

Siwan Thomas

1702379

Independent Inquiry - ADAD6001

BA (hons) Surface Pattern Design

Supervisor : Julia Lockheart

The tactile experience exchange: maker/ user interaction

Word count : 5630

Submitted in partial fulfilment of the requirements for the degree of BA
(hons) Surface Pattern Design, University of Wales Trinity Saint David,
Swansea. (11th of December 2019)

Table of Contents

Summary

List of Illustrations

Introduction

Chapter 1

From theory to practice; Interaction

Chapter 2

Controlling Joy 5

Chapter 3

Harvesting Interaction

Chapter 4

A tactile future

Conclusion

Enabling solutions and futuring

Word Count:

List of Illustrations

Figure 1. <i>Mapping Interaction</i>	1
Figure 2. <i>Tactile Relations 1</i>	1
Figure 3. <i>Tactile Relations 2</i>	1
Figure 4. <i>Mapping the Main Relationship.</i>	1
Figure 5. A relational map of interaction	

Introduction

The aim of this investigation is to discover the philosophy of interaction. How can the maker create a tactile experience for the user.

Achieving tactile experience by exchanging the concept between the maker and the user for interaction. How can a maker, making create a tactile interaction for the user. Inquiring how people interact and what allows them to interact. Illustrating set of relationships, seeking to understand them.

Making and doing, to communicate to the user. Will be exploring a set of relationships that result in interaction. Processes that make interaction happen. This investigation was inspired by my previous Design work. It was a interactive piece that encouraged creativity. I did not understand how people were interacting and why they were interacting differently. Therefore, I decided to investigate and see how I can bring this knowledge into my future practice.

Chapter 1 - From theory to practice; the process

From theory to practice through process and wisdom

Within this is the exploration of maker to user through interaction.

The making process is theorised by wisdom. What humans can do and what they do. Seeking to understand how to create a tactile experience. I want to know how to create a tactile experience for the user, from a maker by the process of making. This can be visualised and illustrated through a set of illustrations. These represented each relationship within the process. Each key element can cause/create interaction because they are connected. Wanting to achieve maximum enjoyment from tactile experience. Or to achieve a maximum tactile experience.

The senses play a key role in how an individual interacts with a design, they must see it and touch it. We are always using these to interact with the objects and environment. The 5 main senses are hearing, seeing, touching, smelling and tasting. The senses are 'a faculty by which the body perceives an external stimulus' (Oxford Dictionary, 2019). This elaborates on the idea that senses are a bodily process of knowing. Individuals use their senses to gain wisdom of the world. This includes using their senses to interact with an object or within a particular environment.

To touch and to see are main senses used within design to interact. To touch the design, to communicate with it but also to look at it, to understand it and enjoy its aesthetic. Using your senses contributes to the overall experience, making the interaction possible. 'Just as we "do things with words" so, we act through our touches' (Classen, 2005, p. 20). You are motioning movement and functioning in the world with your senses. Physically doing tasks and building relationships such as interacting.

These relationships can build a personal experience as you are physically touching something and creating connections with your skin. An object must be tactile in order for it to be touched. When touching something you are interacting with it. When interacting with design, objects play an important role, due to the fact that they are a part of the interaction or the object may be what makes the interaction happen.

Bringing the tangible and intangible together through physicality is possible through the use of our senses. It has been previously mentioned that every object is tactile. An object can be touched, felt, held and seen. This is only

possible due to human senses. Senses are the guide to develop/build the relationship between the user and the object. It is the maker that ensures that the senses are being used and tested, this is how to achieve ultimate tactile experience. The figure below illustrates the connection between how the designer can communicate sensual experience to the user, through an object. It is a tetrahedron, showcasing how through a set of relationships can result in design interaction.

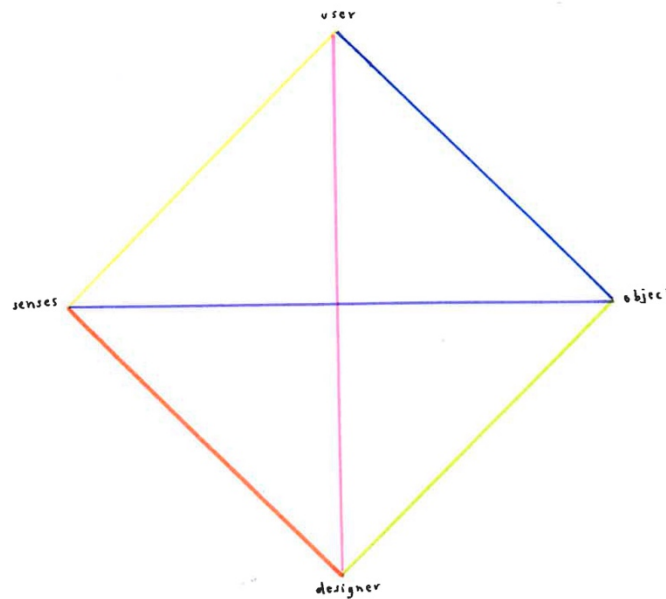


Figure 1. *mapping interaction*

An object is defined as ‘a material thing that can be seen and touched’ (Oxford English Dictionaries, 2019). Therefore, an object is tangible. An object must be present for an interaction to take place. An object is tactile and physical. The figure below figure illustrates how the senses are what defines the object as a tangible thing. It physically exists therefore it is tactile.



