Seeing What is Not There: The Art and Process of Infrared Photography

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"SEEING WHAT IS NOT THERE"  
The Art and Process of Infrared Photography  
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INTRODUCTION
Infrared photography is a seldom-explored photographic technique, as the concept of infrared is one that continues to evade many individuals. Infrared light falls outside of the perception of the human eye. That which can be seen by the human eye is known as the visible spectrum, and the spectrum known as infrared, or rather the photography term of “near-infrared” used by Bob Vishneski, is a range of 700-1200 nanometers that falls outside of this visible spectrum. A visual representation of this difference between the visible spectrum and the infrared spectrum can be seen in Figure 1 from J. Andrzej Wrotniak. The height of curves between 400-600 nanometers is an example of how bright the substances are according to the visible spectrum. But from 700-900 nanometers, these substances change in brightness, showing the difference of the infrared spectrum. Therefore, when the infrared spectrum is applied to photography, much can be learned about the tonality and surrealism that is produced.

PURPOSE
The purpose of this study is to accurately capture near-infrared light, providing viewers with an example of infrared colors that fall outside of the spectrum of what can normally be seen. In this process, an alternative artistic product is produced for those in the design industry. The research conducted started with the conversion of a DSLR camera by the researcher implemented in their initial attempts at infrared photography. One of the largest obstacles was the long exposure required when shooting with the Hoya R72 infrared filter. Due to this necessary long exposure, a tripod was used in the capturing process with many before and after images being included. Once the photographs were taken, the process of editing them for comparison was done using Adobe Photoshop and Adobe Lightroom. The images were then composed to show the original visible light spectrum image, the straight out of camera infrared image, and the edited infrared image to exhibit these distinctions.

RESULTS/CONCLUSIONS
Research was conducted by first attempting to convert an older-bodied DSLR camera by removing its infrared sensor. This process would allow infrared light to be the only light that the camera is able to detect, providing a successful infrared conversion. After this was found to be unsuccessful, a Hoya R72 58mm screw-on infrared filter was purchased and used on a Canon Rebel T6i DSLR camera to capture the near-infrared images. Alex Morrison’s article explaining the process of shooting infrared without expensive costs outlines the methods that the researcher implemented in their initial attempts at infrared photography. One of the largest obstacles was the long exposure required when shooting with the Hoya R72 infrared filter. Due to this necessary long exposure, a tripod was used in the capturing process with many before and after images being included. Once the photographs were taken, the process of editing them for comparison was done using Adobe Photoshop and Adobe Lightroom. The images were then composed to show the original visible light spectrum image, the straight out of camera infrared image, and the edited infrared image to exhibit these distinctions.

REFERENCES