

Color Analysis of the Intangible Cultural Heritage Xilankapu

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ABSTRACT

Xilankapu is the cultural imprint and the root of the Tujia nationality, which still maintains its "commoner" nature and is passed down spontaneously among the people. In this paper, the aesthetic art of Xilankapu color is explained from three aspects: color connotation, color aesthetic characteristics, and color analysis, and color data is extracted and analyzed through patterns to explore the color factors of Xilankapu.

Keywords: Xilankapu color, Color aesthetic characteristics, Database.

1. INTRODUCTION

Xilankapu originally developed from a practical decorative object. Earth flower bedding is called "Xilankapu" in the Tujia language. The word "xilan" means bedding, "kapu" means flower, and together they mean "bedding with flower patterns". Xilankapu is often used as quilts, bedspreads, curtains, tablecloths, etc. The threads used are red, black, white, blue, yellow, and purple as warp and weft. Color is an important part of plastic arts. Compared with modeling, color has a stronger psychological orientation, and the Xilankapu female embroiderers will use color scientifically to create a rich pattern composition relationship through the combination of different colors, so that it can achieve a richer visual aesthetic effect.

2. AESTHETIC CHARACTERISTICS OF COLORS

In terms of color composition, Tujia female embroiderers produce some associations that match their perception of life based on their own subjective color combinations of nature, so the Tujia brocade has strong color contrasts and is highly decorative.

2.1 The Beauty of Nature

The unique natural chromatography makes the Tujia people take from nature in color matching. The raw materials are made from natural plant and

mineral dyed silk threads, which only need to be soaked and dried once before use. For example, black is dyed by *Coriaria sinica* leaves, yellow is dyed by yellow gardenia, and blue is dyed by bengal dayflower herb. Xilankapu abstracts the color relationship of nature in color matching, and after eliminating the influence of environmental color and light source color, it subjectively reproduces objective color according to the unique aesthetic concept of Tujia. People use Xilankapu to express their love for the magnificent colors of nature.

2.2 Bright Color Contrasts

As a kind of folk handicraft that started and flourished in the mountain village, Xilankapu also has strong folk colors. In the past, due to the poverty and relative monotony of life in rural China, people had very limited access to elements with visual stimulation in their daily lives. As a result, ordinary people have developed a taste for bright and rich colors in their daily aesthetic. Xilankapu colors emphasize passion and fullness, and female embroiderers use contrasting colors of bright red, luminous green, luminous yellow and luminous purple on the "base" composed of black and white. This color matching gives a strong sense of visual repulsion and makes the pattern more visually stimulating. In addition to the usual contrasting colors, Xilankapu prefers warm colors, such as orange and luminous yellow, and other parts are complemented with cool colors such as blue and

green to balance the overall color of the work and make the color matching more variable.

2.3 Unique Composition

In the production of Xilankapu, black and white is often used as the base to form a harmonious figure-ground relation, and then female embroiderers weave the pattern composed of contrasting colors, and then crochet with black and white colors as a foil. Richly shaped edges such as interlocking, stitching, serrated, hooked, comb-shaped, etc. are often used, and finally, special-shaped floral and grass patterns are used to add colors. The clever use of black and white makes the ornaments in Xilankapu more layered, and these patterns set off each other, thus forming a harmonious and responding figure-ground relation.

2.4 Color Habits of "Avoiding White, Advocating Black and Red"

Black or red is often used as the base color in Xilankapu, and a large area of white is rarely used. The Tujia people believe that red is a symbol of life and represents the Tujia people's reverence for their ancestors. White has an inauspicious meaning, so the Tujia people often "avoid white" in their daily life. For example, the white flower pattern in "big white plum, little white plum" is almost replaced with light yellow or light blue. Black symbolizes integrity and majesty, so the Tujia clothing is mainly black and dark blue.

3. COLOR ANALYSIS

In this paper, the following two types of color data are extracted — color data created with patterns and color data created with hues. The former color data focuses on the division of the Xilankapu colors according to the patterns and the analysis of serialized footnotes and deconstruction. The latter refers to the analysis of the basic chromatogram composed of the Xilankapu patterns and their color rules. Further support for scientific and artistic color datasets is provided through color settings and digital creation, as well as the display and dissemination of object image units (e.g., design patterns and patterns). This paper focuses on the first type — the color data built from patterns for analysis.

