

Application of Basic Design in Architectural Projects

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ABSTRACT

Organization is the essence of any design and doing nothing is also a form of design. When it is an applied design, it is hazardous to design by neglect and default. Design sometimes suffers from a dilemma about its identity. It is not solely either an art or a science but is a combination of both. Applied design is not like physics or biology or writing or painting, but; it involves these areas and more. Design tends towards a generalized approach, collecting specifics from diverse areas as needed. Design is a combination of art, science, technology and intuition. Design does contain sound proven principals and criteria for judging its success. These criteria centre on the relationship between human needs and human environmental possible. The measure of the success of a particular applied design is how well it meets the needs of the people experiencing it.

KEYWORDS: *visualization, science, Art, Technology, Human Comfort and Needs, Spaces, Environmental conditions, Biological systems, Design Processing*

1. INTRODUCTION

The knowledge of a logical process for making a design is of interest and also a matter of intelligent appreciation, of the things one uses. To the person, who would make designs, it shows an easy, consistent method of working. By observing the principles of art and design composition, which are described in the previous chapters, anyone can learn to make orderly, acceptable designs. Since design is a form of self expression, one may accept to add quality and individuality to his work, in the measure of his appreciation and imagination. There is no better way to develop imagination. Good judgment and fine standards of taste than through a thoughtful study of good designs. At this stage, the principles of art are a conscious or unconscious part of one's thinking, which are being used as a standard for measuring quality of design only. One must remember that, mere correctness- adherence to the principles of design- will not insure beauty. A design may show the application of all the principles and still be lacking in character or style. On the other hand, if it has character and shows the strong feeling of a creative

mind, a design may be significant, even though some or all of the recognized measures for judging a design, are missing. But one must learn all the principles of art and the proper application of the same, in evolving a design.

Shapes, forms, colours texture etc. all combine to become a unify whole, which is commonly called “a design” arrangements one becomes aware of shapes, form, colour and texture. When each individual part (element), unifying in its own way, has carefully been placed together with all the other parts, it results in a unifying and beautiful whole (one design). Designing then is the act of arranging things to create a single effect. In designing the “elements” are the things we work with and the principals are what we do with them (elements).Space, line, shape, form, colour, value and texture are the elements with which artist work at create a design. The principal such as- balance, movement, repetition, emphasis, and contrast are ‘what’ artists do with the design elements to make a pleasing and satisfying “art form”

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2. Design in art Form

Decorative Design: Decorative design is really the enrichment of a structural design and may add to or detract from, the original beauty of an object. Consequently, restraint in use of decorative design or complete omission of it is an attribute of any good composition.

The following attributes of decorative design are included in any beautiful composition, assuming that the structural design is sound:-

Limited Surface Decorative: The amount of surface decoration should be limited. Too much colour or too obvious texture can as easily destroy good structure as too much line decoration. The proportion of 2:3 is applicable here, e.g. two parts of the entire surface plain to three of ornamental or vice versa. Any, all over design covering the entire form must be harmonious in character and quality, and not aggressive, for if it is too insistent, the shape is lost in the general confusion.

Placement of decorative Elements: The placement of the decorative elements strengthens the shape or accents the structure. The structure of a doorway can be accentuated by the style of its mouldings and decorative corner blocks can call attention to the form.

Relation to Structure Design: The relation of the design to the shape (structure) is essential. If a vase is particularly lovely in shape, the added decoration must intensify the beauty of the line and form.

Suitability: The decoration must be suited to the material used and to the function of the object. A design motif created for reproduction on a flat wall paper, loses most of its beauty in the deep woolly pile of a rug.

Balance: The definition of balance is 'the even distribution of weight leading to steadiness or evenness'. A balanced design does exactly that; it creates equality and symmetry that the eye loves. But as with most of these principles, if applied too rigidly it can become boring. Enhance your balance with other aspects of design to make it a little less formal.

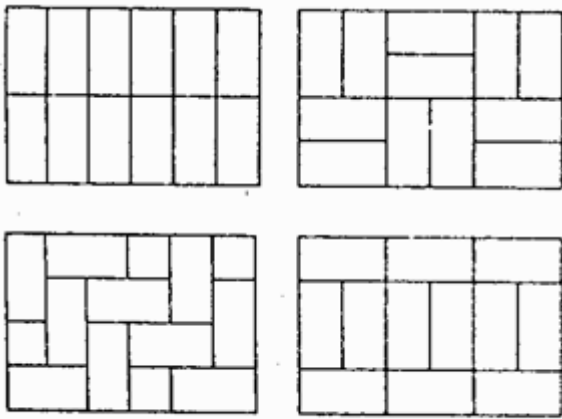
Balance is a sense of stability when applied to opposing visual attractions or forces. A tight rope walker, who is slightly off balance, gives a feeling of uneasiness because of our fear that he might fall. Empathy – This reaction is natural because the maintenance of equilibrium is a necessary and natural function of the body.