Figure 2. *Tactile Relations 1.*

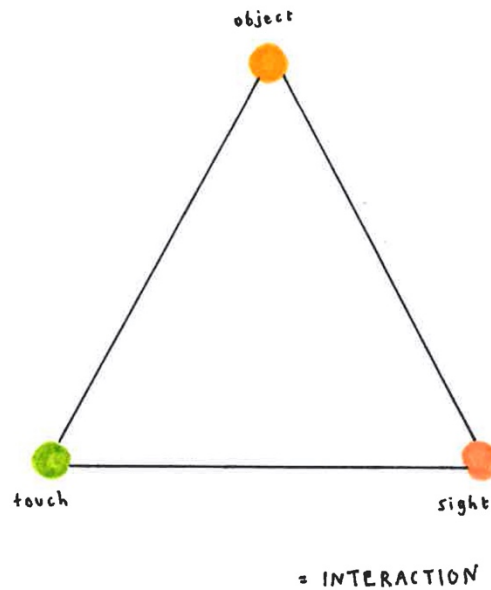


Figure 3. *Tactile Relations 2.*

When interacting individuals subconsciously and consciously use knowing, experience and senses. These have been defined as the three main components when interacting with design. They are needed in order for humans to interact with design, in particular with objects. Interaction is the activity of bringing the tangible and the intangible together. For something to be tangible it has a physical presence such as an object.

The theory of how people interact act with design, through their senses, experience and knowledge. They are all linked, without knowledge you would not register or realise any experiences, without the use of senses you could not define any experience. In regard to interaction and design... As a designer, my eyes are trained to look at art and design in a particular way due to my education. For others, they look at design and appreciate the visual qualities. Or they are looking at design 'Seeking to understand or to appreciate them, or to improve our current level of understanding or appreciation' (Gaut and Lopes, 2005, p. 321). They're taking creative steps to try and engage with the design. Being curious as to what it is, they are interacting with. When designing makers are designing with the user in mind. The role of a maker is to not design for yourself but for others. This highlights the continuous exchange between the maker and user. See figure 4 to visualise this relationship.



Figure 4. *Human Exchange*

In the wider context of things not only do we interact with object within design but also in our day to day lives. In the world today, humans are living within a material culture. Therefore, we are surrounded by objects, we live amongst objects, meaning we are always interacting with objects around us. This can relate to the study of Phenomenology, where by 'human encounter, experience and understanding of worldly things and how these happenings come to be possible' (Tilley, 2006, p. 43) For an individual to understand these worldly things and experiences, based on Gestalt Theory, people will 'group similar elements, recognising patterns and simplifying complex images' (Interaction Design Foundation, 2019) This the users ways of being aware of object within their environments which can lead to tactile experiences.

Due to self-awareness and human perception individuals realise that they are not an object amongst the other objects in the world. Michael Polanyi states this idea, agreeing that we are human amongst objects.

'our own body is the only thing in the world which we normally never experience as an object, but experience always in terms of the world to which we are attending from our body' (Polanyi, 1966, p. 16).

Having mentioned the relationship between the tangible and intangible, it has been recognised that objects is the tangible. The intangible within this discussion is the philosophical principles that individuals use to interact. These ways of knowing are recognised as sensing, experiencing and knowing. These are subconsciously and consciously used by humans to interact with design and in this particular case objects.

Bringing the tangible and intangible together through physicality is possible through the use of our senses. It has been previously mentioned that every object is tactile. An object can be touched, felt, held and seen. This is only possible due to human senses. Senses are the guide to develop / build the relationship between the user and the object.

John Berger discusses in his book *Ways of Seeing*, that 'seeing comes before words. The child looks and recognizes before it can speak (Berger, 1971, p. 7). In relation to a design environment, it gives the notion that humans can recognise how to interact with something with our eyes before we actually pick up and touch the object. This is down to our knowledge being easily available and quicker to access than our sense of touch, such as our hands.

Humans often perceive themselves amongst objects in their environment, Polanyi states 'the way we see an object is determined by our awareness of certain efforts in our body' (Polanyi, 1966, p. 13). He is addressing the idea that self-awareness allows to see an object in a way that is influenced how we see the world around us. Adding to the fact that 'our body is involved in the perception of objects' (Polanyi, 1966, p. 29). Individuals use knowledge to recognise body forms as beings amongst all the other objects in the world. This is self-awareness, looking at the relationship between themselves and the environment, 'always looking at the relation between things and ourselves' (Berger, 1972, p. 9). Therefore, interaction is possible due to the fact that we use our sense of seeing and touching to communicate with a particular thing. Using our senses defines the relationship humans have with objects. This relationship is realised through interaction. Berger suggests that we are 'always looking at the relation between things and ourselves' (Berger, 1972, p. 9). This is the activity that implies that collectively as humans when put in an environment they perceive themselves amongst various objects. Objects are a key part of the process of interaction, it is the thing that creates a relationship along with our senses. Without these there will be no interaction. It is clear, that an object cannot be defined without mentioning the senses.

