

Mending by **Design.**

Making Bags to Ideate
Mending excess waste in the
ecological environment
through the Aesthetic lens in
Design

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A thesis submitted to Auckland University of technology
in partial fulfillment of the requirements for the degree
of Masters of Design

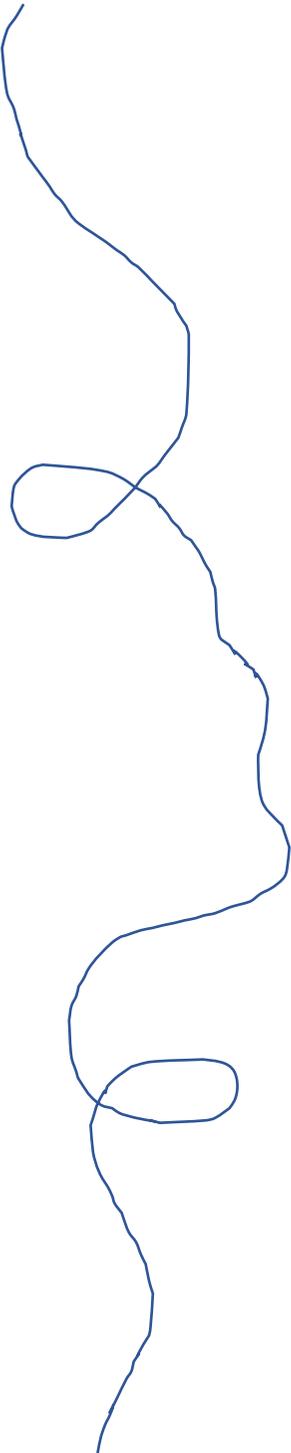
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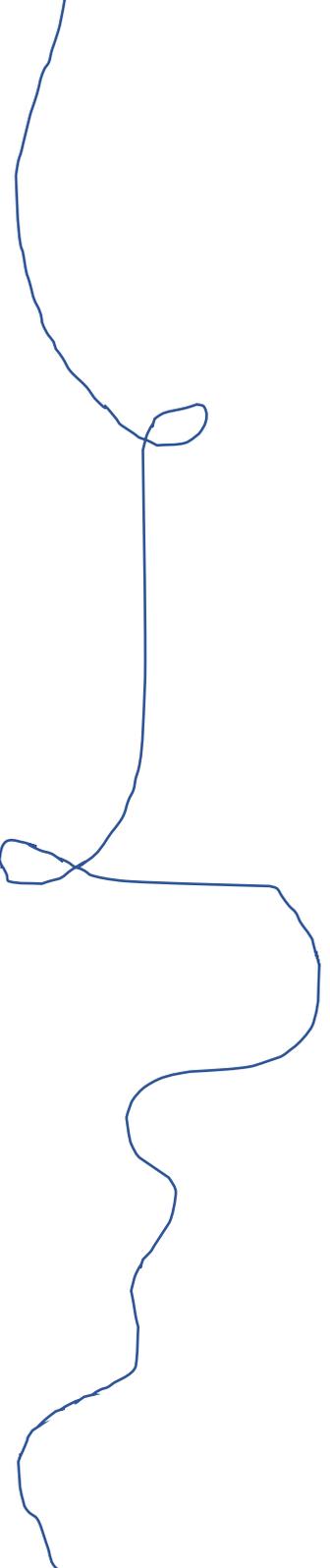
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Abstract

Using a design-based ideation process, I have paid attention to how sensory aesthetics can communicate ecological narratives. This research project considers ways design can creatively raise awareness of product and material excess. Applying a mending-drawing philosophy, I have explored how felted wool can be used to make bespoke shopping bags. The ideation process employed to create these works is personal and evolving. Through ideating, I have been able to think, reflect and make thoughtful products. 'Mending' as an ethos has also guided my decision-making and provoked me to experiment with new tools and materials. The notion of aesthetics, when applied to design, is often interpreted as referring to 'surface' or 'superficial' attributes. I have questioned these assumptions, contemplating how aesthetics-in-design contribute to an understanding of the value and worth of a product. Set within an environmental conversation, the bags I have designed, speak to my ecological concerns and are part of a broader strategy to instigate change. These products draw attention to my understanding of our need to repair, restore and aid the recovery of planet Earth.





