

Independent Project Proposal

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This essay will serve as a proposal for my dissertation and explore my interests within my design field. These interests are refined to three keywords. By exploring the meaning and context behind Semantics, Ecology and Morality, this platform of written work will attempt to bridge together these interests and formulate a final proposal that will lead to my final year dissertation.

I will use theorists Klaus Krippendorff (Semantics), Sim Van der Ryn and Stuart Cowan (Ecology) and Peter-Paul Verbeek (Morality) to give understanding and context to the exploration of these chosen words and how this relates to my chosen course of study. These theorists will correlate to products designed by Michael Graves (Semantics), George de Mestral (Ecology) and Blake Mycoskie (Morality). Throughout this essay, a point of interest I will relate back to is what truly attributes to effective design and how designers are implementing this.

Semantics

"Design has the same origin as "sign" and to "designate," calling attention to something other than its observer-independent existence: meaning." (Krippendorff, 2006) The theorist conveys the etymology of the word design which translates to the Latin phrase signare. To highlight, this refers to giving an allocated role and distinguishing a user. Product design is creating an object suitable for the intended role for which it is designed. Sim Van Der and Stuart Cowan explore the paradigm shift in the design of artefacts. The theorists relate their study into the semantics of products to human-centred design and forms a thesis on how artefacts should function to the users around them.

"Product semantics is the study of the symbolic qualities of human-made forms in the cognitive and social contexts of their use" (Tewari, 2016). Theorist Tewari, S explores how semantics are effectively translated into products by designers and uses semantic theory and methodologies to refine forms of products to function as a message. We will now explore how these designers create products (signs) and communicate to the user the intended use with conceptual semantics.



Figure One. Graves, M. (1985) *9093 Blue Bird Kettle*

As shown in figure; one, the bluebird kettle by Michael Graves is a good example of a designer using conceptual semantics within product design. Produced in 1985, the Blue-bird kettle features an insulated handlebar for the user to pick up and a bird whistle to communicate to the user when the product has performed its intended purpose. This conveys Klaus Krippendorff's principles in product semantics "effort to (semantically) distinguish the part that users could handle safely and the part he wanted to discourage users from touching." (Krippendorff, 2006, p. 315) This can be shown in Michael Graves 9093 kettle as he distinguishes the kettle components that

are safe for the user. This is shown through the finger indentations designed into the handlebar, this is a sign, and the user of the product can perceive this as an instruction that the designer is conveying.

The material and colour selections also differentiate between the safe and dangerous components of the product. Colours and forms can have an emotional response on the user and, in turn, contribute to the semantic qualities of a product which communicates purpose.

Many designs are visually striking, and the use of language can take away from the aesthetics and overall appeal of a product. Additionally, designers may not use text in their designs due to a decrease in the demographic scope of the product through language. E.g., a product in Welsh might not be understood by a person who does not speak Welsh. Theorist Klaus Krippendorff explores this by including symbolic qualities within a design, the cultural qualities of products would increase. By creating a product not to include text, the designer must rely on product semantics.

One field of design which is heavily focused on research and product semantics is the automotive industry. Automotive designers use semantics for their products to be sold worldwide. There are many aspects of automotive design where language is not presented, and design is used to convey a message to the user on what car is suitable. The vehicle's intended purpose is based on form, texture, and materials. This translates to the attributes of the vehicle, for example, speed, socioeconomic class, and preferred terrain. "Forms can have very different meanings for different cultures, social groups, or individuals, and in different contexts." (Martyn Evans, 2007, p. 2)

Designers are presented with the challenge of creating a new language based on form and a multitude of varying attributes which can be applied to varying cultures and social groups.

Semantic expression lays heavily on the designer's understanding of the user's psychological emotions and aesthetic stylisation. As a product designer, I believe that product semantics are fundamental to the designing of a product. The practical design conveys how the product should be used and how effortlessly the users can understand the purpose of the product from multiple cultural backgrounds. Through this investigation, my research has shown that there is a challenge for designers beyond the purpose and innovation of a product, and that is to communicate how to handle and correctly use the product without the use of linguistic language.

A question I propose through researching this keyword is - How will product designers establish a universal language within the design field without the use of text, is Product semantics the key to successful product design, which designers do not acknowledge.

Ecology

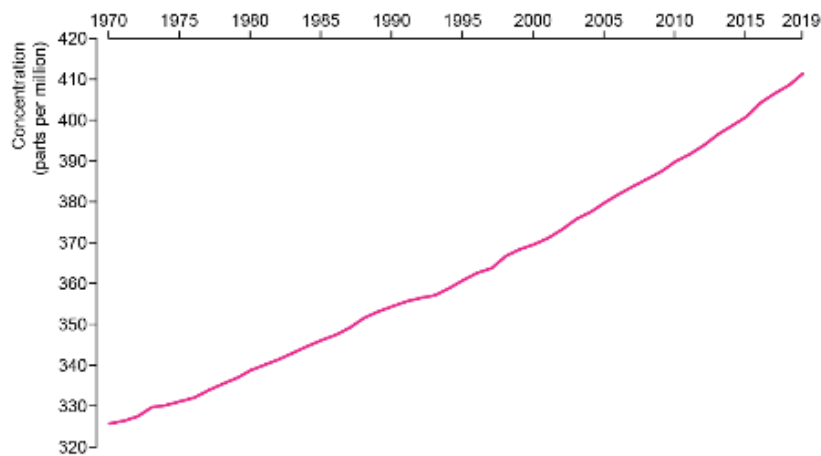
The Oxford dictionary describes Ecology as "the relation of plants and living creatures to each other and to their environment; the study of this" (Oxford University Press, 2022). Ecology in the design field is widely used by drawing inspiration from the natural environment and animals to develop products which are suitable for the intended design purpose. Nature is continuously refining, having "about 3.7 billion years" (Smithsonian, 2022) to develop for the purpose and environment it is located in. Designers continuously refine their designs over their career, and Nature is

