

Independent Inquiry Proposal

Keywords: Innovate, Hermeneutics & Shape

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Introduction to Independent Inquiry

In this research paper, I will be following three keywords that interest me in the topic of product design and development—each word relating to my specialization in the design field. My three keywords are Innovate, Shape, and Hermeneutics. I will focus on the plural noun of hermeneutics as defined in the Oxford Dictionary as 'A method or theory of interpretation' and place it in the context of aesthetic and physical design. This paper studies the work of thinkers Tim Brown (Brown, 2019), Nicholas Davey's essay on Aesthetic Reasoning: A Hermeneutic Approach', and Don Normans' 'The design of Everyday Things'.

Innovate

Over the past few years, the term innovation associated with breakthroughs in science subjects. Oxford dictionary defines innovation as "something new, especially a product" (Oxford English Dictionary, 2015). However, its roots in Latin 'Novare', meaning to make new, renovate, or improve, to a designer is a better definition to innovate. Innovation, to me, is about moving forward. Even if, from a technological standpoint, it is a step back. Renovate - the thought of moving things around is key to innovation itself. Smartphones have moved fingerprint readers from the front of phones to the back, putting them on the side; this is standard practice in design as seen by companies like Samsung (Samsung, 2020).

Tim Brown challenges this modern idea of innovation in the book *Change by Design, Revised and Updated: How Design Thinking Transforms Organizations and Inspires Innovation* (2019). He suggests it is not the technology that is the innovation (T. Gottschall, 2019) (General Electric, 2014) but the design package that encapsulates the technology. *Change by Design* (2009) is about taking the theory and processes of designers and artists and incorporating them into other professions. Brown talked about empathy mapping, a very proponent aspect of design research; he talks about the benefits of not just deploying it on the target market but also that outside of the company's scope, he refers to these people as 'deviants' (Brown, 2019). Throughout Brown's book, he puts heavy emphasis on the importance of empathy mapping and

how this leads to successful innovation. In his work *Design Thinking for Social Innovation* (2010), the opening page talks about a water treatment plant in India and how its design and business model has failed to attract a large portion of the surrounding society. He remarks, “Although Shanti can walk to the facility, she can’t carry the 5-gallon jerrican that the facility requires her to use.”, stating that she is unable to carry this on her hip or her head, where she holds heavy objects (Brown & Wyatt, 2010).

The double diamond design approach is popular among designers. It is used as an infographic to explain design development. The graphic is read from left to right and begins at the left corner of the first diamond, the research phase.

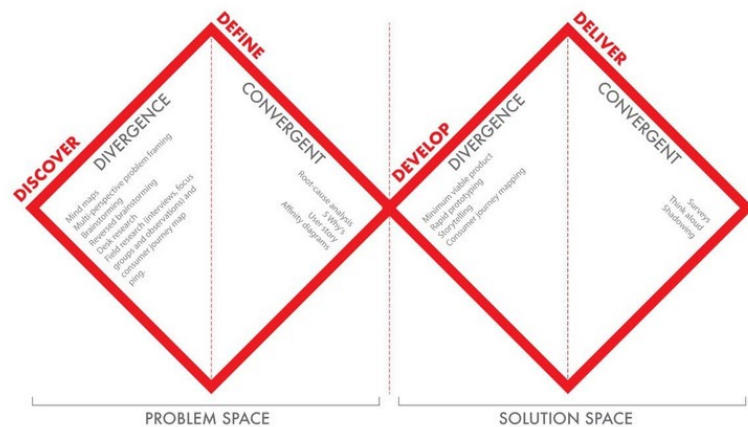


Figure 1, Double-Diamond inspired by The Design Council (Elmansy, 2021)

The first diamond is the scope of research that widens at the center of the diamond. Then the designer refines and takes out key aspects they will use in the design – this visualization is the narrowing diamonds right side. The Design Council website describes double diamond as “a simple way to describe the steps taken in any design and innovation project, irrespective of methods and tools used.” (Ball, 2019). The quote backs Brown's theories of design thinking to be standard practice with designers.

While much of Brown's written works are about the corporate procedure of becoming a successful capitalist and innovation is tied to profits throughout his books and articles, and the message is clear. The established double-diamond design process creates a template for exceptional creation.

Providing a personal anecdote helped me understand Brown's corporate thinking. In my late teens, I came across a paper that talks of a magnetocaloric effect. A physical property of certain metals that heat up then return to a base temperature, then drop in temperature when a

magnetic field is in proximity, then removed. Some of these metals could fluctuate in temperatures more than 50 degrees Celsius (T. Gottschall, 2019). Years after this discovery and millions of pounds General Electric spent on R&D around these metals, and nothing is yet to come to market. In 2014 the lead designer on the team Venkat Venkatakrishnan said, "We are on the cusp of the next refrigeration revolution." (General Electric, 2014). Since then, General Electric has posted no updates. The main problem with this discovery is it requires a strong magnetic field, one that is hard to place into a domestic kitchen without risking interference with other household devices. General Electric's research is what I believe Tim Brown talks about when he mentions Design Thinking. It's one thing to have technology that can do something better, but if it has not been able to be designed to suit a need, there has not been any innovation.