3.1 Natural Image Color Data Creation

3.1.1 Animal Patterns

Sample 1 (e.g. "Figure 1") takes the Caragana sinica pattern as a sample, the color of the pattern is absorbed using the eyedropper tool in AI, the overall comparison is made, and the color sample level is established according to the brightness of the color and the dosage range, so as to facilitate the comparison of the later sampling. Since the Caragana sinica pattern is a continuous pattern, the smallest unit pattern is selected as the sample, and a total of 3027 color blocks are collected in the unit area. "Figure 1 shows the pie chart of distribution and color number. "Figure 2" shows the color labeling information of the Caragana sinica pattern.

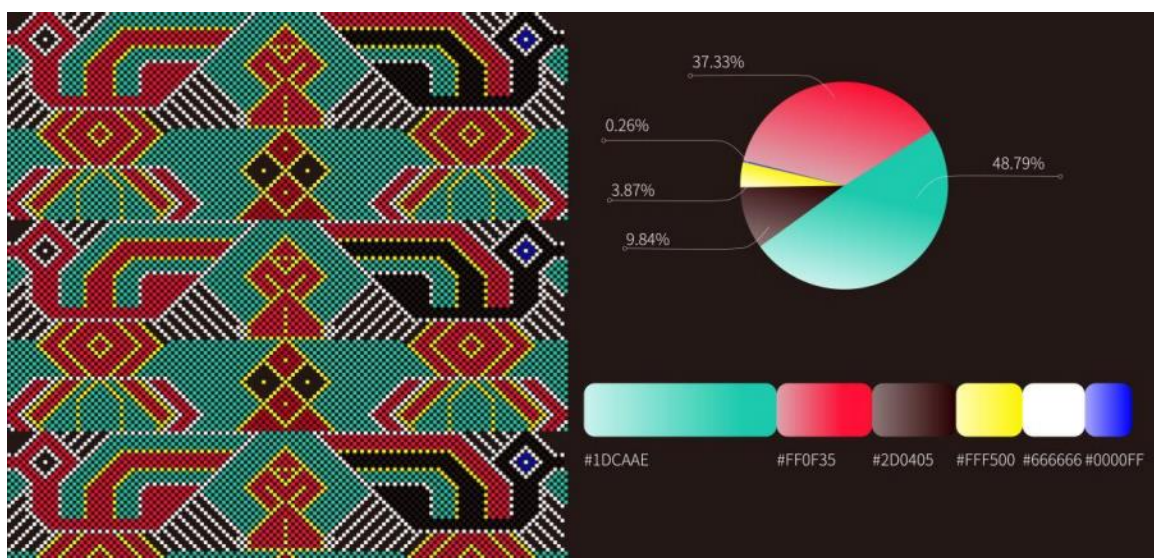


Figure 1 Coloring ratio of Caragana sinica flower. (Source: self-made)





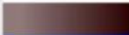
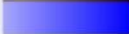
Sample 1: Caragana sinica pattern	HEX	LAB			RGB			CMYK				HSB		
		L	A	B	R	G	B	C	M	Y	K	H	S	B
	#1ACAAE	73	-18	1	29	202	174	68.62	0	44.55	0	170.29	85.64	79.22
	#FF0F35	55	79	63	255	15	23	0	94.97	88.13	0	358	94.12	100
	#FFF500	95	-12	91	255	245	0	7.96	0	85.06	0	57.65	100	100
	#666666	100	-0	-0	255	255	255	0	0	0	0	0	0	100
	#2D0405	6	20	7	45	4	5	70.96	94.47	92.09	69.2	358.54	91.11	17.65
	#0000FF	30	68	-11	0	0	225	92.45	74.68	0	0	240	100	100

Figure 2 The color labeling information of Caragana sinica flower. (Source: self-made)

Sample 2 (e.g. "Figure 3") takes the cat footprint pattern as a sample, and a total of 1210 color blocks are collected in the unit area. The

Munsell color values for the cat footprint are shown in "Figure 3". "Figure 4" shows the color labeling information of the cat footprint pattern.