I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the Acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma or a university or other institution of higher learning

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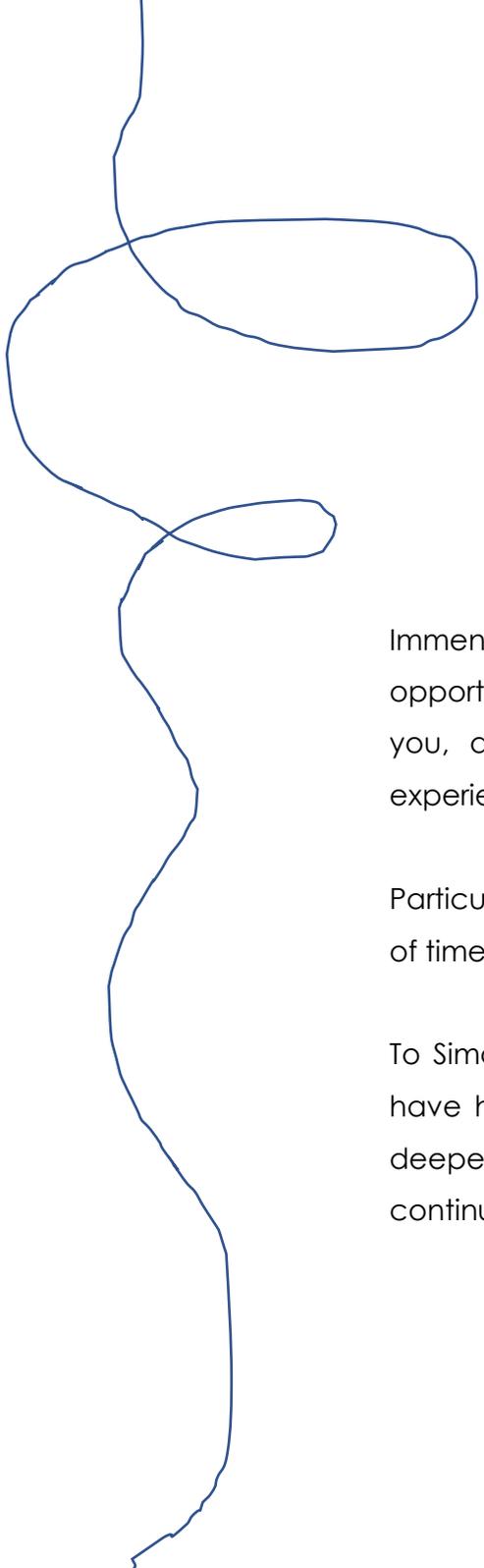
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Acknowledgements

Immense gratitude and Thanks to AUT for giving me this opportunity and privilege to study my Masters degree with you, and special thanks to those who has made this experience possible.

Particularly to my Supervisor Sue Jowsey, for your generosity of time, unwavering energy and astute focus.

To Simon, there is not enough thanks for all the ways you have helped and let me find my path in this journey. My deepest gratitude to you, and our families, for your continuous belief and encouragement.

Introduction

On 13 June 2019, an exhibition on bags called 'Carried away: Bags unpacked'¹ opened to the public at the Auckland War Memorial Museum. This exhibition considered bags from a New Zealand historical and cultural context, how they were defined, made, and used. Grouped by material types, the bags all seemed to have a common unifying factor, their vibrant, visual and tactile stories. The aesthetic narratives embodied in these bags not only addressed their materials construction. They told stories about how and why they were made. Nearly every aspect of their creation communicated information to the viewer.

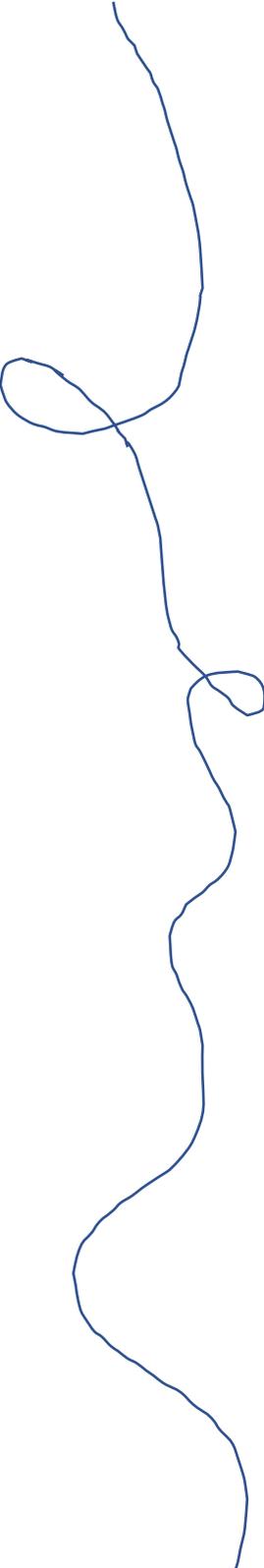
¹
'Carried Away: Bags Unpacked'
Auckland War Memorial
Museum, Auckland, Exhibition 13
June 2019 – 1 Dec2019.
<http://www.aucklandmuseum.com/visit/exhibitions/carried-away-bags-unpacked>



