

# Analysis of the Application of Geometric Figures in Graphic Design

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**Abstract.** Geometric figures such as triangle, square, rhombus and circle are the basic elements of common graphics in our real life and graphic design, geometric figures are everywhere, and simple graphics can constitute all phenomena in the world, which can cause people's infinite reverie. The basic geometric figures are formed by conducting combination and change of complex representational figures, which is a reflection of people's summarization ability. The application performance in design is analyzed from the influence of geometric figures in graphic design.

**Keywords:** geometric figure, graphic design, sign, font design, graphic creativity.

## 1. Introduction

As a language of graphic design, geometry is getting more and more credit. In such a fast-paced living space, our graphic requirements for graphic design are also increasing accordingly, the time people stay on complex graphics is becoming shorter and shorter, and it is urgent for us to make changes, simplify complex graphics, make complicated things simple and return to its original nature. It makes people to quickly interpret graphic information under the environment of modern life rhythm. Geometric figures are ubiquitous in graphic design; it is indispensable in font design, sign design, and image design, printing process, package design and pop design. And this kind of expression form of simple geometric figures can convey people's simple, understandable and bright feelings.

## 2. Application of Geometric Figures in Sign Design

The history of the sign can be traced back to the "totem" ancient times, in the evolution process from complexity to simplicity, it expresses emotion with graphics, transfers the expression of meaning to the viewer, and changes from complicated graphics to simple and easy-to-understand intuitive geometric graphics. It's of evolution of sign, and a change in geometric figures. Sign is the symbol of the rights and interests of the enterprise, which interprets the overall strength, products and services of an enterprise, the consumers' impression for enterprise determines the fate of an enterprise, and sign is the most important part of the enterprise image. For example, the symbol of Chinese railway, it is a geometric figure that is easy for the public to understand at a glance. On the surface, the sign is composed of people and worker two characters and geometric figures, the public can directly understand the meaning of sign to us, workers and railways. The combination of the two figures forms a new geometric figure locomotive. It can be said that the sign of Chinese Railway represents the perfect embodiment of geometric figure in sign design. Chen Yuchang designed the Chinese railway sign, from the perspective of design method; the internal graphics of the sign are in deep contrast with the external graphics, and the internal "worker" graphics are simple and clear, implied meaning is clear and graphic style is strong. The external "human" figure is clear in form, easy to understand and in graphic style is soft. The visual elements with association of activity and inertia, blend of delicacy and force, and an iron hand in a velvet glove are designed, which has both integration and prominence, the overall effect is relaxed and powerful, the rhythm is clear, and brings strong visual impact to people. This sign not only show us profound connotation, but also make change and unity combine effectively. The beauty of art form expresses vividly. Geometric figure fully embodies its own value in the design of Chinese railway signs; make complicated things simple, which can be quickly interpreted by people. Many signs are becoming more and more simplified in the design, and the key points are easy to identify and understand, so the application of geometric figures are more preferred by the designers, in the sign design of public

information, there is a large range for users, so it is more necessary to simplify the signs. For example, some common signs, traffic signs and competitive event signs fully reflect the importance of geometric figures to signs, complex geometric figures have rich meanings, but they are not suitable for people's pace of life, simple figures are easy to understand and remember, which more conform to modern people's reading habits.

### **3. Application of Geometric Figures in Font Design**

Graphic design is all inclusive, and font design is an important part of it, font design in visual recognition must not only conform to visual beauty, but also effectively transmit accurate information, so as to achieve both artistic beauty and practical functions. Integrating geometric figures into font design can enrich people's imagination space. In modern graphic design, highly general geometric figures and appropriate text design can not only enhance the design taste, but also guide the audience to read your design works, so as to generate reading interest. Font is an effective way to display information in graphic design; a good font design can make people good to hear or see. Font can display information; can also be used as a symbol, or as a beautifying visual element in the layout, the proper method can bring visual feast to the audience. According to some excellent character graphic works, we can summarize them as substitution method, common use method, superposition method, decomposition method and reconstruction, sharp angle method, etc. We can use these methods to find the inspiration of text geometry graphic, but there is a more expression direct way of geometric figure in graphic design, which is to use the accumulation of text to fill in the required design graphics. For example, human shape, rectangle, stereoscopic figure, text outline and so on. This way has been presented in many excellent works. The rhythm is speeding up in modern life, and the way people read graphic design works is also changing, there is no more time to appreciate and watch the contents which graphic design works convey to us, and more time is a moment, we observe it by the way, it raises a very serious problem for our designers, how to use our design elements quickly deliver the theme to the public. Therefore, a simple and understandable geometric figure is often faster and more effective than a single text to attract people's attention. As a graphic designer, we need to use graphic text to attract the audience. Therefore, in the design, we can make use of words to accumulate into simple and understandable geometric figures, or make the contents which words want to express to be geometric figures, or make the words directly or indirectly geometric figures, which can be more convincing in both visual and design effects. Boldface is the representative of the geometric graphic of font design, which makes the geometric graphic characteristics enlarged, and the geometric design of font can more highlight the font design brand. Thus, it has a strong visual personality, as well as a strong form aesthetic feeling and modern performance effect.

### **4. Application of Geometric Figure in Graphic Creation**

At present, graphical design has gradually occupied a larger proportion of graphic design layout, and graphic language has become the main way of information dissemination. The features of geometric figures are used to make vision and creativity cross the language barriers, so that we can better think creative ideas in the field of graphic design. In order to expand the creative space, a variety of ideas and design schemes are put forward in the outline of geometric figures by using the divergent thinking. Creativity comes from life. A new geometric figure can be formed by connecting every bit of life and merging them, several graphics or two contradictory bodies that did not originally intersect are decomposed and recombined to complete a graphic idea. Just like a frog can become a prince, the transformation of people's thinking mode can become a perfect fairy tale, maybe it is because these ideas are mixed and interlaced, the impossibility can be turned into reality. In graphic creation, we can seek for the same in different things, and find the same elements to combine in different things. For example, we use a pair of scissors as the prototype, and then combine with pants, tongs, compasses, legs, iron towers, etc., the graphics associated with daily life

can conduct divergent thinking. We can also seek common ground and reserve differences, look for different combinations of elements in the same thing. For example, taking the outline of a house as an example, if we add geometric figures such as men, women, tools, food, vehicles and plants into the outline, different meanings can be produced, it not only reflects that the house is a necessary part of our life, but also an indispensable part of our life, which can bring us warmth and show different functions. We can find changes in the structure from another angle; the original shape of "nail" is "triangle" and further associate with "torch", the fire comes from "tree", the destruction of trees uses "saw", the destruction of the forest destroys the home of "bird", without home, the bird is sent to "cage" by people, the cage uses "tongs" and finally goes back to "nail". Take any one of these elements individually, which is not directly related to the nail, but we associate and integrate an intermediate element. They will be linked to complete the new geometric figure. Through some creative methods, we can make various geometric figures collocate and reorganize, and different visual forms are shown. It can be seen that geometric figures are the basic elements of graphic creation and indispensable parts of graphic creation.

## **5. Conclusion**

To sum up, the application of geometric figures in graphic design can not only make the graphic design work easier to understand and have more force of impact, but also build a bridge that can be connected in the gap between the graphic design workers and the public, which can not only improve the value of the graphic design work, but also reflect the appreciation of the work. It needs graphic advertisement designers to continuously bring forth new ideas, improve creative ideas and contribute fresh blood to the development of graphic design.

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