Study on Color-Order System Based on Oriental Philosophy

Abstract: It is clear that development of the culture of the East is centered around spirituality through insightful thinking, compared to the Western culture which has developed based on materialism. There are another differences that can be identified between the East and the West; that is, firstly, the difference in philosophy that interprets natural phenomena, and secondly, the difference in emergence and evolvement of culture to realize the philosophy. This study focuses on the philosophy and the system of colors that are main and basic factors in design. It will try to identify the possibility to find out new color system in the East, based on such Eastern ideologies.

1. Background and Purpose of the Study
The ideologies of Yin and Yang, and the Five Elements that work as critical factors in determining perspectives on colors or aesthetic consciousness in the East are a system of philosophy that has been a basis of the outlook on the universe held by people in the East. As such, the ideologies are held above national ideologies. The color models in the East (five major colors (五正色) and five minor colors(五間色)) are more conceptual and notional than those in the West. This study hardly focuses on quantifying and standardizing five major colors and five minor colors. Rather, it is all about trying to apply 8 trigrams and 64 hexagrams into each color by utilizing the framework of the book of change and referring to the Western color system and to find out regularity and structure of each color based on the meaning and philosophy of the color.

2. Color System under the Ideologies of Yin and Yang, and the Five elements
The traditional colors of Korea have been used to search for beauty in everyday lives and to express the ideologies of Yin and Yang, and the Five Elements. The ideology of Yin and Yang attempts to encompass all things under the sun based on the two symbols (i.e. Yin and Yang). And the Five Elements refer to five basic elements of the universe, that is, tree, fire, earth, metal and water. Under this principle, five major colors(五正色) are blue(青), red(赤), yellow(黄), white(白) and black(黑), and five minor ones (五間色) are green, ancient purple, dark yellow, dark blue and purple.
3.2. Color Model for 64 Hexagrams

64 hexagrams (6-line shape) is originated from eight trigrams (3-line shape), following the exact logic of three origin of The book of change. As shown in [Table 2], color model is derived from quantification of Four Images. [Figure 1]. This model led to interesting conclusions as follows. First, in case of 64 hexagrams which take a structure called ‘Magic Square’. Second, Hexagrams give out grayscale-colors which have the identical RGB numbers and each grayscale number is 0%, 33%, 66% and 100%, which are exactly the same in the case of Four Images. This is because the Hexagrams follow the basic features of Four Images. Third, if Hexagrams are arranged to have the same numeric structure of the first model, that is, they are arranged so that the sum of one Hexagrams and the opposite Hexagrams becomes 255, 255 255, another two models are derived as shown in [Figure 1]. And Grayscale-based conversion revealed interesting regularities.

3.3. Cubic Color Model for 64 Hexagrams

In this section, the colors are applied to the model which is drawn out based on the mathematical logic of the book of change as shown in [Figure 2]. The model has the features of the two-dimensional model. In other words, unlike the non-square color-order system by Munsell in the West, 64-color model is a square type color-order system that opens up endless possibility of enlargement, reduction or changes.

4. Conclusion

Ideologies of Yin and Yang, the Five Elements provide explanations on perspectives on colors and hue, while the logic and objectivity of the book of change gives clues to interpreting color system of the East. As for the basic qualities of colors, light and darkness come from Ying and Yang and value originates from Four Images. Hues are divided into 0 up to 255 as shown in [Figure 1]. Chroma is identified in 64 Hexagrams.

5. References

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