Fig.1



As a Designer, I have framed my research from the viewpoint that I should be thoughtful, caring and responsive to the Earth. Being caring means being conscious of the decisions I make and the products I create. In this document, I have chosen to focus on one artefact that encapsulates my Mending-Drawing methodology and my thinking about aesthetics-in-design. Through establishing some contexts for understanding and positioning my work generally, I have narrowed the discussion about my practice. The 'bag' I have selected to write about provides a physical tactile and visual representation of my approach to design. Integral to this discussion is the material and making decision-making, which considers how 'Mending,' could be understood within a broader conceptual framework – one that includes environmental sustainability.



Throughout this exegesis, I have expressed my concerns for the planet and our obsession with throw away commodities, especially those made from plastic. I have endeavoured to understand the relationship between humans and the things they make, use, buy, consume, and then throw away without a thought. Examining my decisions, reflecting on my ideation process, and assessing the role and responsibilities of being Designers in the 21st century, have been critical aspects of my research project. Practically, I have drawn out my thinking, using old, and new techniques to document and map my understanding. Undertaking this research has required exploring new tools (the industrial Felt Loom) and new materials (Wool). Four key design components have informed my practice which I believe are necessary to address environmental sustainability: Material in Throughput, aesthetics, ideation and mending. It is this final element – *mending*– that captures all the fundamentals of my thinking. The concept of mending includes metaphoric narratives of healing, repair and restoration. These stories are woven into the material, aesthetic and ideation processes that are significant features of my research. Drawing is also an important methodological and practical facet of this project. I have drawn with materials, and through drawing on my design knowledge, I have found ways to ideate that capture my concerns about caring for our planet.

Contextual Discussion

My approach to design relies on a visual and tactile reading of material and ideas. The research I've undertaken adheres to four key concepts I've identified as necessary to address environmental sustainability in my work: Material in Throughput, Aesthetics, Ideation and Mending.

