Environmental beauty: Informational characteristics or scene content?

A. P. N. Van der Jagt[1,2], D. G. Pearson1, T. Craig[2] & J. Anable[1]

[1] *University of Aberdeen, Aberdeen, United Kingdom*
[2] *James Hutton Institute, Aberdeen, United Kingdom*

Introduction

The preference matrix is a model linking human preference to spatial characteristics of the physical environment (Kaplan & Kaplan, 1989). Evidence in support of each of its components has however been inconsistent (Stamps, 2004). Alternative claims in support of an inborn aesthetic appreciation of natural content can also be questioned given evidence that "mixed" natural scenes can be preferred over 'purely' natural scenes (e.g., Strumse, 1994).

The main objective of the present study was to establish the degree to which scene content and informational characteristics are predictive of its aesthetic evaluation. To this end, some of the methodological issues associated with previous research on the preference matrix were overcome. First, a pilot study to test comprehension of the accepted definitions was undertaken. High quality images were selected to overcome previous issues with image quality. Third, aesthetic evaluation was measured in terms of beauty ratings as a preference judgement might be sensitive to the goals and intentions of people (Han, 2010).

By including images of both consistent and inconsistent (mixed natural and built) scenes and the collection of participant ratings on the natural and built character of scenes, effects of scene content on reported beauty could be investigated.

Method

Each of the 100 participants viewed 80 out of the in total 1600 images one by one on a computer screen. For each image, participants rated their agreement with statements regarding its Natural and Built character, Complexity, Coherence, Mystery, Legibility, Familiarity and Beauty on a seven-point Likert scale.

Results

After ruling out multicollinearity, a linear regression analysis showed that coherence and mystery significantly contributed to the equation. Notably, rated natural character of a scene explained some unique variance in beauty as well, pointing to the importance of scene content.

To investigate effects of scene category, 1060 images were selected based on participant content ratings. Images of natural scenes were rated as more beautiful than those of built scenes. There was also a significant interaction between scene category and consistency. Images of consistent (unmixed) natural scenes were rated received a more positive aesthetic evaluation than their inconsistent counterparts, containing a built element. In contrast, inconsistent built scenes containing a natural element were rated as more beautiful than their consistent counterparts.

It can be concluded that the informational variables are predictive of beauty to varying degrees. Scene content however has a unique contribution in driving aesthetic evaluation as well. Means to utilize the data collected in the present questionnaire in future research will be discussed.

References

Han, K-T. (2010). An exploration of relationships among the responses to natural scenes: Scenic beauty, preference, and restoration. *Environment and Behavior*, *42*(2), 243-270.

Kaplan, R., & Kaplan, S. (1989). *The experience of nature. A psychological perspective*. Cambridge: Cambridge University Press.

Stamps, A. E. (2004). Mystery, complexity, legibility and coherence: A meta-analysis. *Journal of Environmental Psychology, 24*, 1-16.

Strumse, E. (1994). Perceptual dimensions in the visual preferences for agrarian landscapes in Western Norway. *Journal of Environmental Psychology, 14*, 281-291.