Senses is a way of knowing

The outcome is knowledge. The ways of knowing and thinking. Knowledge Everyone uses their existing knowledge to interact with objects. They use their pre-existing knowledge, knowledge that is embedded in an individual's mind. In order to interact with a cup, firstly the user must pick up the cup by the handle, to touch it, to lift it, to use it. But how does one know this? They just know? They just know how to do it or have seen someone else do it. This is linked to the idea of experience and awareness, what you have experienced before contributes to the knowledge you hold today.

According to Oxford Dictionary, knowledge is defined as 'awareness or familiarity gained by experience of a fact or situation' (Oxford Dictionary, 2019). Therefore the user uses their awareness and familiarity

gained by a previous experience with an object to make connections. This results in being able to carry out a task they have previously carried out before.

Humans are aware of the world; we have awareness of the environment we are in and the people around us. A key text on this concept is *The Tacit Dimension* by Michael Polanyi. He discusses human awareness, through being aware we are always gaining knowledge through experience. He states, 'I shall reconsider human knowledge by stating from the fact that we can know more than what we can tell' (Polanyi, 2009, p. 4). Suggesting that individuals know more than what they can verbally communicate. We are to be able to acknowledge that we need to use the handle to pick up a cup but cannot describe how we know how to do this. It is an 'act of communication displays a knowledge that we cannot tell' (2009, p. 5). Indicating that this is a part of our knowledge that we don't have to think about or use consciously. Therefore 'true knowledge lies in our ability to use it' (Polanyi, 1966, p. 17). Using true knowledge means to interact.

Using the same analogy as a cup with a handle, an individual would use their sense of seeing, to look at the cup. Just by looking, the cup visually communicates to the user how to pick, hold and use the handle. This scenario can also be defined by J.J Gibson as an affordance. In the book *The Ecological Approach to Visual Perception*, he states

The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment. *Gibson (1979, p. 127).*

Gibson developed the concept of affordance. Affordances are what the environment offers to the individual. In terms of the scenario with the cup, there is a relationship which the handle of the cup has with the human interacting with it. Being able to understand affordances is due to our knowledge and previous knowledge of any interaction with past handles in our life. In comparison, Donald Norman describes affordances as things that 'provide strong clues to the operations of things. Plates are for pushing. Knobs are for turning. Slots are for inserting things into. Balls are for throwing or bouncing. When affordances are taken advantage of, the user knows what to do just by looking: no picture, label, or instruction needed.' (Norman, 1988, p. 125). Our knowledge is what allows us to make links between an object and what we do with an object, being able to know what

to do just by looking would therefore suggest the object visually communicates with the user.

The cup and handle are objects, therefore, they are tactile. They can be touched. After the process of looking, the individual uses their sense of touch to interact with the object, motioning the knowledge they have on how to hold the handle. For example, handles have a pre-defined knowing that you hold them, you turn them, and they open things. This motion is only doable by combining the user's senses, knowledge and past experiences to undertake the activity.

Everyone uses their senses to experience the world. Using the 5 main senses and more to communicate with the design. Polanyi discusses the idea of self-awareness within the concept of human experience within the world. Polanyi states the fact that 'our body is involved in the perception of objects (Polanyi, 1966, p. 29). Implying our existence is surrounded by other objects. He describes 'our own body is the only thing in the world which we normally never experience as an object but experience always in terms of the world to which we are attending from our body (Polanyi, 1966, p. 16). We are always seeking to create relationships between ourselves and the object through our self-awareness.

Donald Norman agrees with this, he states that one must use. 'both knowledge in the world and knowledge in the head' (Norman, 1988, p. 188) Differences To use the existing knowledge, you have in your mind, what you believe you know, in yourself as a being alongside the knowledge that the world gives to you, what you see in the world, what you experience, design, what you interact with. These are all experiences that build knowledge and influence how we look at things.