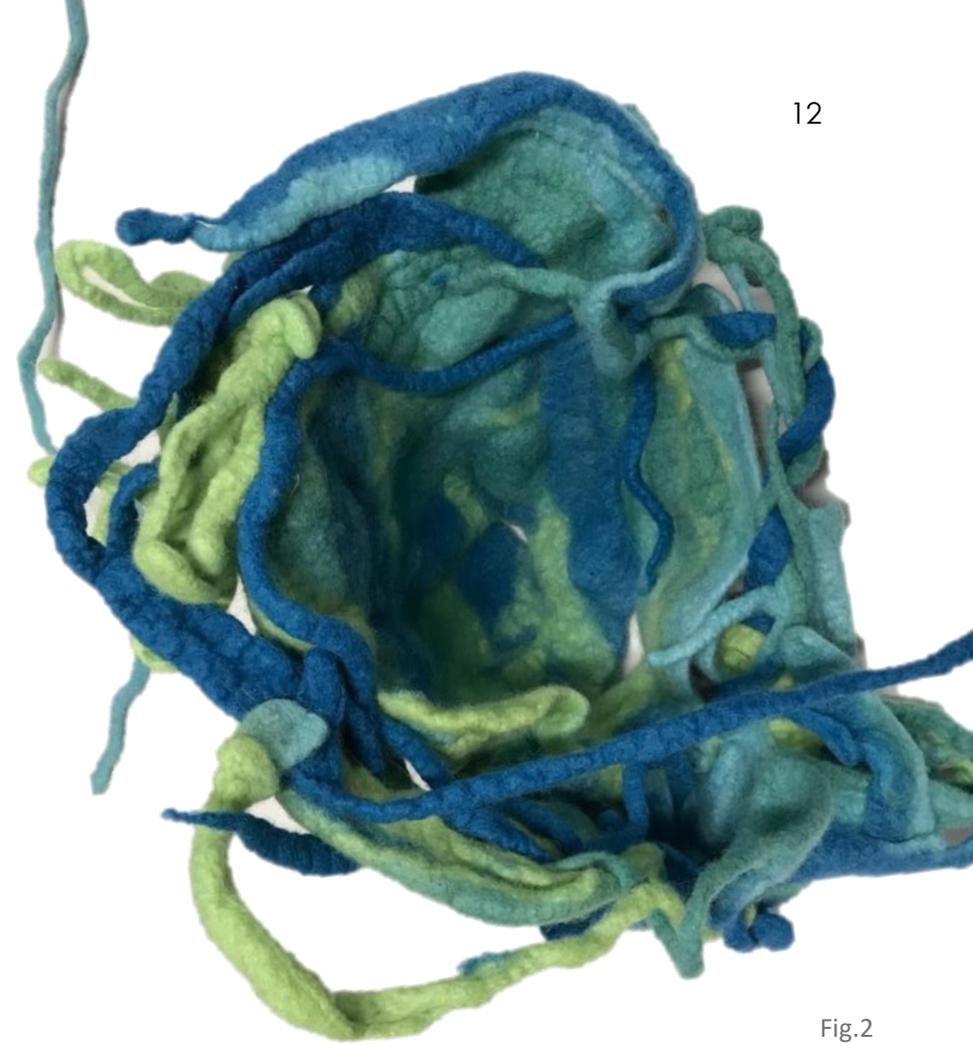


Fig.2



Fig.3



Material Throughput: Felt-works

Stephanie Bunn, affirms in her book 'Nomadic Felts,' wool has been used as a material for making products for thousands of years.² In addition, Bunn's research points to evidence, from different cultures, of the practice of symbolic 'ornamentation' made from felted wool that decorate a range of surviving historic objects.³ She suggests the main reason why there are so few existing historic examples of felted products, is the biodegradable properties of wool rather than its lack of use.⁴ Bunn's thoughts on the history of felted wool reinforced my decision to investigate wool as a material. Wool has become a key component in the development and explication of my design process. This material and the organic matting process of felting have enabled me to create, think about, and explore solutions to our current economic/environmental situation, which is marked by an excess of products that negatively impact the environment.

²

Stephanie Bunn, *Nomadic Felts: Artistic Traditions in World Cultures* (London: The British Museum Press, 2010). P15

³

Stephanie Bunn, p17.

⁴

Stephanie Bunn, p15.

⁵

Vera List Center, "Jane Bennett – Powers of the Hoard: Artistry and Agency in a World of Vibrant Matter,": September 25, 2011. <https://Vimeo.com/29535247>. Paper presented at the centre's focus on "thingness" during 2011-2013.

The decision to explore wool-fibre as a primary material coupled with various felting techniques, both of which were unfamiliar to me at the start of this research, was a turning point. My interest and curiosity in the aesthetics' of wool felting emerged and grew as I began to understand the breadth of its potential. Political theorist, Jane Bennett, states all 'things,' natural, and man-made are composed of living materials. She suggests that products retain elements of their originating raw materials, emitting a 'call' or 'voice' she identifies as 'thingness.'⁵ I found wool not only retained its thingness throughout the design process, it asserted it. The unique fibre interlocking properties of wool, enabled me to explore its materiality as matter.⁶ Not only does wool have numerous practical properties but once felted into shapes and forms possesses sculptural attributes.

These practical properties are the Aesthetic qualities Anthropologist Mary Douglas and economist Baron C. Isherwood,⁷ identify as sensory 'two-way transmissions.' Like Bennett's notion of thingness, sensory transmissions enable the designers knowledge and understandings to fuse with the objects they produce. In the case of my own research, I found wool responded to my design methods, altering and challenging my ways of working. I have interpreted 'thingness,' as Aesthetics, the sensory communication of selected values,⁸ and the expression of intentions. Aesthetics is an important aspect of this project, to me the notion of aesthetics does not only relate to an objects' look, it's beauty or artistic intensions, it communicates a surface visual and/or tactile language that relays the principles, beliefs and intentions of human behaviours.

⁶ Jane Bennett, *Vibrant Matter: A Political Ecology of Things*. (Durham: Duke University Press, 2010). P

⁷ authors of 'The World of Goods' published in 1979

⁸ Virginia Postrel, *The Substance of Style: How the Rise of Aesthetic Value is remaking Commerce, Culture, & Consciousness* (New York: Harper Collins Publisher, 2003). P



Fig.4

Aesthetics provides another language, a voice, one that 'speaks' of the 'values' we construct⁹ through our actions of making and producing, designing with intent. Nigel Cross describes this as 'knowledge'¹⁰ in objects that Designers are acquainted with through experience in the field. It results from the construction of this information through the choices and decisions we impose on the objects we create.