Figure 1: Application of Color and Space balance (Source: Google image)

Repetition/ Rhythm:

Repeating elements such as colour, shape or texture can help to unify a space and create a consistent visual experience. Mismatching carpets, different colour schemes or pick 'n' mix windows all create confusion in a space. I once worked on a cottage that had been renovated multiple times, resulting in a hodge-podge of window-frame styles and heights. There was no budget to fix them all so I had to come up with a cost-effective solution. I simply drew a 1.2-metre-high line around the room and painted the bottom half in a dark colour (including the frames up to that level) and the top half in white. Immediately the eye was drawn to the consistent, repeating bands of colour encircling the room, not the inconsistent landscape of the windows. Paint, tiles, carpet and wallpaper are all really easy ways to create repetition. Repetition occurs when elements which have something in common are repeated regularly or irregularly, sometimes creating rhythm. It is a vital part of our universe and is represented in the movement of the heavenly bodies, the motion of the ocean waves and even heartbeat. It is reflected in music, dance, poetry and visually, in art.



Repetition

Figure 2: Repetition Pattern in spaces



Rhythm

Figure 3: Rhythm in pattern

When the interval between shapes, which are exactly alike, is repeated in uniform and regulated order, the design tends to become more formal. By varying the length of the interval, or by changing some of the shapes while preserving the similarity between them, a more formal interest is created. A system of repeating elements can create a rhythm of pattern. Random repeats however may be used without patterning. When the same colour is repeated in different areas of a picture plane, its power is increased.

The repetition of some of the elements within a picture plane tends to hold the overall design together.



Figure 4: Rhythm, Repetition in Interior
(Source: Google Image)

Harmony

This principle is used to put a person at ease within their environment and create unity, thereby eliminating any feelings of disquiet. Harmony, in a sense, provides the ‘full stop’ to any interior design – when harmony is in effect, the space should feel complete because all its parts relate to, and complement, each other. This feeling is the result of balance, scale, proportion and repetition all being used in the right amounts. Harmony is the measure by which we judge whether a space works or not.



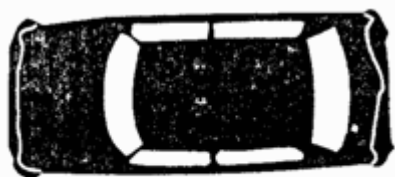
Figure 5: harmony in space and colour(Source: Google image)

Movement: The path that our eyes follow, as we look at a work of art, is known as movement. By arranging the design elements, an artist controls and forces this movement of our eyes and our attention is drawn to the areas of greatest interests. If an artist has created a rhythmic flow, then our eyes are easily led from one place to another.

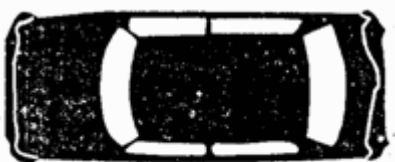
In optical art, the movement deeply affects our personal responses. One may experience a variety of sensations including dizziness, because our eyes fail to focus upon one central point. In design composition, such situation is undesirable.



Figure 6: Movement in design



Feeling of static car



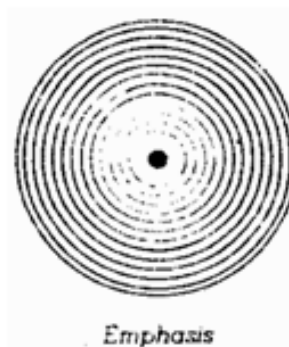
Feeling of moving car

Figure 7: Feeling of Standing Car
Feeling of Moving Car



Figure 9: Static and Movement in interiors
(Source: Google image)

Emphasis: Emphasis calls attention to important areas of a design and subdues everything else on the picture plane or a three dimensional form. By placing emphasis on certain areas of design, an artist creates centers of interest which cause our eye to return again and again to them.



