after the principles of organization, harmony and variety are achieved [1]. Variety in a design is achieved because of the differentiating factors and is primarily responsible for the newness in a design. Harmony in a design is achieved because of the integrating factors and is primarily responsible for the sameness in a design.

2.1. Harmony

Harmony may be thought of as a factor of cohesion — integrating various visual elements of design like line, shape, texture, colour, and tone. This pulling together of the opposing forces of the visual elements is effected through the use of design principles like rhythm, balance and proportion. The repetition or continued use of same element reconciles that opposition. Rhythm is also established when regulated

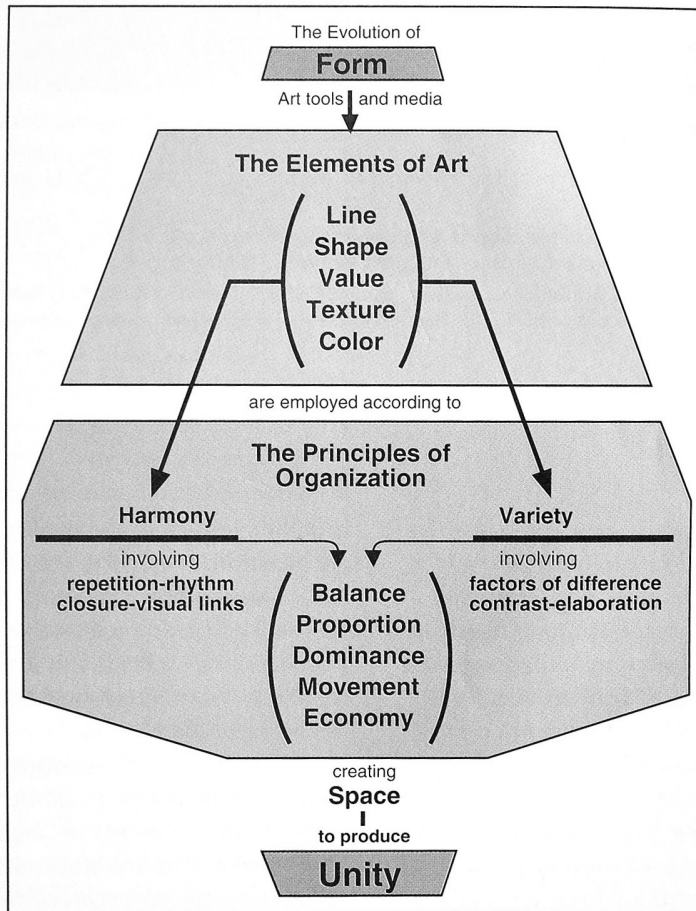


Figure 1. Visual Order (Source: Ocvirk *et al.*, 2002, *Art Fundamentals*, McGraw Hill).

visual units are repeated. Whether created by repetition or rhythm, harmony may create the feeling of boredom or monotony when its use is taken to extremes. But, properly introduced, harmony is a necessary ingredient of unity.

2.2. Variety

Variety is the counter weight of harmony, the other side of organization essential to unity. While a designer might bring a design together with harmony, it is with variety that he or she achieves individuality and interest. In this instance “interest” refers to the ability to arouse curiosity and to hold a viewer’s attention. If a designer achieves complete equality of visual forces, the work will usually be balanced, but it may also be static, lifeless, and unemotional. Visual boredom is an indication of an overly harmonious composition/design. By adding variation to the visual forces, the designer introduces essential ingredients (such as diversion or change) for enduring attention. Visual interest is a direct result of adding variety to the overall organization of the elements in a design. Variety is a factor of visual separation — a pulling apart of related elements. This is done in a way that makes the elements become different or disassociated. This separation (variety) is achieved by the use of *contrast* and *elaboration* among the design elements i.e. line, shape, texture, colour and tone.

2.2.1. Contrast

Contrast occurs when the elements are repeated in a way that makes them appear unrelated — a few wide lines in an area of narrow ones. Dissimilarities are more exaggerated by contrast when opposing elements and/or their parts are juxtaposed or placed in proximity, such as red marks against green or extreme dark against extreme light. As these contrasts are heightened, the areas involved become less harmonious but increase proportionately in visual excitement. It is through the introduction of increasing contrasts that an area, image, or shape may be made to become dominant.