Designer Bonne Zabatloney, uses Vincent Mosco's political economy of communications framework to discuss the social and economic factors informing consumer behaviours. She highlights the "political economy of design." Suggesting that Designers use 'social relations' to construct a conceptual reality around their products or ideas, which 'guides our thinking,' 'observations' and even 'what we perceive with our senses.'¹¹ Vincent Mosco's quotes affirm my hunch about the importance of aesthetics in design, which are often dismissed as 'surface' or more commonly 'superficial.' Suggesting that the element of 'substance' has been separated from communication, in part this is due to product designers focusing on manufacturing and distribution because this is where the profit resides. This approach to production has resulted in the use of cheaper materials like Plastics, with the aim of democratization, making essential products cheaper and more widely available to the public.

9

Nigel Cross, p6.

10

Nigel Cross, P9.

11

Bonne Zabolotney, "Locating New Knowledge in an Unacknowledged Discourse." in Practice Based Research, ed. Laurene Vaughn (Bloomsbury Publishing PLC, 2017). P21.

<http://ebookcentral.proquest.com/lib/aut/detail.action?docID=477381>

Z

Accepting Zabatloney's call for change in our sensory aesthetics to heal consumer behaviour, and to explore the possibility of change to ingrained habits of disposal, I have used 'design knowledge' which resides in the process of design, and in the products themselves.

This is reflected in my choice of wool as a raw material. Understanding that wool is biodegradable, as well as naturally flame resistant, durable and highly resilient.¹² This knowledge has fed my notion of 'mending' as more than an applied repair. To me mending refers to a series of informed decisions, such as selecting a suitable material that fits with my ethos of 'Material Throughput'.¹³ This system considers how naturally occurring materials decompose at the end of the cycle of production and use.

Using felted wool ensures that at the end of the products lifecycle the user can dispose of this in their compost bins or back yards as natural matting, and it will decompose into natural 'matter.' An attribute that designer and maker of Felt Coffins, Yuli Somme¹⁴ makes use of in the creation of her burial shrouds. Her company 'Bellacouche' offers an ecological alternative choice to people aware of the need to reduce our carbon footprint. As an ideation designer, and maker with an expanded notion of what it means to 'mend' I too design, make, unmake and remake, and am interested in the notion of *renewed* products that reduce our impact on the Earth.

12

Ruth Lane, *The Complete Photo Guide to Felting* (Minneapolis: Quarto Publishing, 2012). P11.

13

A linear System measuring the full stages of material processes and use; from raw extraction state to consumer use and to disposal as waste or natural biodegradability. Bonne Zabatloney, P27.

14

Michel, G. M., and Y. A. Lee. "Cloth(Ing) for the Dead: Case Study of Three Designers' Green Burial Practices." *Fashion and Textiles* 4, no. 1, December 01, 2017.



Fig.5

Aesthetics: Expressive Mediums

Ben Highmore recognizes “aesthetic experience is vital to everyday life.” Highmore suggests like *anaesthetic* that “befuddles and dulls us, causing us not to feel pain or pleasure,” a lack of aesthetic is dulling to the senses, that aesthetics is our “connectivity to a world of things and other people; our responsiveness to a world of feelings.”¹⁵

The design research I have undertaken into felted wool has led to the creation of *carry* bags. These bags represent my desire to engage in a visual and tactile sensory form of ‘mending’, as a response to the need for environmental and sociological considerations I believe are a necessary, ethical requirement of being a Product Designer in the 21st Century. The bags are also, an exploration of design process, that has, for me, over the decades become typically intuitive.¹⁶

Nigel Cross states that designers use form materials as tools to express thoughts, to signify their motives. An underlying aspect of my design practice, is the use of drawing to facilitate sensory-thinking through ideation. ‘Drawing’ with wool reinforces Douglas and Isherwood’s,¹⁷ notion of sensory ‘two-way transmissions.’ The wool responds to the haptic act of making, the structure of its fibre makes it a wonderful drawing materials – a soft response material, which enables colour and form to coalesce.