Emphasis

Figure 10: Emphasis on a specific area in design

In design, where there are many things going on, some elements may have more stress than others. Where a linear pattern dominates a design, the attention is drawn to those lines which are larger and more prominent. Bold details and unusual texture, or bright colours, are more prominent than the more subdued features. No matter what elements is chosen for emphasis, it should never demand all the attention. Emphasis is necessary, but a good design composition is one in which all the elements work hand in hand for a unifying effect.

Contrast: Similarity of elements in design often breeds monotony, whereas, contrasting shapes used within the design stand out. Elements with a strong contrast stand in opposition to one another; light against dark; large against small; round against square; or smooth against rough. With consideration to colour, contrast can be recognized as light colour against dark ones or warm colours against cool ones. One must use good judgment in dealing with contrast so that there is not too little or too much. Otherwise, the design can become bland (mild) and uninteresting or unnecessarily confusing.

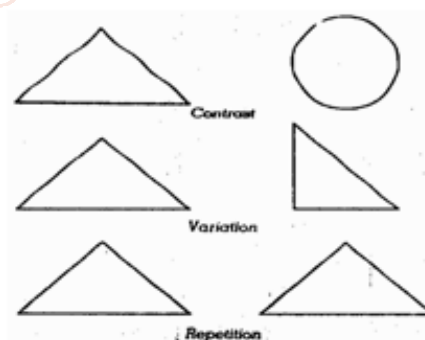


Figure 11: Contrast, Variation and repetition of shapes and pattern

Proportion: One of the most important words is proportion. To understand it, imagine that a man you have not met before comes into the room where you are sitting. At once you know whether he is tall or short, fat of thin. How can you tell? Because almost without thinking, you have considered the proportion of the man's height to his width, and compared his height and weight to that of the door and furniture in the room. As we look at the world around us, we are

constantly comparing one shape with another in this way, and so forming or judgment of proportion.



Figure 12: Scale and Proportion of space and anthropometry.

Scale and Proportion: Scale is a relative quality, the relation of the size of one object to another and that of each object or group to the whole. Scale must not only be right, it must look right. Seemingly correct scale is sometimes more important than mathematically correct scale e.g. two chairs may have identical overall dimensions and yet not look right together, because one has heavier legs & arms and seems larger than the other.

Scale on the exterior of a house is important, if the house is to appear as a unit. The size of the window openings must be related to each other and to the whole façade. A large bulk of a house with tiny windows will not get related to each other.

Proportion usually goes hand in hand with scale, but is subtly different. Where scale describes the comparison of objects to one another, proportion is more about the way furniture and objects look in a space, as well as in relation to one another. Getting proportion right is tricky and is quite often chalked up to someone having an ‘eye for design’ that results in a feeling of comfort and harmony. Try using proportion in your home to create a visual hierarchy that emphasises some features while disguising others.

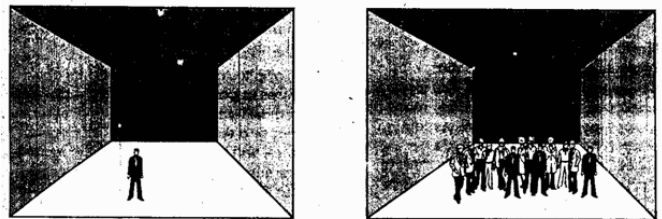


Figure 13: Scale and Proportion in exterior (Source: Google image)

Properly scaled texture is important because as with colour, the texture of a fabric can also make a chair look larger or smaller, the texture of the wall covering can make it advance or retreat; and the texture of the

draperies can make them seem right or wrong in scale. Two identical window treatments will appear entirely different, if one is draped with textured cotton fabric and the other with crisp taffeta; the former will seem, of course much larger. Scale of pattern to texture is another aspect of the same problem. The delicately drawn pattern is in better scale with the finely woven smooth surfaced fabrics, and the large, bold, define pattern more closely related in scale to the rough textured surface.

The law of space relationship: An area to its containing shape is called Proportion.



Proportion with reference to occupancy and size of the room

Figure 14: Proportion with size and occupancy

It may mean the relationship of one panel to an entire door, of a rug to the floor, of the picture to its frame, of a group of furniture to the wall space against which it is set. It may refer to one small area of colour on a wall in relation to the hue of the entire wall area. Space relationships which are beautiful hold great interest, but if it is not used in the correct scale, it will look haphazard. They need not be alike or even similar; repetition has its advantages and so has variety, but restraint in both cases, renders a more significant result.

Lines can seemingly alter proportion as the above sketch of two identical rectangles indicate. The eyes travel across the one with the horizontal division and so makes it seem wider. The eyes travel up the other one and as vertical lines appear to add height, the rectangle seems taller.