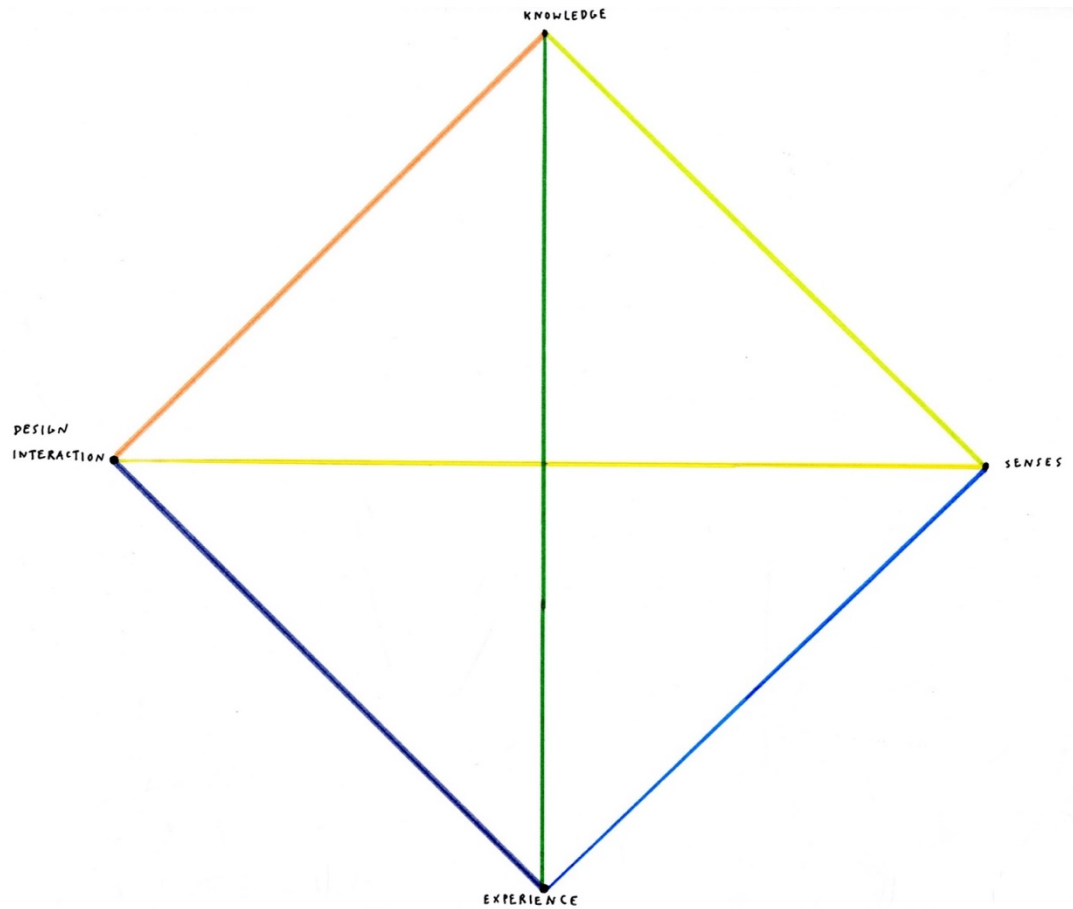


Figure 5. *A relational map of interaction*

The figure above communicates the overall ingredients that are needed for interaction to happen. The interaction is the tactile experience exchange between the makers intention, the objects language and the user's response.

Human awareness

Chapter 2 - Controlling Joy

Makers do not have full control over their work. They can control the aesthetic attributes but cannot control how people will approach, respond and interact with their work. What can a designer control by creating a tactile experience for the user? However, through what I know already, I can control the joyfulness in my design. My design practice can influence one's emotional state during an interaction. Joy happens through human to object contact.

I cannot control how one uses their past experience, apply knowledge or use their senses. The only thing I can control is the positive experience it has on the individual through the use of my designed object(s), colour and tactile materiality. The human to object contact (senses) can result in a positive interactive experience for the user, 'tactile contact can have a positive effect on our emotional and cognitive processes and on our general well-being' (Dent, 2014, p. 115). Tactile contact can play on one's emotional state. Some tactile interactions can result in joyful experiences and enjoyment. Tactile contact creates a pleasurable experience for the user. Being in contact with a tangible thing of pleasing, sensual materiality creates a positive experience and interaction between user and object. Yi- Fu Tian discusses the pleasures of touch, focusing on the joy that touch brings to one's life, 'the pleasures of being alive and our deepest sense of wellbeing depend on cutaneous rewards that may come anytime, anywhere' (Classen, 2005, p. 74). Clarifying the idea that human to object(s) contact brings fulfilment and bliss to one's life daily. For example, these sensual rewards simply can be the soft inner surface of a glove, wrapping itself around your hand. This illustrates the impact tactile experiences has on one's general happiness and well-being. Highlighting that joy has occurred.

Realising your creativity and what you're capable of as humans, results in having a passion. Encouraging creativity through interaction. Being passionate and in their element brings out this joy. Everyone is creative.

In context to the discussion regarding creativity, discovering your capabilities and what designers can control.

There are many factors a designer cannot control. When designing for interaction, it is hard to grasp the concept of how people are going to approach, respond and interact. Everyone has the ability to interact positively, but factors influence the user to believe they cannot reach joy through tactile experience. Many people do not experience joyfulness when interacting. Sir Ken Robinson, an education and creativity expert states that this constrained perspective that many experiences are 'compounded by our peer groups, by our culture, and by our own expectations of ourselves. A major factor for everyone, though, is education' (Robinson, 2009, p. 9). He believes that one's creative ability is affected by their education, as it systemically drains creativity out of children. In his TED talk (2007) he talks about how schools are educating children out of creativity, 'you don't grow into creativity, we grow out it, or we get educated out of it'. It discourages students to not practice their creative abilities. Resulting in individuals not realising their creative thinking and capabilities. Which means many leave schools thinking they are not creative people, that they do not have the ability to interact with design. Designers cannot control one's self belief or how schools teach the arts but through tactile experience they can encourage creativity.