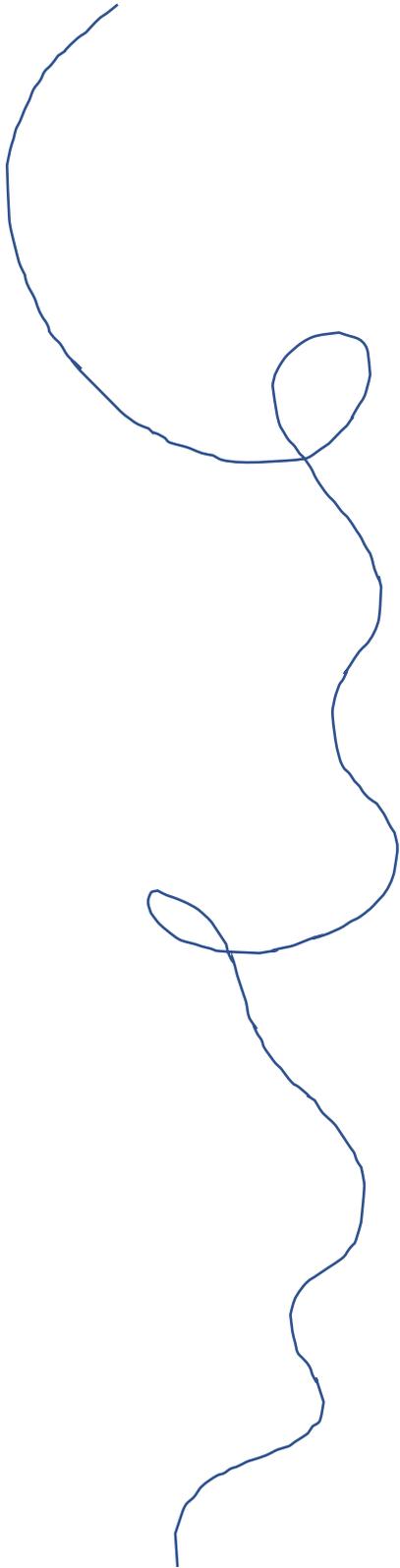
¹⁵
Bonne Zabatloney, P21

¹⁶
Two much quoted design process researchers Bryan Lawson and Nigel Cross say that this common of many Designers. P8.

¹⁷
Found by Nigel Cross in “Designerly ways of Knowing,’ p9.



Fig.6



Academic Gabriela Goldschmidt,¹⁸ suggests drawing can be understood as a 'dialect' to document thoughts, to assist in the 'reflective' evaluation, of similarities, and differences, and to render a translation in the form of an idea. The word Aesthetics, like Design and Mend, are nouns (object, physical forms) and adjectives (action). I have been using Aesthetics in its adjective form to reflect on my design process and thinking. However, effects, and affects are cyclical. One informs the other, and is mirrored/repeated throughout the act of creating. Drawing with wool, using felt loom, washing machine, hand felting needles, required manipulating colour, surface, pattern, and texture, to explore both material and sensory communication.

Nigel Cross expresses the idea that our choices of material, the forms we conceive and the finishes we apply are embodied into our products.¹⁹ I agree but think there are also invisible values that are easily used, misused, unacknowledged, or ignored in the creation of products. An example is plastic bags, the 'worth' of ease and convenience, of low costs and competitive edge, fail to take into account the invisible issues of long term environmental degradation.



Fig.7

¹⁸
Quoted by Nigel
Cross, p85.

¹⁹
Nigel Cross, P9.

Susan Freinkel's book "Plastic: a toxic love story" highlights humans' infatuation with plastics. She dedicates a whole chapter to plastic bags.²⁰ The plastic bag was created by Sweden inventor Sven Thulin, who patented designs for bags out of plastic in 1962. The plastic bag has now reached iconic status. Freinkel reminds us that it is an engineering (and design) feat. The bag is made from the thinnest sheet of plastic, an item fit for purpose, its single use status ensures its ultimate disposability – requiring greater consumption.

Zabatloney's opinion describes this type of product as part of a hegemonic view of products, that the idea of consumption, and waste are "simply common sense (so) ...go unchallenged and unidentified."²¹ My research has concentrated on presenting wool as a good candidate for environmental 'mending.' The notion of Material Throughput, outlined by Zabatloney provides a means to think about the flow of materials from raw extraction, through processing, manufacturing, consumer use, and then end state. While I acknowledge there are environmental issues with intensive farming practices, sustainable farming practices can negate some of the impacts of sheep on the land. In New Zealand wool is almost a unused by product of sheep meat production, the reason for this is the global uptake of synthetic fibres to manufacture clothes, carpets and furnishing. However, wool especially felted wool has a myriad of uses and wool itself has numerous natural properties absent from its synthetics equivalent.