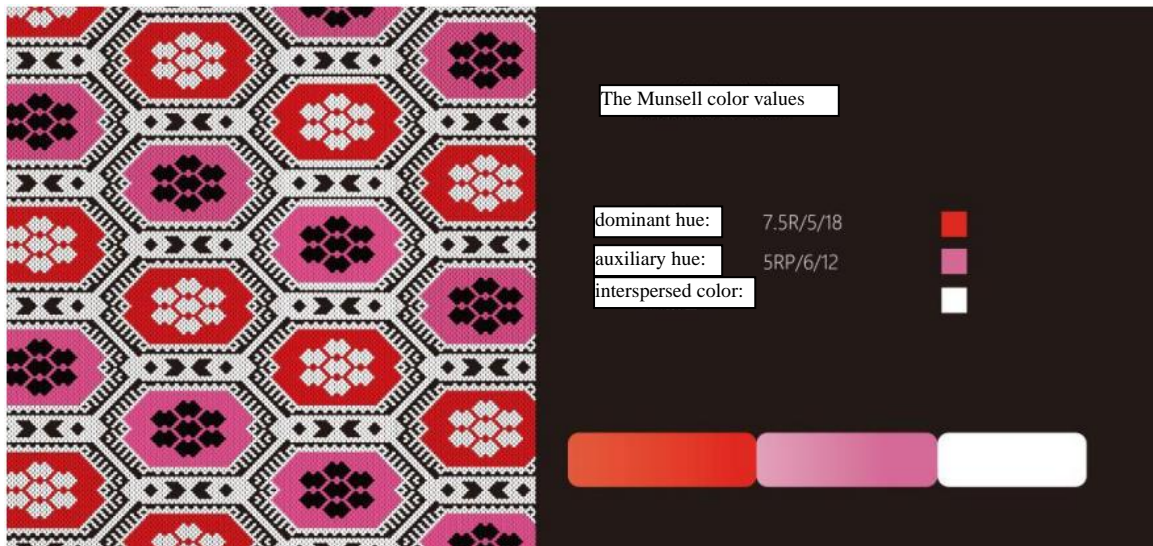


Figure 3 The Munsell color values for the cat footprint patterns. (Source: self-made)




Sample 2: cat footprint pattern	HEX	LAB			RGB			CMYK				HSB		
		L	A	B	R	G	B	C	M	Y	K	H	S	B
	#E26E9F	61.5	48.5	-18.46	226	110	159	14.62	69.7	13.25	0	336.53	50	83.14
	#F0201E	51.4	71.61	49.38	240	32	30	4.54	94.59	90.8	0	2.19	85.33	88.24
	#FFFFFF	100	-0	-0	255	255	255	0	0	0	0	0	0	100

Figure 4 The color labeling information of the cat footprint pattern. (Source: self-made)

3.1.2 Plant Patterns

"Figure 5" shows a sample of pointed chrysanthemum patterns selected from the plant pattern group, with a total of 2,204 color blocks selected in the smallest unit. "Figure 5" shows the pie chart of color distribution and color number of Sample 3. "Figure 6" shows the pattern color labeling information of Sample 3.