Creativity is defined by Oxford Dictionary as 'the use of imagination or original ideas to create something' (Oxford Dictionary, 2019). The idea of an individual being intuitive and inventive, creating and discovering something new. Alternatively, Robinson defines creativity as 'the process of having original ideas that have value' (TED 2007). There is reason to believe that a tactile experience is valuable to an individual. People hold value with sensual experiences through touch. Therefore, they value the experience of interaction, resulting in enjoyment of doing so. A part of being creative is to be curious, to problem solve, to investigate and question what something is. When someone holds these traits, they are more likely to enjoy the act of interacting. Having a creative mind makes interacting with design enjoyable. Unfortunately, many individuals do not realise they hold these traits and creative capacities. Understanding and becoming conscious of these personal capacities or 'powers' (Robinson, 2009, p.9), creates enjoyment for the user. Some do not use their creative capabilities to interact because they do not realise, they have any. Robinson places confidence in that 'we are all born with extraordinary powers of imagination, intelligence, feeling, intuition, spirituality, and of physical and sensory awareness (Robinson, 2009, p. 9). Implying that everybody has the ability to have a pleasant tactile experience and interaction using their sensory awareness, imagination and intuition. Creativity is what human brains do (Creative Brain, 2019). It is only the ones

who use these powers, natural capacities and passion that can fully immerse themselves into design interaction. This is called being in your element. (Robinson, 2009)

It is Robinson's research on people discovering their passion for things that has defined what being in your element is. He defines that people who are in their element are able to 'connect with something fundamental to their sense of identity, purpose and well-being' (Robinson, 2009, p. 22). This is the process that brings well-being to an individual when they are in their element. It correlates with the understanding that experiencing tactile contact brings one joy and personal well-being.

When you are in your element you have the ability to excel in the activity you're doing. These natural abilities are stated by Nigel Cross as a 'form of natural intelligence.' (Cross, 1995, p. 115) When performing to your maximum natural ability, you are in your element. Being in your element you must require passion, this is linked to one's joyfulness when in their element.

A concept of being in your element from The book *flow* summarizes the positive aspects of human experience. Is discussed as joy, creativity and the process of total involvement with life, which Csikszentmihalyi defines as *flow*. This is in line with the inquiry into how human experience is associated with design interaction. If humans experience joy and enjoyment during design interaction, it will result in a positive interaction and users would have used their aptitudes. 'Enjoyable events occur when a person has not only met some prior expectation or satisfied a need or a desire but also gone beyond what he or she has been programmed to do and achieved something unexpected, perhaps something even unimagined before' (Csikszentmihalyi, 2008, p.46) it can be said that being satisfied or satisfying a need or desire can be interoperated as the user finding joy and fulfilment through the tactile experience of interaction.

Designers can create joy through tactile experience and being in their element. Joy can be created by a designer through many outlets and interactions. As discussed at the start of this chapter, joy is something that as a designer you can control. As a designer you design attributes of joy into whatever you're making in hope that this gives the user a sense of fulfilment. Humans use their senses to activate this joy, these sensations are triggered by touching and seeing; experiencing tactile experiences. Ultimately, joy begins with the senses. One may access joy through tactile experiences

because 'there's a certain pleasure in material things' (Lee, 2018, p .4). Makers use aesthetic and tangible attributes such as form, colour, pattern and materiality to trigger this pleasurable feeling. These are defined by Lee as the Aesthetics of Joy.

Play is one of our greatest means of accessing delight, with deep root in human life. P. 134

'How do tangible things create an intangible feeling of joy?' (Lee, 2018, p. 4). This is the connection of the physical world with the emotional world within us. The process of how the practical (design) can bring the emotion (joy) together to create a tactile experience. This is the relationship between joy and our physical world. Ingrid Fetell Lee, an expert on design and joy defines joy as an intense experience of positive emotion TED, (2018). There are tangible physical attributes of joy within design.

Humans are always seeking joy in interaction and relationships. Building play and joyfulness through interaction. Joy is essential. It is connected to one's well-being. It connects with people emotion and behaviour.

Affordances = suggests joy = bring out behaviour in joy.
How do we design something that is joyful for everyone?

A positive design interaction will only happen when an individual has recognised their natural capacities, reached true design ability or have found joy in interacting with design. Whether they be a user or the designer, they have the skill to see things differently, to approach, respond and interact with design in an open minded and intuitive manner. This is the ideology that these individuals have passion in this particular activity and understand their natural capabilities and creative strengths, this is called being in your element.

Harvesting Interactions

Bringing the idea that tactile experience can bring joy to an individual, this case study presents how and why people were interacting the way they were with my design. My design is an interactive piece, it is to encourage creativity through movement, composition and interaction. The aim of this work (see figures 2-3) is for the user to compose their own still life set up by using the cut abstract forms of traditional household objects. Using the pre-existing designed slots to display the forms, they are encouraged to think about composition, layering, colour and pattern. (see figures 2-3) The interaction is between the user and the forms.

I had a few opportunities to showcase my design to the general population. It was fascinating to see how people interacted with my design. I had designed and made the piece therefore I had an idea of how it should have looked, I had designed it in a particular way but gave control to the general population. This was difficult as I had never imagined what others would do with it as I had developed the concept and designed the forms for my own style and way of seeing / compositing things. I soon learnt that my concept could be interrupted different.