fundamentally the same through evolution. Nature uses the ample time given to the organisms to harvest knowledge through predeceasing plants, animals, etc. to evolve and resolve previous concerns that could hinder that organism's life. By acknowledging the 3.7 billion years nature has had to refine the design of its organisms, any design field can take this knowledge through researching Nature and apply this to their designs.

Ecology in design "addresses the design dimension of the environmental crisis. It is not a style. It is a form of engagement and partnership with nature" (Sim & Stuart, 2007, p. 34) The theorists explore that using Nature as the basis of design that any design field will yield more efficient, sustainable, and less toxic products, buildings, developing environments and emerging technologies which previously and currently has detrimental impacts on the world around us. Sim and Stuart's theory is backed up through evidence of the detriment engineers and designers have had on the planet through materials, products, and manufacturing methods. Scientific American provides information on the effect humans have had on the earth through graphs. Below in fig two, the graphs show the increase in carbon emissions and temperature fluctuations compared to the 1970s. The average temperature has increased by 1 Celsius when compared to the 1970s, and the carbon emissions have dramatically risen, causing detrimental impacts on the earth.

Climate Change

Global Atmospheric Carbon Dioxide, 1970–2019



Changes in Average Global Temperature, 1970–2019

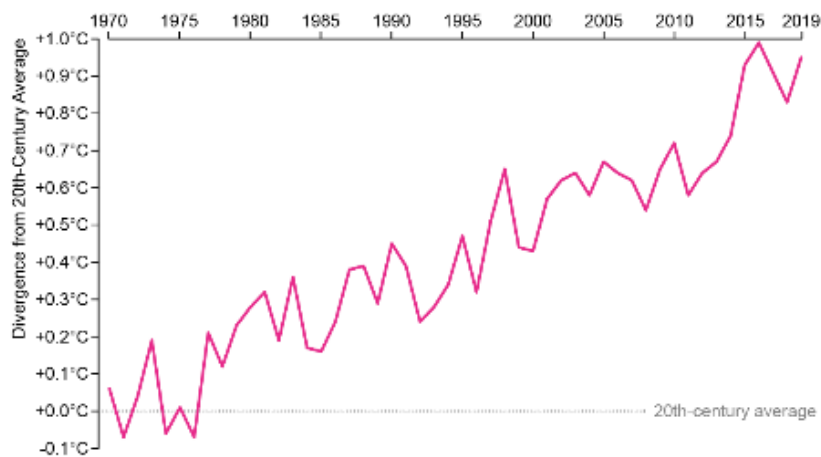


Figure two. Montanez, A. (2020) *Climate Change Graph*

Thinker states that "Ecological designs are articulated within an ecosystem or bioregion in the way veins are articulated within a leaf. They fill out an existing structure in a way that enhances" (Sim & Stuart, 2007, p. 127). By utilising the constructs of Nature and organisms, designers can rethink the approach they have towards products in a multitude of ways. Form, purpose, aesthetics, emotional impact, and material choices will benefit the user's interaction and product outcome and benefit the ecosystem and, in turn, the overall integrity of the earth.



Figure three. Hook and Loop , (2022) *Cockleburs*

One example of how Nature inspires engineers and designers is Velcro, created by George de Mestral in the 1940s. As shown in figure three, the plant cockleburs piqued the attention of George De Mestral, who was intrigued by the properties of a plant whilst hunting within Switzerland when they stuck to his clothes whilst hunting. "Under the scrutiny of the microscope, he observed the hooks engaging the loops in the fabric of his pants" (Hook and Loop , 2022) The engineer then took inspiration from Nature and developed the material we know today as Velcro. This form of ecology in design takes attributes and properties from Nature, analyse how they work and then redesigns these natural qualities to serve as a tool for humans within products. Despite this, Velcro is manufactured from polyamide and polyester, (Hook and Loop , 2022) which is not sustainable. This argues the theory of ecology in design and how multiple

aspects of ecological principles should be applied in any design or material development to benefit both people and the planet.