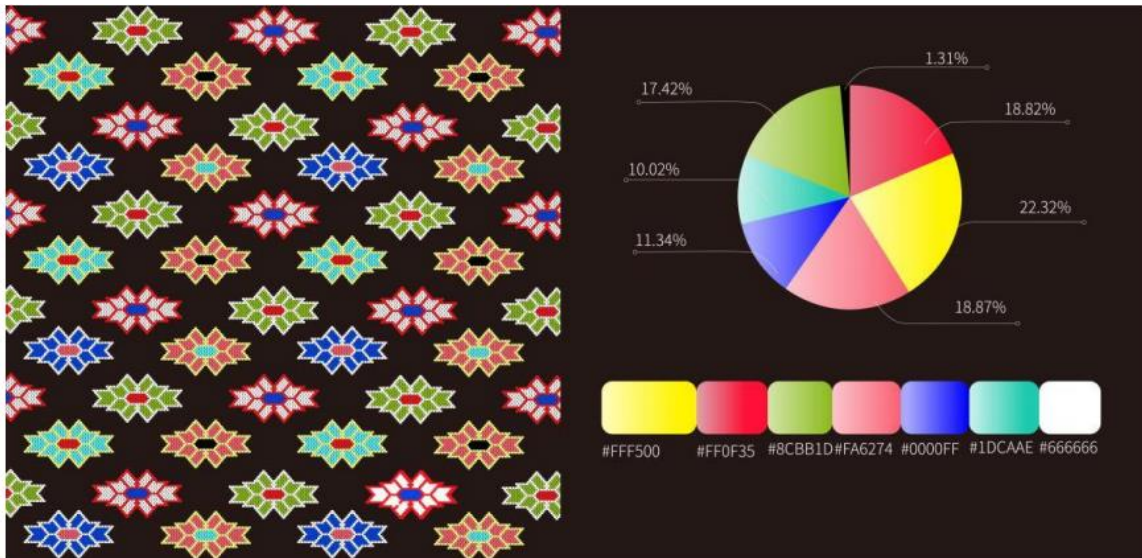


Figure 5 Coloring ratio of pointed chrysanthemum pattern. (Source: self-made)

Sample 3: pointed chrysanthemum pattern

	LAB	LAB			RGB			CMYK				HSB		
		L	A	B	R	G	B	C	M	Y	K	H	S	B
	#1DCAAE	73	-18	1	29	202	174	68.62	0	44.55	0	170.29	85.64	79.22
	#FF0F35	55	79	63	255	15	23	0	94.97	88.13	0	358	94.12	100
	#FFF500	95	-12	91	255	245	0	7.96	0	85.06	0	57.65	100	100
	#666666	100	-0	-0	255	255	255	0	0	0	0	0	0	100
	#8CBB1D	71	-32	65	140	187	29	53.29	11.47	99.46	0	77.85	84.49	93.33
	#0000FF	30	68	-11	0	0	225	92.45	74.68	0	0	240	100	100
	#FA6274	63	59	22	250	98	116	0	75.56	39.27	0	252.89	60.8	98.04

Figure 6 The color labeling information of the pointed chrysanthemum pattern. (Source: self-made)

Sample 4 (e.g. "Figure 7") takes the Fujihana pattern as a sample, and a total of 614 color blocks are collected in the unit area. "Figure 7" shows the

Munsell color values of the Fujihana patterns. "Figure 8" shows the color labeling information of the Fujihana pattern.



Figure 7 The Munsell color values for the Fujihana patterns. (Source: self-made)






Sample 4: Fujihana pattern		LAB			RGB			CMYK				HSB		
		L	A	B	R	G	B	C	M	Y	K	H	S	B
	#EE64A1	61.5	57.1	-19.	238	100	161	7.95	74.26	7.65	0	333.81	56.76	87.06
	#14AB64	61.82	-54.24	16.09	20	171	100	76.12	9.97	77.04	0	149.77	80.37	63.92
	#7D0F85	30.39	55.53	-50.19	125	15	133	66	100	12	0	295	88	52
	#666666	100	-0	-0	255	255	255	0	0	0	0	0	0	100
	#FBE94C	91.37	-12.96	63.75	0	251	233	8	8	75	0	53	69	98

Figure 8 The color labeling information of the Fujihana pattern. (Source: self-made)

3.2 Geometric Pattern Color Data Creation

"Figure 9" shows the 48 hook pattern sample selected in the geometric pattern group, with a total of 2742 color blocks selected in the smallest unit. Compared with the plant and animal patterns, the

geometric patterns are more colorful, with more balanced colors and more emphasis on symmetry. "Figure 9" shows the pie chart of the distribution of the 48 hook patterns and color number of Sample 5. "Figure 10" shows the color labeling information of the 48 hook patterns.