Hermeneutics

The etymology of hermeneutics begins from the ancient Greek word 'hermeneuein', relating to the Greek messenger god Hermes, the messenger deity. Its similarities are the translation of messages, language, signs, or actions. The book 'Hermeneutics: A Very Short Introduction' (2015) links the Greek word 'hermeneuein' to its Latin counterpart; "its later Latin equivalent 'interpretari', was associated with the task of understanding some kind of spoken or written communication" (Zimmermann, 2015). This quote shows similarities to the word that later became 'interpret' in English. Hermeneutics separates itself from the word 'interpret', focusing on why the subject interprets the object or text differently. Suppose semantics is the signifier and the signified. Hermeneutics is about the understanding and reasoning behind why the signifier and signified vary, looking at the contrast in biography. It looks for the defining moment in history, nature or nurture that led to the conclusion of the apprehended.

"To secure a future which can escape the nihilism and the methodological scepticisms which engulf it, hermeneutics must now if not forget its past then transcend it in order to demonstrate its continued relevance to philosophy and cultural transformation."

(Davey, 2017) The (impossible) Future of Hermeneutics

The irony of this comment is that hermeneutics origins came from the understanding that phrases and words meanings change through time. In the 1960s and 1970s a German philosopher, Gadamer, further elaborated on hermeneutics, in turn giving it a new meaning.

The term hermeneutics could be a focus in product development. It also separates itself from Browns' concept of Design Thinking in a way that complements the developmental processes. Using hermeneutics, we can view misinterpreting various texts, artworks, and actions in the past and begin focusing on the rationale that created these interpretations, creating solutions in the research stages. Hermeneutics enhances Tim Brown discussion of 'Design Thinking', creating functional designs and extending product markets beyond the target market through research.



Figure 2. **Invalid source specified.** My Wife and My Mother-in-Law

One clear example of these differences in interpretation is 'My Wife and My Mother-in-Law', by William Hill in 1915. Although the original believed to have come from a German postcard in 1888, later being adjusted for psychology studies and known as the 'Boring Figure' (Science Project, 2019). A 2018 report in Scientific Reports on the 'Boring Figure' has shown that own-age bias influences the artwork; with 10% of the youngest participants assumed the woman depicted in the portrait was 33.85 years old, while 10% of the oldest participants' average guess was 45.91 years (Nicholls, et al., 2018). This report is evidence that time, even relative to an individual, creates diverse interpretations. Using art and

design, one can purposefully or accidentally create contradicting views when the same piece is presented to an audience.

Not only when the sense-impressions are ambiguous or defective, but when they are vague—when the light is dim or the forms obscure—does the mind's eye eke out the imperfections of physical vision.

(Jastrow, 1900, p. 295) Fact and Fable in Psychology

Above is a quote from psychologist Jason Jastrow, from his study of the 1892 'rabbit-duck' illusion. His understanding of the mind's guidance was due to unclear information displayed or defective imagery. This, in turn, could be reversed to a human error of understanding, like conditions such as dyslexia. The British Dyslexia Association state that "text appearing blurred or going in and out of focus" is a common symptom of dyslexia (British Dyslexia Association, 2022). This is similar to Jastrow's comment on the different interpretations of things due to imperfections. NHS UK mentions that one of the signs of dyslexia is difficulty understanding written information (NHS UK, 2022).

A scenario that can help create a better understanding of hermeneutics for the design profession. If a book with a blank dust-gasket were handed to someone in England and Japan, this semiotics are likely similar. However, the action of the English person will be opening the book right to left; the person in Japan would open it left to right. Without a clear front board, the hermeneutics would be the reason that these societies read from opposite sides, and without a transparent front or back, they interpret the book to be in their language. If this were repeated with glue bound books in the 16th century, the English person would likely repeat their action. However, the Japanese person would likely have a different interaction, as bound books weren't common.

The lack of message combined with the different upbringings and the context that meanings change and develop over time creates the need for hermeneutics in design research. These small details and messages, combined with the users' previous context, make up the overall interaction. Semiotics is to interpret as a sign, whereas hermeneutics is to understand the events that created the interpretation and how it may vary from one person to another, in a variety of environments including time. Hermeneutics also expresses an understanding that these interpretations change with time. Journalist Mukti Camion discusses how the swastika symbol was interpreted as good fortune for the thousand years before the 1930s (Campion, 2014).

Shape

In the book 'The Design of Everyday Things, Don Norman talks about how gesture controls when typing on touchscreens are widely used and that the QWERTY keyboard is inefficient for this task. An IBM employee designed a new keyboard for more efficient gesture typing. This new arrangement of keys did not take off; Norman says, "People knew QWERTY and balked at having to learn a different organization" (Norman, 2013, p. 231). This is the first problem when designing for change and one example of where form overrides function. Later in this chapter, Norman says, "Technology changes rapidly, but people and culture change slowly. Change is, therefore, simultaneously rapid and slow" (Norman, 2013, p. 233).