2.2.2. Elaboration

Elaboration is another way that variety or dissimilarity is introduced in areas that lack visual interest. It may be thought of as the addition of minute detail or embellishment of the surface with subtle or contradictory information that heightens the attraction. Though elaboration and contrast may sound like repetition, the intent is not to heighten the relatedness but to gradually introduce visual difference or opposition. Designers will rework areas persistently to express themselves at greater length until a satisfactory solution is reached. When the surfaces are enriched by the extensive changes, the designer's concept usually develops dramatic strength and purposeful meaning.

Drab designs become more interesting or exciting as variations are introduced. In music, the higher the pitch, the greater the number of vibrations. Similarly, in design or art, as contrasts are introduced, the “pitch” or excitement is increased; reduction in contrast lowers the “vibrations” experienced. The frequency of contrasts in a given artwork or design might also be compared to the composer's markings for dynamics — very loud (*ff*) or very soft (*pp*) — that emphasize certain passages by contrast of volume; in art or design, it is necessary to give some contrasts greater emphasis than the rest. However, when contrast is overused throughout the composition, the excessive variety will cause a feeling of visual chaos. But something just short of that point can be quite exciting!

One of the most difficult concepts to grasp is that of applying harmony and variety at the same time and by using the same elements. Harmony also means to hold contrasts together. However, the ratio of shared similarities to shared differences does not have to be of equal proportions; harmony might outweigh variety, or variety might outweigh harmony. Irrespective of the relative strengths, it will become an instrument/concept that will help explore the other principles of organization. A sensitive use of harmony and variety will help to create space and will have a bearing on the development of balance, rhythm, proportion, and emphasis.

2.3. Harmony and Variety

Product designers deal with forms that have multiple views. Composing is more complex. What might be a satisfactory solution for an arrangement with one view might be only a partial answer in the case of a work seen from many different positions. Adjustments are required in order to totally unify a piece. Compositionally, a three-dimensional work of design may be tectonic (closed, and simple) with few and limited projections, as in a refrigerator, or atectonic (open and complex), with frequent extensive penetrations and projections, as in a table-fan. Both tectonic and atectonic arrangements can be found in nearly all three-dimensional art/design, and each of these arrangements can be used individually to achieve different expressive and spatial effects.

Harmony and variety have been cited as indispensable concerns in the creation of two-dimensional artworks; this is equally true in the realm of the third dimension, although its discernment is not always so obvious and its achievement somewhat different. In order to fully view a three-dimensional work such as sculpture or design such as a car, the viewer must “circumnavigate” the work, which has an almost infinite number of aspects. The interest generated

by the many views under the control of the sculptor or designer produces a degree of variety, but his must be balanced by harmony for the benefit of the work's totality.

Harmony and variety are inevitably intertwined since they rely upon one another to provide a balanced composition. Variety provides interest in a work through contrast and by building variations on a theme or motif [2]. Harmony blends the elements of design into a harmonious whole, often by employing rhythm, and balance. The blending of variety and harmony frequently involves transition of two opposing forces or elements by means of subtle enhancements.

3. UNITY IN PRODUCT DESIGN

Usually a designer begins his design work with a theme in mind. He then arranges the design elements in order to bring harmony and variety in his creation. This he does through various design principles like proportion, balance, rhythm, and emphasis. He continues to manipulate the design elements until a satisfactory solution is achieved. Any design that is having too much of harmony or variety may feel boring. There must be a fine balance between the two. This refined design is said to have unity.

The process of product design involves providing an appropriate solution to a set of requirements. This solution shall be having harmony and variety at the physical level, appropriateness at the mental level, and unity at the emotional level. Designer's intentions are always to get to these levels for a complete and fulfilling design. Whether these levels have been achieved or not are left to the individual's perception. All these happen in an iterative manner. When to stop the iteration is the choice of the designer. That depends on the amount of refinement that a designer may want to have in his creation.

A unified artwork/design develops like symphonic orchestration in music. The music composer generally begins with a theme that is taken through a number of variations. Notations direct the tempo and dynamics of the performers. The individual instruments, in following these notations, play their parts in contributing to the total musical effect. In addition, the thematic material is woven through the content of the work, harmonizing its sections. A successful musical composition speaks eloquently, with every measure seeming to be irreplaceable.

