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History of Design - 1850's to Present

Final Project and Presentation

Since the 1850's, designers across styles and ideologies have looked at the relationship between the human form and the environment, using design as the interface by which these two concepts meet. Designers such as Marcel Brauer in the Bauhaus, or Art Deco designers, explored materiality of form and how it related to the surrounding space. In the postwar years, a group of designers, including Ray and Charles Eames, began looking at objects as things that could be organic in form, conforming to the human body and experience. The works of the designers studied in the History of Design Class lead to a logical culmination where the body and environment are joined through design. Despite this conclusion, it is rare that objects uphold these goals. However, new advancements in Contemporary Design, namely bio-design and the mimicry of organic examples of the natural world, offer avenues to solving this problem. By supplementing contemporary design advancements with other design values studied in the course, I hoped to add my own design direction to solving the issues designers continue to face.

As design ideals and values change over time, and human goals shift, some objects remain *anti fragile*, and transcend cultural change and development. Looking at human needs that exist outside of the constantly shifting and refreshing ecosystem of design, I naturally gravitated to using a chair as the basis for my new design. Chairs were represented in nearly all decades of design studied in the course; to me it seemed like the desire for a chair that suits the needs of the body and the environment was a challenge designers have continued to face and take on. Moving forward, I had many design movements to base my design off of. However, as I believed that no chair or movement studied had solved the riddle I had proposed, I looked to contemporary design as the basis for my own redesigns of objects that attempted to solve the feat I was also engaging with. For

the original object I wanted to augment, I thought it would be interesting to base my design off of Ray and Charles Eames 1956 Lounge Chair, a chair that was intended to conform to the user and speak to organic design values.

Contemporary design, a term that sometimes appears broad and catch-all, concerns itself with designing by using contemporary materials and techniques. In the 21st century, this translates to design that is sometimes virtual, digital, utilises new materials, and takes on new forms. In doing so, contemporary design offers new ways to interact with art and design. For the redesign of my chair, I followed a growing passion I had for biomimicry and bio-design, sub-genres of contemporary design that look at natural forms in the real world to inspire or inform man-made design recreations. Attempting to not only build upon the Eames' desire to create a chair that appeared organic, I also was inspired by the B3 Wassily Chair from Marcel Brauer, who made a chair that evoked lightness, receding away into the environment when in use. To me, this invisibility is seen throughout contemporary design, where the actual design may exist online within network, and is never truly seen by the user, rather it is *just experienced*. Looking at the natural world, I became interested in how squid and other cephalopods use chromatophores on their skin to hide within their environment. Chromatophores are tiny pigment filled muscles that can contract and 'disappear,' or relax to expand and show their pigment Upon further research, I found that engineers from the University of Bristol had in 2012 created an artificial 'soft structure' of chromatophores that were electronically activated.[1] Upon activation from an electric signal, these artificial chromatophores acted like muscles, contracting and releasing to reveal a pigment that was previously less visible. I found this technology fascinating, and wanted to implement an advanced version of this in my imagined re-design.

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[1] Jonathan Rossiter, "Biomimetic chromatophores for camouflage and soft active surfaces," *Bioinspiration & Biomimetics* 7, no. 3 (May 1, 2012): , accessed December 1, 2017, http://iopscience.iop.org/article/10.1088/1748-3182/7/3/036009/meta.

Looking at the Eames Lounge Chair, I enjoyed the curved surface of the object, but believed the materials could be updated to suit my goals. Firstly, I planned on using clear plastic materials to form the structural ‘shell’ of the chair, and reflective metals for the base, as a way of allowing the object to become as much of a part of the environment as possible. Secondly, the cushioning of the chair would become a thin foam material. This would more adequately conform to the shape of the user, and would have more give, allowing the user to feel like they were falling into a freer, but more personal, space. Foam is also much more permeable by light, and I hoped to keep as much opaqueness in the design as possible, allowing environmental light to effect how the object was perceived in its space. The final part of the design, which most references the contemporary design ideals I researched, is the object’s skin. Utilising the material developed by the university of Bristol, I would wrap the object entirely in it. Wrapping entirely around the structure, this material would provide the overall shape of the object with a curved, flowing surface. At a resting state, this material would appear mostly clear, or with a few small dots, allowing the object to drift into the space it occupied. Inspiration from this came from curtains and blinds that have porous and thin cloths. However, when a user physically interacted with it, their touch would trigger an electric signal, causing the artificial chromatophores on the material to expand. The chromatophores would be arranged with various colours, which would become activated based off of pressure. Thus, more pressure and interaction would reveal more colour and material.

The re-designing of the ergonomic and organic Eames chair builds off the intentions of the original design, that is a chair that conform to the user. However, with the advancements in contemporary and bio-design, interaction and a sensation of personality and unique experiences can become a part of the user experience. Not only does the user feel a heightened connection to the object, but the object becomes more reactive to the surrounding space, receding into the overall spacial experience of the broader environment, until called upon and used, where it then provides and enriching experience for the user. By researching a number of design movements and ideals,

and utilising advancements in design in the 21st century, I believe my re-design of the organic lounge chair can provide a valuable connection between user and environment, through design.

Bibliography

Rossiter, Jonathan. "Biomimetic chromatophores for camouflage and soft active surfaces." *Bioinspiration & Biomimetics* 7, no. 3 (May 1, 2012). Accessed December 1, 2017. http://iopscience.iop.org/article/10.1088/1748-3182/7/3/036009/meta.