²⁰ Susan Freinkel, *Plastic: A Toxic Love Story*, (Boston Houghton Mifflin Harcourt, 2011), AUT Library Catalogue. P197.

²¹ Bonne Zabatloney, P24.



Fig.8

Idea of mending: Waste Not Want

There are some amongst us who do not dispose of their excess, or waste, instead they accumulate them in their homes, creating a personal landfill. Bennett makes a vital point when she declares that “Society is organized to conceal waste.”²² Likewise, I would contend that society is organized to overlook its dependency on excess. Through this research I have questioned the definition of the word ‘waste’, as it asserts that objects have or can have no other function than the one they were designed for. I contend that we could view some forms of waste, as an opportunity. The notions of mending and making do, may derive from a British World War One Government Campaign²³ – but they encapsulate attitudes to objects that have existed for much longer. Saving and repairing, reusing and repurposing can be creative acts not just frugal ones. The products I have made, a series of bags and other carrying and protective items, have been designed with the attitude that the things I design should embody a mending ethos, that responds to humankind’s impact on the environment. By exploring possible solutions that heal, remedy and make-do, I have developed a method of working that privileges haptic and sensory engagement. My aim in answering my research question has been to seek opportunities, to equip myself and others with knowledge about how to choose carefully, repair, restore and re-make.

22

Vera List Center, “Jane Bennett - Powers of the Hoard: Artistry and Agency in a World of Vibrant Matter,” September 25, 2011. <https://Vimeo.com/29535247>. Paper presented at the centre’s focus on “Thingness” during 2011-2013.

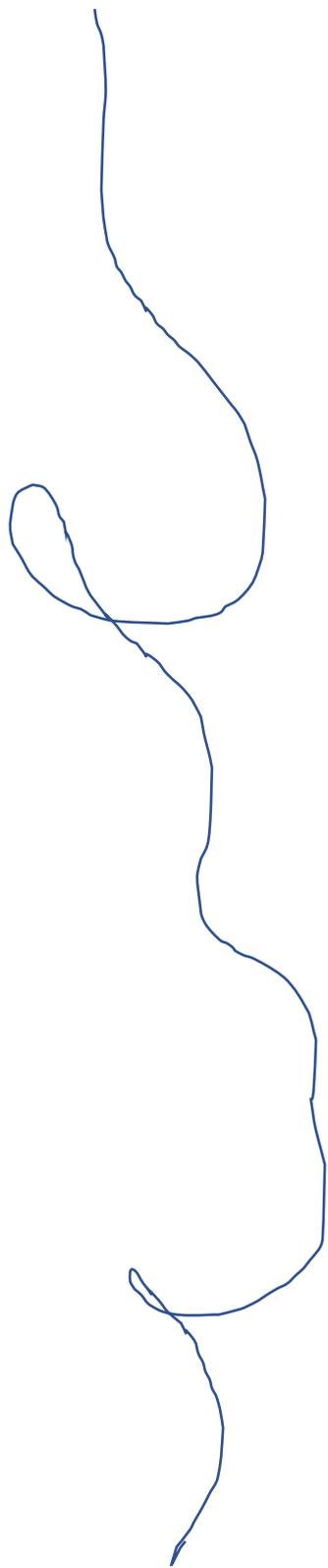
23

A ‘Make Do and Mend’ Campaign established through pamphlets, posters, magazines and Public Information films. Magali An Berthon, “Make Do and Mend: The Art of Repair,” (blog), January 3, 2017, <https://www.cooperhewitt.org/2017/01/03/make-do-and-mend-the-art-of-repair/>

An Interwoven Methodology

Guided by my insight into the felting process where components; material, water and detergent, merge to create material forms, the methodological approach adopted in this research fuses an expanded view of the terms 'Mending' and 'Drawing'. Combined conceptually and haptically these practices underpin my design awareness. I am aiming to mend our shared environment by *drawing* tacitly on my knowledge in the creation of products that embody the texture and feel of my understanding.

