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Intro: I chose to study the thesis by Timothy Ung called the Visual Perception Through the Diffusion of Light. 2013

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Thesis abstract: The thesis is based on the human perception of the visual world with diffused and reflected light and how one's perception of it can change based on lighting and viewing variances.

Issue: The eyes can adapt to various light intensities, is there a way to harness this in the development of space and Is it possible to construct an apparatus that can diffuse and change one's visual perception of small amounts of light rays.

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Method of Inquiry: Various experiments that explore the interactions of light and transparent materials in a variety of lighting conditions and perspectives. He also mentions the final model that will be constructed for testing his thesis. (Final model mentioned here)

Expected Outcome: The variability of space and lighting will alter the observers eyes to perceive the specular reflections in the final apparatus

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Literature Review: The initial research that was conducted was aimed at how the human eye works at perceiving light and focusing. There were good references that direct the reflected and diffused light conversation with material studies as well.

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There was also an emphasis on color and the way artists used color theory in their paintings to direct a mood in their work. Combinations of colors as well as what happens when there is no color as you can see in these two paintings.

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Methods and Procedures: To start off, he studied the way light reflects and refracts on water and through prisms and then developed very controlled experiments that could visually show the information gained.

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He developed many experiments that tested the reflecting and refracting, but the most successful, at least what it seemed like in the way he presented it, was the colored light through the window and at a smaller scale with the pools of water on the right. In the smaller model, he could control the amount of light that entered by covering or opening the cut outs. He did quite a few of these studies that he documented and they were very effective at showing the effect of light through the different colored water.

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The light through the window with colored water was a test with natural lighting and an expansion of the miniature models at a more real scale experimentation that he also used on the final model.

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For the final model, he tested the apparatus with several different light sources in dark and bright spaces with volunteers to test his thesis.

My Critique

On first glance of this thesis, I thought it was a good thesis. There were provocative images, well written text for the intro and the body, and good layout. As I investigated more, there were some clear holes in all three of these areas.

1: (The Text) I thought the topic was well researched and well presented, however, the text seemed too homogeneous. Important information and statements seemed to get lost in the body of the text. It would have been nice if he added highlighting for important information or a hierarchy of text that would be easier to read. There is only one way to read his thesis, to take your time and really focus on it. There is a lot of information and it can be easy to miss something. The text was almost presented in a monotone fashion. If there were a hierarchy of text it would have enabled different ways of reading the thesis. Even if the text that was highlighted was a summary of that section. If someone were to just flip through it now, it would be difficult to understand what his methods were for his experiments and the extent of information learned from each. A three tier hierarchy enabling a quick flip through, a slower study, and a focus tier, would enhance the readability of this thesis.

2: (The Images) with all his research and models, he ended up with quite an expansive collection of images and that made locating the correct image when he referenced it hard. There was no index of where the photo was located other than a reference to what Figure the image was. A catalog of images that would be broken down via chapter would be extremely beneficial to this thesis. There were even times where the referenced image was two or three pages away from where it was mentioned. Its interesting, he actually does organize and add side notes on where the image is located later in the thesis for images on the final product.

3: (The Layout) This is similar to what was said about the text and images. The layout was nice to look at and was consistent, but when it came time to find a referenced image, there was a lot of page flipping to find it. Breaking up the text more so that it would be easier to digest all the information that he was presenting as well would be helpful. There were pages that didn't have any images on them in the prescribed area, and I thought that this could have been used to pull out important text or used to summarize that section. He used it to highlight important images, and it could have worked the same way for text.

Three types of people that look at thesis: Flip through it to see if the imaging is strong and peaks their interest, a slower flip where they read text around images that pop out to them and delve into the work a little deeper, and finally, someone who takes time to read most if not the whole thing. Currently it is not set up to do that. It feels flat and monotone with all the information that is presented in the same fashion. If he made a few changes to the text I think it would have increased the readability for all three types of readers.

The major thing that stood out for me was, from the first statement he said that this final model was what he was going to do, the 1000 string model. It didn't feel like all that work previously was worth it then. All of the water experiments didn't seem to influence the final model. He did an excessive amount of controlled experiments with the water at small and larger scales. That final model would have reacted in the same way whether he had done those experiments or not. It didn't seem like the studies were impacting it in any meaningful way. He went from refracting light with water, to using diffusing light too quickly. It didn't feel like he tried his previous studies on the proposed design enough. He did do it by changing the light source similar to how he did some of his water studies, but it would have been nice to see a model of reflected light off water in a more controlled experiment on the final apparatus. The one that he did do didn't feel too comprehensive. It would have also been nice to see studies of reflected light off common building materials since he did do research on that earlier.

Over all though, I thought it was a good thesis, one that piked my interest, and was well done through all facets of the project.