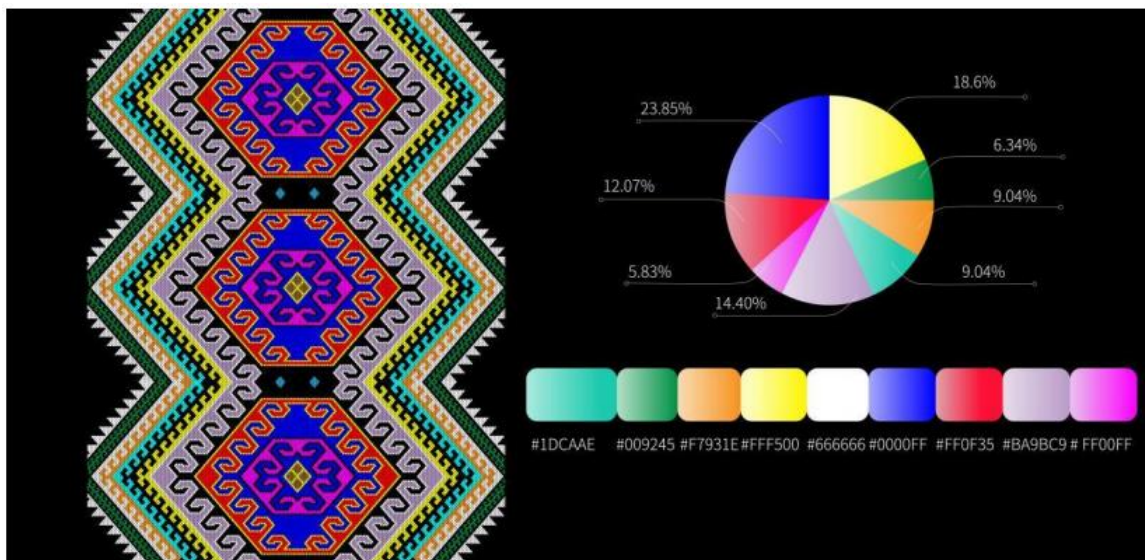


Figure 9 Coloring ratio of 48 hook patterns. (Source: self-made)









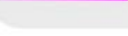
Sample 5: 48 hook pattern		LAB			RGB			CMYK				HSB		
		L	A	B	R	G	B	C	M	Y	K	H	S	B
	#1ACAAE	73	-18	1	29	202	174	68.62	0	44.55	0	170.29	85.64	79.22
	#FF0F35	55	79	63	255	15	23	0	94.97	88.13	0	358	94.12	100
	#FFF500	95	-12	91	255	245	0	7.96	0	85.06	0	57.65	100	100
	#666666	100	-0	-0	255	255	255	0	0	0	0	0	0	100
	#009245	53	-48	30	0	146	69	82	26	94	0	148	100	57
	#0000FF	30	68	-11	0	0	225	92.45	74.68	0	0	240	100	100
	#BA9BC9	68	18	-20	198	164	155	27	39	35	0	14	22	78
	#F7931E	71	33	70	247	147	30	3	54	88	0	31	87	96
	#FF00FF	60	93	-61	10	6	10	90	87	83	75	299	39	4

Figure 10 The color labeling information of 48 hook patterns. (Source: self-made)

3.3 Color System Analysis

As shown in "Figure 11", 21 common Xilankapu patterns are selected for color system analysis. After systematically considering the patterns and motifs of Xilankapu, the colors are mainly yellow, orange, red, purple, dark blue, brown, green, blue and other eight main color systems. As shown in the figure, it is a summary of the usual colors in Xilankapu.