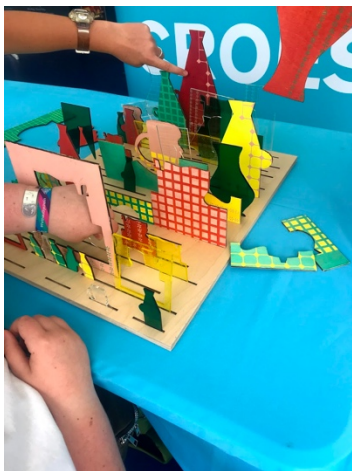


Figure 6.



Figure 7.

There was a clear comparison between how children and adults approached, reacted and interacted with my piece. This was something I noted several times in my feedback notes (see appendix 2). Children did not hesitate when approaching the piece, they do not have any past knowledge or experience this demonstrates the children's creativity and willingness not to be wrong. Sir Ken Robinson states that children have 'sparkling imaginations, fertile minds, and a willingness to take risks with what they think' (Robinson, 2009. P. 5) Children interact using their imagination and creativity, they are

fearless. Children do not care if they are wrong, they simply have a go. This is true in terms of design interaction.

Robinson goes on to state that 'kids aren't particularly worried about being wrong. If they aren't sure what to do in a particular situation, they'll just have a go at it and see how things turn out' (Robinson, 2009, p. 15) this is complete contrast to how adults approached my work. For example, one participant gave the idea that she couldn't do it (see appendix 2) Adults seemed to come across intimidated by the design. Many were hesitant when approaching and did not wish to respond or interact. Some almost appeared to be scared of the thought of interacting. This could be connected to Sir Ken Robinson's idea that as you grow older you lose the capacity to be creative. He states that many 'are frightened of being wrong. We stigmatise mistakes' (TED, 2007) Confirming that adults had self-doubt and were scared of doing the wrong thing. This is the reason for their stand back approach. This is in total comparison to children, who did not think twice about approaching, full of excitement, creativity and imagination they designed freely and joyfully. This study is clear that individuals were able to find joy from interacting, they were excited by the possibilities of each form. It was clear that they did not think the same as the adults, they did not care if they were wrong, they were simply playing. This is supported by the education expert, Robinson who said in his TED talk (2007) that 'if you are not prepared to be wrong, you'll never come up with anything original' Coming up with something original is designing, it is what being creative is. Children were showing true design abilities and creative thinking. What I had witnessed was true evidence that we are all born creative, but we are simply grown or educated out of it.



Figure 8.

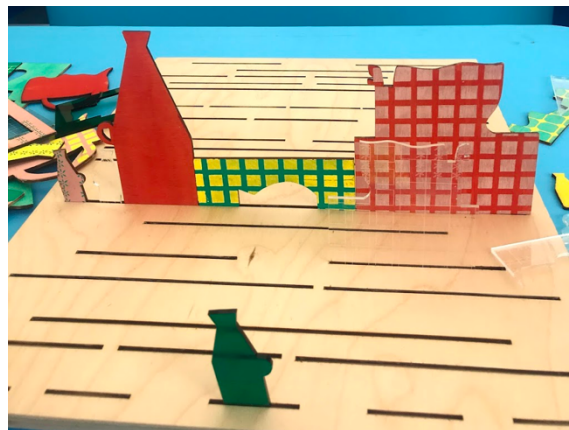
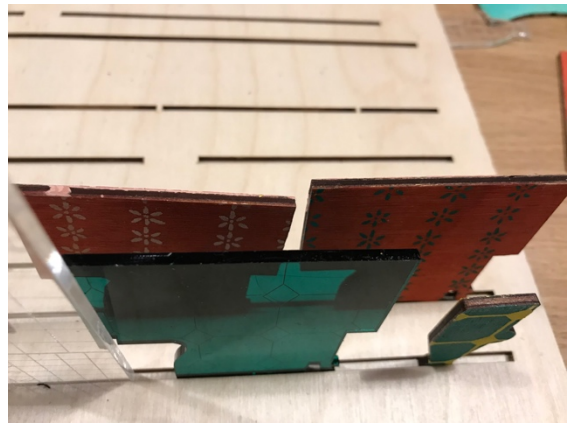


Figure 9.

It was interesting to see how children had no particular knowledge of the forms. The forms are abstract or original shapes of household objects such as, tea pots, irons and milk glasses.

The children clearly didn't have any concept of this, they were simply coloured shapes to play with. In the above figures, 4 and 5, it is shown that they were placing the shapes upside down or on their side. This had come as a shock to me, as I soon realised, they weren't interacting according to the original aim / concept of creating their own still life. This made me realise that I could not control how one interacted, but I can control the emotional response.

In addition, knowing that people interact with design by using philosophical components of sensing, knowing and experiencing. There are clear links to be made between theory and practice. For example, Michael Polanyi states that an individual knows more than what they can tell. This correlates with what I witnessed in my own design where children didn't hesitate to interact.