Sim Van der Ryn and Stuart Cowan discuss the theory of ecology in design "Our environments—whether they are sprawling malls or wild rivers—are the most powerful teachers we have. In a de-natured place, we are likely to develop de-natured imaginations" (Sim & Stuart, 2007, p. 185) The theorists suggests that without Nature, our imaginations would be limited. Humans, by Nature, are biophilic; we are designed to live with and adapt with Nature. The physical and phycological response to Nature is backed up through scientific research "results highlight the relevance of natural settings for cognitive and emotional well-being and the need for a better understanding of the relationships between nature and human health." (Beatriz Costa, et al., 2020) The lack of nature present within developed cities and areas increases the chance of physical and phycological decline and is already proven to cause a detrimental impact on the earth. Throughout this research, I would like to continue this investigation within my dissertation and propose a question on how designers can use ecology in design to create a positive emotional response to the user drawing from inspiration and materials from Nature to create a positive impact on both people and planet.

Morality

Morality in design is defined as the "way that we design and make things affect the safety, comfort and wellbeing of people who come into contact with our designs and who will be affected by them." (Multimedia Design and Technology Education, 2022). This explores how designers who create products with moral design thinking consider a multitude of aspects within the user's life. Peter-Paul Verbeek discusses his theory

on philosophy and design and explores the notion that designers eventuate morality through design. Through design, users are influenced by products "design is inherently a moral activity. Designers, by designing artifacts that will inevitably play a mediating role in people's actions and experience" (Vermaas, et al., 2008, p. 99). This statement, at first glance, appears to be referring to the user's interaction with a product and the influence products and, in turn, designers have on society around them.

A point of comparison from design for the real world by Victor Papanek, the theorist opens the thought of designers influencing people from a multitude of various aspects. Victor Papanek further the discussion on how designers affect people's livelihoods, careers, and financial income from the manufacturing of a product. Victor Papanek explores how products which ultimately fail after product launch result in the livelihood of the people working for manufacturing being financially hindered and uprooted from their homes due to the designer's inefficiency to design a successful product. (Papanek, 1984) "His social and moral judgment must be brought into play long before he begins to design" (Papanek, 1984, p. 66) The theorist suggests that designs can be one of two things raising the thought of that is the design morally right or wrong. This information brings to light the multitude of aspects that designers have and the responsibilities and monumental impacts they have on society, workers, and sustainability that they do not truly acknowledge.



Figure 4. Bloomberg (2021) *Toms Earthwise Shoes*

As shown in figure four, Toms shoes, founded in 2006 by Blake Mycoskie, can be seen as a company considering multiple aspects of morality in design. Toms new shoe line "Earthwise" are manufactured using sustainable materials such as hemp, cotton, and recycled polyester. This covers one of the aspects of designing morally, as designers previously have caused harm to the environment and planet. According to Forbes, "We know that 90 percent of environmental impact occurs at the design stage of a product" (Magyar, 2022) This backs up how designers have the responsibility to design morally to help reduce climate change.

Another moral aspect of Toms's shoes is the economic responsibilities they have taken aboard within their business model. According to Toms website, a $\frac{1}{3}$ of their profits goes towards the grassroots good organisation to help underfunded local communities.

Furthermore, Toms business values the manufacturing employees, which relates to the Victor Papanek's theory on design for the real world and how the livelihood of these people can change if the business's product does not have consumer interest. Toms carries out this moral responsibility through equality, inclusion and through designing products which have consumer interest. (TOMS, 2022)

Morality in design questions how designers should think about product design and manufacturing. This keyword further narrows the focus scope of what can contribute to effective and useful design.

My take on morality in design is a holistic outlook based on the research I have investigated. To me, morality in design is the understanding of how designers can influence livelihood, social impact, and climate contribution through their work. During times when climate catastrophe is nearing, the need for morally responsible designers is more present than ever. Designers can contribute to the destruction or redemption people have had on the planet.

Investigating this keyword has shown me that designers have real implications for people and the planet. A Proposition that I would like to take forth into my final year dissertation is (Do designers truly understand the impact they have on people and the planet, how do we design morally considerate products from users, manufacturer's livelihoods, and sustainability?)

In conclusion, this essay has explored three keywords that have piqued my interest as a product designer. Each keyword has been deconstructed and analysed; these

findings have shown a relation to each other. This essay questions designers on how we need to improve design thinking and acknowledge the powerful influence we have on the planet and people.

Theorist Klaus Krippendorff explores the relationship between effective design and conveying a message to the user without language through product semantics. Martyn Evans and Simon Sommerville further explain that within product semantics, different forms can have varying meanings within different cultures and religions. This challenges designers who want to make products applicable to any region or person. They need to broaden their research scope to design a product with a universal language through design forms, colours, and materials. Ecology in design explores biophilia and the relation people have with Nature. Designers need to take inspiration from the 3.7 billion years that Nature has had to evolve.

Theorists Sim Van der Ryn and Stuart Cowan explain how innovative and sustainable products will be designed to benefit both the planet and people through ecological design. Morality in design explores the ethical principles designers need to adopt. This draws on multiple aspects as explained by Peter-Paul Verbeek and Victor Papernek and how designers have significant influential power over society and sustainability.

Throughout this essay, Semantics, Ecology, and morality in design question the thought process behind designers. These findings have led to my dissertation question proposal: 'What attributes are required to create a design framework that increases the output of morally efficient products to benefit both planet and people?'.

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