After long years of study, the Greeks evolved their famous “Golden Oblong”, worked out one the relationship of two is to three, as the truest expression of good proportion.

They recognized that, the long thin oblong lacked beauty, and that, the nearer the oblong came to being a square the less interest it had. In between lay the most pleasing forms. This relationship need not be mechanically exact, and however, it is this flexibility which makes it interesting.

2.1. Golden Ratio

Famous architect Le Corbusier study on proportion resulted in Golden Section that, any design, two dimensional or three dimensional, if evolved using the under mentioned modules/ Grids, say 1:1, 1:2,

2:3, 3:5, 5:8, 8:13, 13:21, and so on, will definitely look proportionate.

The Golden Ratio (also known as the Golden Section, Golden Mean, Divine Proportion or Greek letter Phi) exists when a line is divided into two parts and the longer part (a) divided by the smaller part (b) is equal to the sum of (a) + (b) divided by (a), which both equal 1.618.

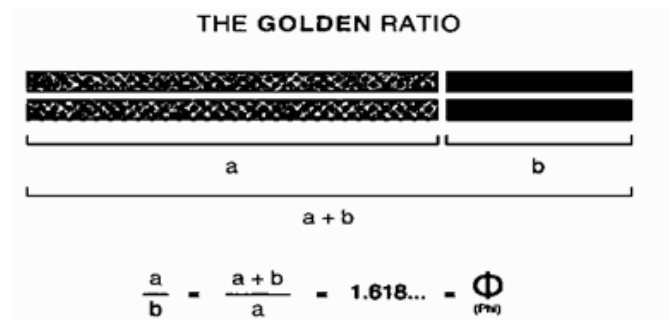


Figure 14: Golden Ratio

If you take our Golden Ratio diagram above and draw an arch in each square, from one corner to the opposite corner, you will draw the first curve of the Golden Spiral (or Fibonacci Sequence) – a series in which the pattern of each number is the sum of the previous two numbers. Starting at zero, the sequence is: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144... and so on.

By adding the arch in each square, you'll end up with the diagram of the Golden Spiral:

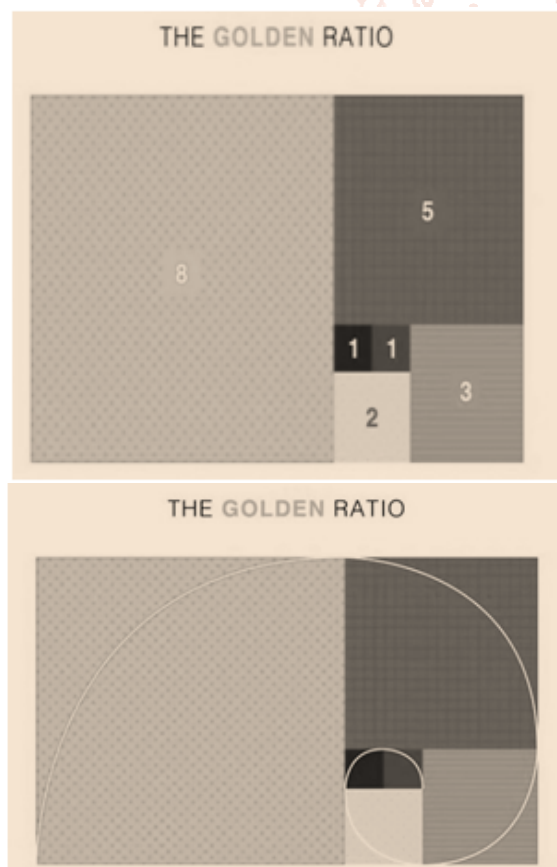


Figure 15: Space in Golden Spiral (or Fibonacci Sequence)

Conclusion

The making of a design comes spontaneously to the person who has native ability. For him, an unconscious feeling for organization and designing, is a completely creative experience. The designing process is a form of organization in which, the elements are a collection of units. These units, in the field of art, happen to be size, shape and colour. A good design is built-up, as logically as any other type of organization. It may also be compared to a form, for the movement of a sonata (musical composition in three or four movements) or to the plan of a city, etc.

There are two considerations in every design: first, the shape of the object itself, called the structural design, and second, the enrichment of the structure, or the decorative design. Before one can be a successful designer, one must get rid of the idea that, design includes only the decoration added to an object. The structural design is of the greatest importance and should have the designer's first consideration.

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