A Tactile Future

Considering the developmental world that we live in today, amongst all devices and technologies. It is hard not to question how important these objects are to the development of individuals. Within the digital age we live, should there need to be more focus on the craftsmanship, the objects. Are we losing our senses, experiences and knowledge processes to the digital and technological world? iPhones? There is reason to argue that we do not use our senses, experiences or knowledge to interact with technologies in comparison to everyday objects or crafted objects. The 2018 article by Morby, describes how the founder of fashion label JW Anderson and founder of the Loewe Craft Prize, Jonathan Anderson states that digital technologies elevated the interest in design craft. Morby (2018). He stated that ‘hand – crafted objects are currently experiencing a huge surge in popularity, as a backlash to the dominance of mobile phones and other digital devices’ (Morby, 2018)

The designer told Dezeen, ‘we’re in this moment where we’re trying to become more tactile, we actually want to have more touch’ (Morby, 2018) Which emphasises that people are looking for that sense of touch in their day to day lives to survive, it is embodied in us to use senses, it is a part of our anatomy. Now, we are interacting and communicating with 2D screens. He states that his prize Loewe thing ‘prizes come out of what there is a lack of, and for me, it’s a general consensus of people wanting to understand the making and the craft of something’ he said. “they want to be able to heighten their senses”. With the design industry thriving to be more sustainable, “craft will become fundamental”.

Li Edelkoort, a design trend forecaster. Discussed the same idea at Dezeen Live, she predicts ‘the use of computers and screens make us crave a sense of touch’ (Etherington, 2012) This shows that ultimately there will be a shift in the material world. Edelkoort describes how she ‘I feel it already in my fingers that they want me to touch lots of things, so I don’t lose contact with touch’ (Etherington, 2012) she is using sensing in a way to predict the future. She is sensing the change. Is this a debate; Digital culture vs material culture?

People are looking for something real to touch within the digital world.
Losing all tangible things, becoming 2nd from 3d. onto screens

a more textured society is coming, softer more rounded.

‘the more screens we have, the more our fingers are afraid that they are going to disappear.

‘ Feel it in my fingers (sensing it) they want me to touch lots of things so I don’t lose contact with touch ‘

Material tactility/ tactile materiality will be increasing. Textile is part of that. The rational and emotional parts of the brain are going to meet. Hybrid house in Amsterdam. Working on products for a better world. the future is hybrid only. Both. Both is the answer to everything. Male or female? Both. Long or short? Both. Healthy or unhealthy? Both.

Conclusion – enabling solutions and futuring.

Who am I making for?

The idea of ‘futuring’ (Fry, 2008, p. 147), designing the future. Designing our future, futuring.

It is becoming a trend in design to move towards a tactile experience (Averre, 2018)

Having learnt all of the above theory, moving forward with my own practice, it is important that I consider the importance of tactile design. We are living within a material culture with an increase in digital culture. It has become apparent that screens are taking over our day to day lives. We have little or not interaction with 3d objects.

This experience and knowledge I have gained has led my investigation into looking at what I can do in my creative practice. Now that I know what happens physiologically in one’s mind while interacting with design, how can I take this forward and apply this to my future creative practice? Knowing the importance of knowledge, experiences and senses, I can now embed these into my designs. This would make my work visually communicate clearer to a user. Also, I have now discovered what peoples design ability are in terms of one’s confidence and creativity.

In the future my practice will focus on tactile design and interactions. As a result, this research has been extremely valuable in helping me to identify the role of touch and sight / joyful interactions as myself as a designer and the users.

Appealing the theory, I have learnt into practice. Using materiality to create the ultimate tactile experience for the user.

‘the powers of creative thinking’ (Robinson, 2009, p. 14)

AGE – AGING
Ing – sensing
Knowing
Futuring
ING - DESIGN

Bibliography

- Alexander, C (1971) *Notes on the Synthesis of Form*. London: Oxford University Press.
- Averra, Z. (2018) 'Touch, Sense and the Future of Design', *Fifteen* [blog]. September 18th. Available at: <https://www.fifteendesign.co.uk/blog/touch-sense-and-the-future-of-design/> (Accessed: 22nd November 2019)
- Berger, J. (1972) *Ways of Seeing*. London: Penguin Book Ltd
- Budds, D. (2018) *The future of design is tactile, aromatic, and euphonious*. Available at: <https://www.curbed.com/2018/4/26/17272526/cooper-hewitt-museum-the-senses-exhibition-sensory-design> (Accessed: 22nd November 2019)
- Classen, C (2005) *The Book of Touch*. Oxford: Berg
- Connor, S. (2004) *The Book of Skin*. London: Reaktion Books
- Cross, N. (2006) *Designerly ways of knowing*. London: Springer
- Csikszentmihalyi, M. (2008) *Flow: the Psychology of Optimal Experience*. London; Harper Perennial Modern Classics
- Dale, R. and Kello, C.T. (2018) "'How do humans make sense?" multiscale dynamics and emergent meaning', *New Ideas in Psychology*, vol. 50, p. 61-72. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0732118X1730020X?via%3Dihub> (Accessed: 7th December 2019)
- Dent, P (2014) *Sculpture and touch*. Aldershot: Gower Publishing Co.
- Dezeen (2019) *Studio Drift deconstruct everyday objects for Materialism*. [video]. Available at: <https://www.youtube.com/watch?v=1SafWa7SuCw> (Accessed: 5th December 2019)
- Dezeen (2012) "Super technology is going to ask for super tactility" – Li Edelkoort at Dezeen Live [video]. Available at: <https://www.dezeen.com/2012/12/28/super-technology-is-going-to-ask-for-super-tactility-li-edelkoort-at-dezeen-live/> (Accessed: 5th December 2019)
- Etherington, R. (2012) "Super technology is going to ask for super tactility" – Li Edelkoort at Dezeen Live. Available at: <https://www.dezeen.com/2012/12/28/super-technology-is-going-to-ask-for-super-tactility-li-edelkoort-at-dezeen-live/> (Accessed: 5th December 2019)
- Flusser, V. (1999) *The Shape of Things: A Philosophy of Design*. London: Reaktion

