

Color Images of Korean Traditional Architecture

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ABSTRACT: The colours of traditional Korean architecture consists five major colours- red, blue, yellow, white and black. These beautiful colours have been using in Korean history and culture, which can be applied into contemporary architecture to express tradition along with other traditional design concepts. This paper discusses about the subjective responses on the photographs of major types of architectural painting in Kyongbok Palace. For the research, questionnaire survey was conducted and analyzed by SPSS 12.0 statistics program. Applied statistics methods are frequency analysis, factor analysis, correlation analysis and analysis of variance.

Keywords: colour images, traditional Korean architectural painting.

1. INTRODUCTION

Colors of traditional culture are often used for expressing traditional atmosphere interior and exterior of contemporary architecture by designers and architects. However, careless borrowing from the old culture easily makes silly mistakes in the design fields. In order to prevent those unnecessary attempts, we better be aware of subjective responses of the contemporary people to the colors of traditional architecture. This paper investigates the subjective responses on the paintings of traditional architecture in famous king's palace – Kyong bok Palace.

2. RESEARCH METHODS

Many photographs were taken from the Kyong bok Palace in Seoul, Korea and the images were prepared with Powerpoint slides which were analyzed by the preliminary questionnaire survey by the 61

students from the department of architectural engineering in KyungHee university. After that, four major types of slides were chosen which represented the major architectural paintings. The SD scale method was used as a research tool for evaluating subjective responses. The collected questionnaires were statistically analyzed with the SPSS. Applied statistics analyses included frequency analysis, correlation analysis, factor analysis and analysis of variance.\

3. RESULTS

3.1. General

The respondents (of the 51 valid questionnaires) were classified into two age groups. Forty-one subjects (80.4%) were between the ages of 20 and 24. Ten subjects (19.6%) were between the ages of 25 and 28.



Figure 1: Questionnaire survey



Figure 4: Slide of door



Figure 1: slide of eave and brackets

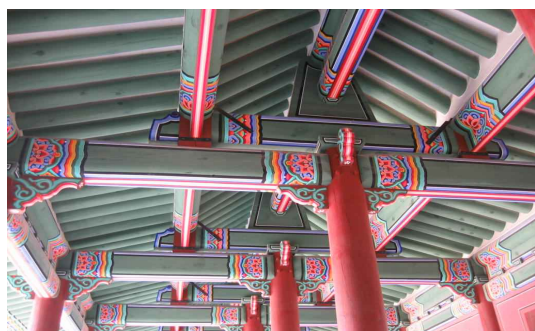


Figure 2: Slide of beams and columns



Figure 3: Slide of eave and wall

Twenty seven subjects (52.9%) were male and twenty four subjects (47.1%) were female.

3.2 Summary on Statistics

Frequency analysis was conducted to find out the mean values of each variable among the slides (see Table 1).

Regarding the question concerning 'beautiful,' figure1 was regarded as the most beautiful. And the figure 3, 4, 2 came out in order. With respect to the 'bright,' figure1 has the brightest painting. There are no significant differences among the figures.

Concerning the question of 'luxurious' figure 1 showed the most luxurious image compare to other figures which had much lower mean values. With respect to the question of 'harmonious', figure 1 showed the highest mean value while figure 4 has the lowest mean value.

Regarding 'clear', figure 1 expressed the relatively higher points compare to other figures. Regarding the question concerning 'satisfied,' subjects were most satisfied with the figure1.

Considering the results the frequency analysis, painting on the eave and bracket came up with the best subjective color images among the paintings.

A correlation analysis was performed to select the variables that show high correlation coefficients in each figure (see Table 6~ 9).

In the figure 1, variable 'beautiful' shows the highest coefficient to the variable 'satisfied(.554)', and also the variable

'beautiful' is most closely related to the variable 'satisfy'(.723) in the figure 2. In the figure 3, variable 'clear' shows the highest coefficient to the variable 'satisfied(.720)'.

Finally, variable 'beautiful' is most closely related to the variable 'satisfied'(.735) in the figure 4. Analysis shows the variables 'beautiful' and 'satisfied' are closely related each other from the subjective images on the architectural paintings of Kyong bok Palace.

A factor analysis was performed to extract the major factors that determine the color images of four major architectural paintings of Kyong bok Palace, Korea (see Table 2 ~5). From the analysis on figure 1, three factors were selected and named as 'beautiful', 'bright' and 'harmonious'.

In the figure 2, two factors were named as 'luxurious', 'satisfied'. In the figure 3 and 4, one factor was named as 'satisfied' from each analysis.

ANOVA was carried out to see whether there is a difference in the color images of the each slides. In the analysis, the F value is arrived at by having the mean square value between groups divided by the mean square value within groups.