In many cases, Norman suggests that technology advances at the pace society are willing to accept. Development in design is a tug-a-war between form and function, and the design must bring a slower, more comfortable transition of new technologies to the user. The University of Cape Town has a 'Design Principles' booklet where one principle is familiarity.

"The familiarity principle is concerned with the ability of an interactive system to allow a user to map prior experiences, either real world or gained from interaction with other systems, onto the features of a new system."

(University of Cape Town, 2010)

The quote above is closely connected with the topic 'Hermeneutics', in which a person's reaction to something is drawn from specific past experiences. In design, these experiences can somewhat be predicted. For example, if a designer were to develop a camera, they could look at iconic examples to understand familiar button placement. While this is a good starting place when beginning the design, Norman also puts emphasis that form must be delightful and enjoyable (Norman, 2013).

Chang and King, a current and previous design director at IDEO, the design firm where Tim Brown is a co-CEO, have written an article titled 'Understanding industrial design: Be playful' (2016). This article again reinforces the previous paragraphs about familiarity, and they discuss how designers use a 'library of familiar experiences' drawing on previous interactions with

similar objects (Kuen Chang, 2015). Unlike the other texts on design and shape I have researched; this article focuses more on playful aesthetics. The first section of this article, titled 'Provide Amusement', goes through designs that have emerged through the 'Family Follows Fiction' metaproject, whose focus is on creating humor. The article shows examples of Alessi Diabolix bottle opener, designed to look like a happy cartoon devil, where the devil's teeth is the bottle opener. Alessi Magic Bunny toothpick holder, a hat-trick interactive toothpick holder, and the Alessi Dozi magnetic paper clip holder. Chang and King talk about how to bring people joy, and these three Alessi products do this, each in a different way. From creating humor by completing the intended action of the product, like with the bottle opener, creating humor when the product performs its designed action, like the devil biting off bottle caps, or the entertaining, playful sculpture of a magnetic paperclip holder designed to look like a hedgehog when complete.

In the following section, 'Delight with the unexpected', they talk about surprising the customer with something new, such as materials, playing with scale, and disguising products to be something they are not. They end this discussion with, "what functionality really needs to be exposed and what can be hidden away?" This question, along with their text on being playful, inspires creativity through all design packaging; this is how components are placed and hidden in products. For example, we know a phone has a rectangle screen and a rectangle circuit board under it, the screen must be exposed, so there will be an area on that design that is rectangular. However, the circuit board could be encased in a sphere, a pyramid, or a plastic cube. It is in these areas where good design is most important, where an engineer would likely find the most efficient way to cover the hidden circuit board; a designer must consider how this space is used to enhance the experience.



Figure 3. 'Nessie' (Ototo, 2015)

The Nessie soup ladle (2015) from Ototo is a perfect example of the playfulness Chang and King write about. The product's name and form both reference the Loch Ness Monster, globally recognized Scottish folklore. They are further adding to the design's functionality and usability by adding legs to the ladle allowing it to stand. This ladle is playful when displayed in the kitchen and submerged in a soup where the head is visible, and the broth depicts the Loch.

Conclusion

The keywords I have researched in this paper all contain a degree of overlap; I assorted these similarities into a Venn diagram (see figure 4).

The term innovation is often viewed through privileged eyes as a revolutionary breakthrough. While this is one example of innovation, it should also be recognized in the adjustments products make to create accessibility to the less privileged. Brown wrote about creating a product accessible to a broader range of people and designing for those who deviate from the consumer markets norms. This broadening of target markets creates a world where design fights for equality. Although, Browns' capitalistic reasoning in *Change by Design* does create a personal concern for morals.

Hermeneutics poses an exciting idea for design, following the research on own-age bias and following the idea that as civilizations change with time, it would be interesting to see how

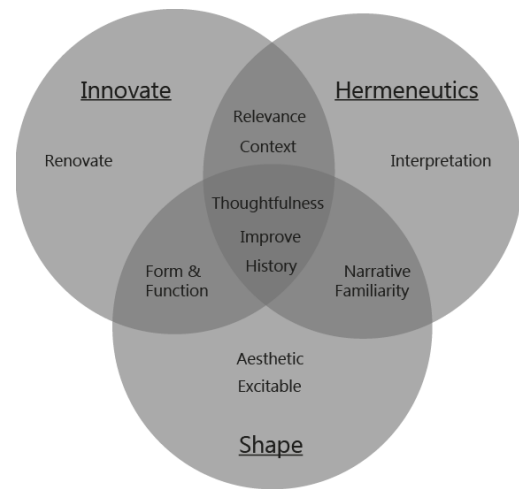


Figure 4

existing products could develop with them. Hermeneutics and Normans' idea of creating products that transition people at a comfortable pace to the user could bring rise to a new design research category. Design that could look into educating through form and function rather than literature while incorporating hermeneutics into design thinking. Allowing the product to span various age groups and ethnicities. This essay and thought process produced the question for my independent inquiry. How can design be used to create and change perceptions?

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