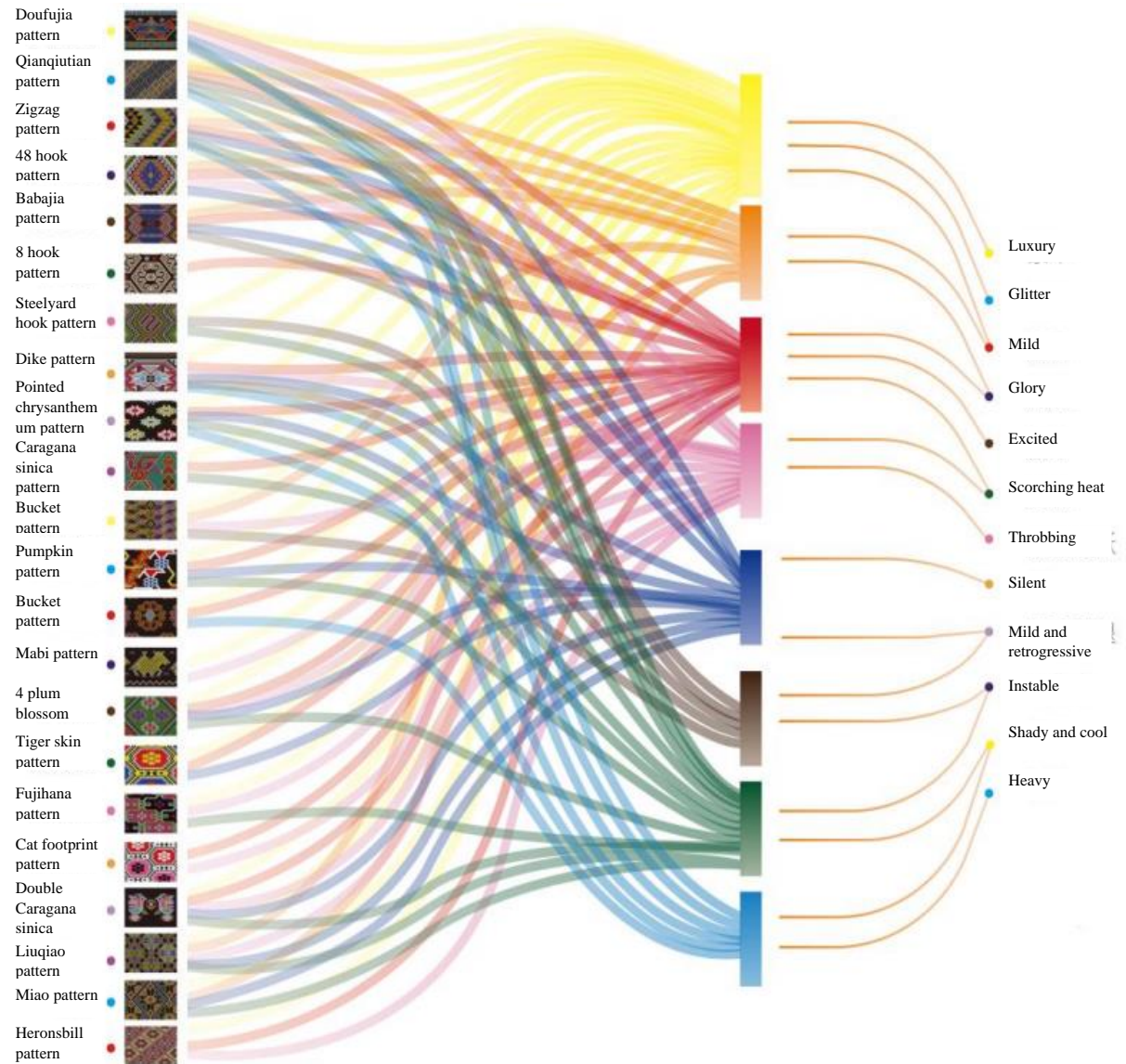


Figure 11 Analysis of color rules of Tujia brocade. (Source: self-made)

4. CONCLUSION

Xilankapu is a traditional weaving product of the Tujia people, carrying the unique folk culture of the Tujia nationality, and is a wonder of Chinese folk art. Its rich and vivid color features record the

After the analysis, it has been learned that the main colors used in Xilankapu are primary colors, rarely adding secondary colors, and mainly focusing on warm colors. The table below also illustrates the psychological pointing system in Xilankapu. Color can have an impact on human psychological activities, and the construction of its emotional system is also related to the cultural background, which is particularly prominent in Xilankapu.

warm living sentiment and humanistic realm of the Tujia people, weaving the dream of a nation with its unique sense of shape and cultural concept. Exploring the peculiar colors of Xilankapu has important practical significance, which can broaden the path of inheritance and innovation, so that it can

be better combined with modern design and more in line with modern people's living needs and aesthetic changes.

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