Table 1. Frequency analysis

Variables	Fig. 1	Fig. 2	Fig. 3	Fig. 4
Beautiful	4.2 353	3.0 588	3.4 902	3.1 765
Bright	3.6 078	3.2 353	3.1 569	3.3 922
Luxurious	4.3 922	2.7 843	2.5 294	2.5 294
Harmonious	4.1 961	3.4 902	3.7 059	3.1 569
Clear	4.0 784	3.1 373	3.3 529	3.1 961
Satisfied	3.9 608	2.9 412	3.4 706	3.1 765

Table 2. Factor analysis on figure 1

	Component		
	1	2	3
Beautiful	.896	.071	-.003
Satisfied	.780	.172	.362
Bright	.113	.732	.135
Luxurious	.404	.709	-.308
Clear	-.149	.671	.519
Harmonious	.236	.058	.887

Table 3. Factor analysis on figure 2

	Component	
	1	2
Satisfied	.891	.175
Clear	.775	-.169
Beautiful	.768	.364
Harmonious	.665	.412
Luxurious	.045	.773
Bright	.136	.622

Table 4. Factor analysis on figure 3

	Component	
	1	
Satisfied	.861	
Clear	.827	
Beautiful	.784	
Harmonious	.642	
Luxurious	.614	
Bright	.612	

Table 5. Factor analysis on figure 4

	Component	
	1	
Satisfied	.862	
Beautiful	.813	
Harmonious	.774	
Clear	.712	
Luxurious	.643	
Bright	.605	

Table 6: Correlation analysis on figure 1

	Beautiful	Bright	Luxurious	Harmonious	Clear	Satisfied
Beautiful	1	.114	.356(*)	.191	.037	.554(**)
Bright	.114	1	.295(*)	.158	.304(*)	.326(*)
Luxurious	.356(*)	.295(*)	1	.003	.264	.260
Harmonious	.191	.158	.003	1	.366(**)	.407(**)
Clear	.037	.304(*)	.264	.366(**)	1	.155
Satisfied	.554(**)	.326(*)	.260	.407(**)	.155	1

**Correlation is significant at the 0.01level(2-tailed).

*Correlation is significant at the 0.05level(2-tailed).

Table 7: Correlation analysis on figure 2

	Beautiful	Bright	Luxurious	Harmonious	Clear	Satisfied
Beautiful	1	.285(*)	.215	.606(**)	.346(*)	.723(**)
Bright	.285(*)	1	.133	.179	.086	.247
Luxurious	.215	.133	1	.297(*)	.092	.169
Harmonious	.606(**)	.179	.297(*)	1	.319(*)	.560(**)
Clear	.346(*)	.086	.092	.319(*)	1	.571(**)
Satisfied	.723(**)	.247	.169	.560(**)	.571(**)	1

Table 8: Correlation analysis on figure 3

	Beautiful	Bright	Luxurious	Harmonious	Clear	Satisfied
Beautiful	1	.486(**)	.353(*)	.322(*)	.556(**)	.634(**)
Bright	.486(**)	1	.318(*)	.169	.436(**)	.352(*)
Luxurious	.353(*)	.318(*)	1	.382(**)	.345(*)	.408(**)
Harmonious	.322(*)	.169	.382(**)	1	.449(**)	.526(**)
Clear	.556(**)	.436(**)	.345(*)	.449(**)	1	.720(**)
Satisfied	.634(**)	.352(*)	.408(**)	.526(**)	.720(**)	1

Table 9: Correlation analysis on figure 4

	Beautiful	Bright	Luxurious	Harmonious	Clear	Satisfied
Beautiful	1	.404(**)	.369(**)	.520(**)	.483(**)	.735(**)
Bright	.404(**)	1	.208	.284(*)	.474(**)	.424(**)
Luxurious	.369(**)	.208	1	.514(**)	.393(**)	.427(**)
Harmonious	.520(**)	.284(*)	.514(**)	1	.382(**)	.665(**)
Clear	.483(**)	.474(**)	.393(**)	.382(**)	1	.465(**)
Satisfied	.735(**)	.424(**)	.427(**)	.665(**)	.465(**)	1

The higher the F value is, the higher the possibility of rejecting the aforesaid null hypothesis, and the larger difference in median values of the each slide[4].

According to the results, 'luxurious' has the highest F value (44.075) while 'clear' shows the lowest (8.249).

4. CONCLUSION

This paper investigates the subjective responses on the paintings of traditional architecture in famous king's palace – Kyong bok Palace. According to the results, , paintings on the eave and bracket shows the best color images to the subjects. By considering this subjective responses, traditional color design should be planned.

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