

The Designing and Mapmaking of the Image - Silk Map of Guangzhou

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Abstract. In ancient, silk which is soft, smooth, and as shining as pearl, was so expensive that only aristocracy could afford it. Silk has become taken as an elegant material for many years. Before paper was invented, people had written on silk to transfer information for many years. Because silk is light, waterproof, and can be folded again and again, silk is more useful than paper in some situation. Silk maps are different from paper maps, and are more artistic and useful. However, since silk is a special material, difference between silk and paper should be taken into consideration. To make maps more complicated, we needed to add the image of Guangzhou (a city of China) to this silk map this time. In this paper, we take the image -silk map of Guangzhou as an example, and discuss the designing and mapmaking of image -silk map.

Keywords. map-making, image-silk map, map design

In ancient, silk which is soft, smooth, and as shining as pearl, was so expensive that only aristocracy could afford it. Silk has become taken as an elegant material for many years. Before paper was invented, people had written on silk to transfer information for many years. Because silk is light, waterproof, and can be folded again and again, silk is more useful than paper in some situation. Silk maps are different from paper maps, and are more artistic and useful. However, since silk is a special material, difference between silk and paper should be taken into consideration. To make maps more complicated, we needed to add the image of Guangzhou (a city of China) to this silk map this time. In this paper, we take the image -silk map of Guangzhou as an example, and discuss the designing and mapmaking of image -silk map.

The size of the image -silk map of Guangzhou is 787mm×1092 mm. The size is convenient to be printed and carried, makes the map feels generous. The major element of this map is the image of Guangzhou, and shows the brand

new outlook and basic geographic information of the city. We take the images as the base map, and overlay map symbols and annotation on the base map. So, designing the colors of image was of the highest priority and the design of map symbols and annotation was based on the colors of image. The colors of image should objectively match the real world and should not let the silk lost its luster. So, we adjusted the colors of the image, let it have a greenish hue and have an appropriate intensity. To make the main area looks bolder, we added some yellow into it. Symbols and annotation were the supplements to image data and covered a small area of the map. Colors of Symbols and annotation should have high purity and should have an obvious contrast with the image so that the characteristic of silk was not infected and the readers could see the symbols and annotation clearly. The texture of silk is rougher than paper, so that symbols and annotation should be designed larger and have much broader font. Also, we should use fonts which had a more obtuse font.

The image-silk map of Guangzhou is made by using advance digital map-making technology. The process of making this map consists of two parts: preprocessing the image data, merging image data and the vector data together. Image data was collected from different sources. The image of Guangzhou has a higher resolution than the image of the regions surrounding Guangzhou. First image data are needed to merge into an integrated one. After that, the image should be trimmed to the size designed. The resolution of the image could be too high that the ground may looks like broken. Compressing the image could solve the problem and could also save the storage space. Before merging image and vector data, we should arrange layers first. According to the contents, layers were arranged from up to down by the order of map decoration, annotation, symbols and image. By using affine transformation, we got the exact spot where we should deploy symbols at. After deploying symbols and annotation, image data and vector data are merge together and the integrated image-silk map data was achieved.

The uniqueness of silk makes the map designing and mapmaking very special. In this paper, we took the image-silk map of Guangzhou as an example, introduced the principle and method of designing colors, symbols and annotation for image-silk map. Now, the image-silk map of Guangzhou has been published and been acclaimed by experts of cartography.