Every musical element just mentioned has its counterpart in art and design. In every creative medium, be it music, art, dance, poetry, prose, sculpture, architecture, or industrial design, the goal is unity. For the creator, unity results from the selection of appropriate devices peculiar to the medium and the use of certain principles to relate them. In art and design, an understanding of the principles of form-structure is indispensable. The design elements — line, shape, texture, colour, and tone- on which form is based rarely exist by themselves. They join forces in the total work. Their individual contributions can be studied separately, but in the development of a work, the ways in which they relate to each other must always be considered. This is because each of the elements makes an individual contribution and has an intrinsic appeal. At the end, all the elements must be considered both individually and collectively. This task is a necessary one for that vital ingredient, unity. A metaphysical use of the word "unity" implies the sense of feeling a part of all creation, of being at one with the universe [2].

4. NOVELTY IN PRODUCT DESIGN

Creativity is the process that leads to the creation of products that are *novel* and *valuable* [3]. The condition of *novelty* has to do with the comparison of the new product against those that are already in existence. A novel product is one that is different from all previously existing products intended for similar purposes and also unexpected. The condition of being valuable has to do with the relevance of the product for human purposes. Just because these are new, it does not necessarily mean that they are valuable pieces of art, architecture, music, or industrial design. The value of a creative product is established by the society that receives the product.

Any product design that is exciting is said to have some novelty. So, there is something different in this product than any of the other products before. This something different is responsible for *variety* in the construct of the design. The difference may be in one or more elements of design like line, shape, texture, colour, and tone or the way in which these elements are related to each other using design principles like proportion, balance, rhythm, and emphasis. In short, syntactically when a design is different, it is having variety. As long as either design elements and/or design principles are different in a product design, it is said to have variety. But, anything different or new need not be novel unless it is also unexpected.

5. DISCUSSION

5.1. Novelty and Variety — Same or different?

It is widely agreed that creative activity includes motivation, persistence, originality and variation [4]. Here variation and variety have similar meaning.

Also, according to Glanville [5], creativity and variety are connected. He explained that more the variety available to us in terms of the constructs of design, more creative we are likely to be in a design.

Referring to the framework shown in Figure 1 for visual order as proposed by Ocvirk *et al.* [1], there cannot be a new design without *variety*. Here variety would mean anything new among the design elements used or the way in which design elements have been composed using various design principles available to the designer. But, anything new alone need not qualify something to be *novel*. According to Gero [6], novelty is something new or different which is *unexpected*. In other words, novelty is variety that is unexpected. According to Akin [3], creativity is novelty and being valuable. So, creativity is *variety* plus something *unexpected* and *valuable*.

So, with all these, it is sufficient to say that novelty and variety are not same but different. Novelty is more than a variety. All products that have novelty are said to have variety, but the vice versa *may* not be true.

5.2. Novelty: Not in Harmony

Unity is the result of bringing the elements of design into the appropriate ratio between harmony and variety to achieve a sense of oneness. Designers/ artists, with tools and materials in their hands, begin to create elements on a surface. As they do so, spatial suggestions appear that may conform to their original conception; if not, the process of adjustment begins. The adjustment accelerates and continues as harmony and variety are applied to achieve balance, rhythm, proportion, and emphasis in a design [7]. There is no consensus among various authors on the number of design elements and the design principles that work together for a visual order in designs [8]. However all the authors demonstrated with examples on how to achieve unity with different design elements and principles as proposed by them. Hence, there is unity in diversity among the design principles [7]. Analogically, it is like having different routes for the same destination.

As the development of design continues, designers depend on their intellect, emotions, and instincts. The ratio varies from designer to designer and from work to work. The result is a design that has its own distinctive form. If the work is successful, its form has unity — all parts belong and work together. Novelty is connected with variety and not harmony in the visual order.

6. CONCLUSION

This paper looks at the role of novelty in the visual order. The other constituent of novelty, i.e. *being unexpected* has not been included in the examination, as it is not a visual entity.

All the constituents of the visual order have been discussed. The roles played by variety, in particular, have been analyzed and its connection with novelty has been critically examined.

In the end, how novelty lies within the visual order has been established. So, novelty is not in harmony but in unity.

In short, Novelty= Something new or different (variety) + Unexpected [6] and Unity= Harmony + Variety [1], and therefore Novelty is not in Harmony but in Unity in the structure of visual order.

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