- Fry, T (2008) *Design Futuring: Sustainability, Ethics and New Practice*. Oxford: Berg
- Gibson, J.J. (1986) *The Ecological Approach to Visual Perception*. New Jersey: Lawrence Erlbaum Associates, Inc., Publishers
- Gaut, B. N. and Lopes, D.L (2005) *The Routledge Companion to Aesthetics*. 2nd edn. London: Routledge
- Hemmings, J. (2012) *The Textile Reader*. London: Berg Publishers
- Ingold, T (2011) *Being alive: essays on movement, knowledge and description*. London: Routledge
- Interaction Design Foundation (2019) *Gestalt Principles*. Available at: <https://www.interaction-design.org/literature/topics/gestalt-principles> (Accessed on 29th October 2019)
- Kamp, J. and Withagen, R. (2018) 'An ecological approach to creativity in making', *New Ideas in Psychology*, vol. 49, p. 1-6. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0732118X17301265?via=ihub> (Accessed: 7th December 2019)
- Lee, I. F. (2018) *Joyful: the surprising power of ordinary things to create extraordinary happiness*. London: Rider
- Luke, A.F. (2009) *Design Activism: beautiful strangeness for a sustainable world*. London: Earthscan
- Morby, A. (2018) *Craft will become fundamental in design, says Jonathan Anderson*. Available at: <https://www.dezeen.com/2018/02/12/craft-resurgence-reaction-period-non-reality-jw-anderson-loewe-craft-prize/> (Accessed: 5th December 2019)
- Netflix (2019) *Creative Brain*. [documentary]. Available at: <https://www.netflix.com/watch/81090128?trackId=13752289&tctx=0%2C0%2C226898e5-fb58-4dec-92b3-f997c6a3965b-19104335%2C%2C> (Accessed: 19th October 2019)
- Netflix (2019) *Explained: Animal Intelligence* [documentary]. Available at: <https://www.netflix.com/watch/81062199?trackId=13752289&tctx=0%2C7%2C81ea8c98-0ca1-4570-91ac-6f020ac13364-39820424%2C%2C> (Accessed: 5th December 2019)

- Polanyi, M. (2009) *The Tactic Dimension*. London: University of Chicago Press
- Polanyi, M. (1973) *Personal Knowledge: towards a post- critical philosophy*. London: Routledge
- Robinson, K (2009) *The element: how finding your passion changes everything*. New York: Penguin Group USA
- TED (2007) *Do schools kill creativity? : Sir Ken Robinson*. [video]. Available at <https://www.youtube.com/watch?v=iG9CE55wbtY> (Accessed: 20th November 2019)
- TED (2018) *Where joy hides and how to find it: Ingrid Fetell Lee* [video] Available at: https://www.youtube.com/watch?v=A_u2WFTfbcg (Accessed: 3rd December 2013)
- Tilley, C. (2006) *Handbook of Material Culture*. London: Sage
- Walker, S. (2013) 'Design and Spirituality: Material Culture for a Wisdom Economy', *Design Issues*, 29 (3), p. 89 – 107. Available at: https://www.mitpressjournals.org/doi/abs/10.1162/DESI_a_00223?journalCode=desi (Accessed: 2nd December 2019)
- Walker, S (2006) *Sustainable by design: explorations in theory and practice*. London; Sterling, VA: Earthscan

List of Illustrations

- Figure 1: Thomas, S, 2019, *Mapping Interaction*. [pen on paper] Swansea
- Figure 2: Thomas, S, 2019, *Tactile Relations 1*. [pen on paper] Swansea
- Figure 3: Thomas, S, 2019, *Tactile Relations 2*. [pen on paper] Swansea
- Figure 4: Thomas, S, 2019, *Mapping the Main Relationship*. [pen on paper] Swansea
- Figure 5: Thomas, S, 2019, A relational map of interaction. [pen on paper] Swansea
- Figure 6:

Appendix

Appendix 1. Feedback Notes,



timeline.
 keyrings
 lanyards.
 ✓ interaction
 great way to engage children + adults
 natural history from 1000 years to 2000 years.
 animals?
 other forms?
 start off idea
 ↓
 colours pattern
 = pleasure
 excitement
 to do list.
 put things in after ~~and~~
 achieving something,
 a reward.
 to do list,
 take it out to
 do it.
write on it.

children
 small close
 by sold
 colours
 no concept of
 shape or play
 (upside down).
 putting things in.
 not intimidating for children --
 1st for adults -
 'can't do it'.

creating a portrait
pieces talking (faces)
colours - changing -

they created it fagans
'Jug world'

dogs as houses
tree's

afraid of being
wrong.

cottages
terrace.

seeing different things -
'bag'.



adults more careful.

thinking about it.