Fig.9



Mending

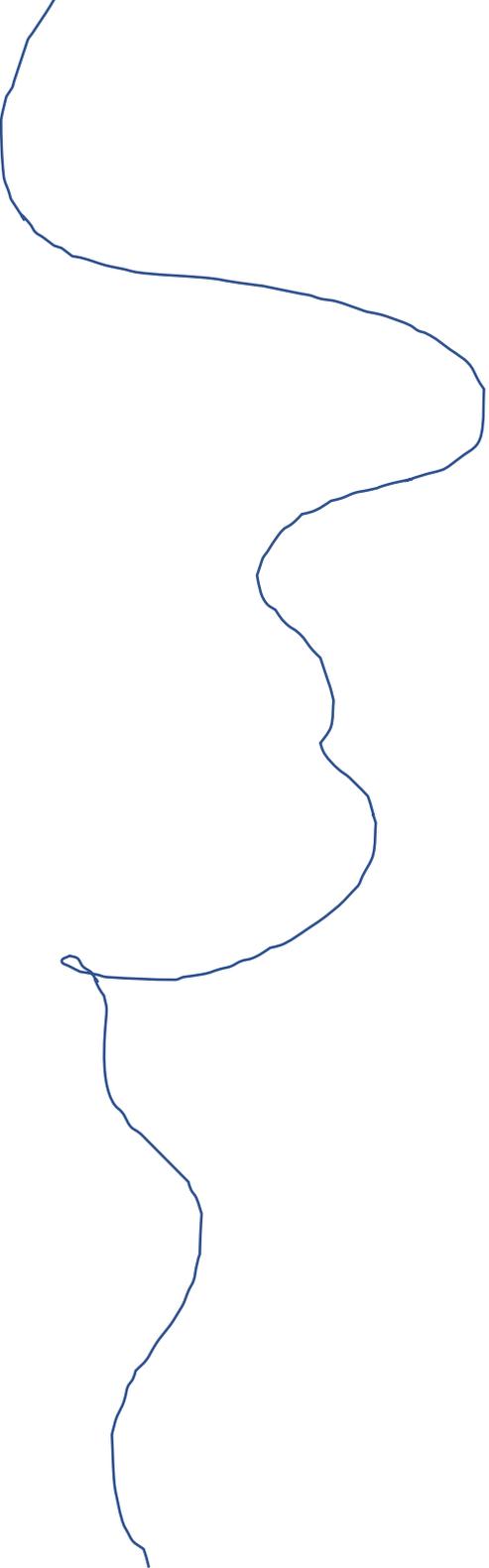
'Mending' indicates an intention; its purpose is to engage in the act of developing new or enhanced uses for objects, systems, entities, environments and organisations. Social ecology Designer Ezio Manzini observed that today's human social population fall into two groups. Those that carry on regardless, not recognising any limits to this planet's resources, and those that see and comprehend the issues and are investigating approaches to address them.²⁴

I have positioned mending as a methodological approach because it emphasises ideation as a strategy for repair. My designs evidence different strands of practice woven together through an ideating process that aims to produce thoughtful products. This methodology enables me to conceptualise making as an act of mending (Re-thinking, patience, renewing, considering, and taking time). It also allows me to encourage others who think similarly and to motivate action. My interest in mending stems from a practice-based approach that favours unmaking and re-making existing products, and through understanding ideation as a prompt for change, that embraces a wider sociological and ecological context.

²⁴

Ezio Manzini, *Design, When Everybody Design: An Introduction to Design for Social Innovation* (Cambridge, MA; The MIT Press, 2015), P2.

Drawing



Alongside mending, is a haptic²⁵ approach to making that I recognise as *drawing*. This approach allows me to explore the tactility of materials and objects, and to think through touch; as an embodied experience. The haptic nature of drawing enables me to physically understanding through the interplay of making and thinking. Drawing as a methodology brings together; tacit knowledge²⁶ and understanding composed of visual and tactile cues made manifest through my hands. Making produces a kinesthetic build-up of information. Muscle memory enables heuristic knowledge²⁷ from decades of experience, to shape ideation processes. Drawing as a method acknowledges intuition and expertise as shaping my decision-making.

²⁵

This is the amalgamation of tactile (sensory from skin) and kinesthesia
Lynette A. Jones, *Haptics* (Cambridge, MA: The MIT Press, 2018), P5.

²⁶

'knowing more, than we are able to tell'
Micheal Polanyi, *The Tacit Dimension* (Gloucester, MA: Peter Smith, 1983), p4.

²⁷

Linking implicit 'knowing more than we can tell' and intuition



Interweaving Mending and Drawing

Through my process of ideation mending and drawing interweave. By combining mending and drawing in one overarching methodological framework, I can re-make. It is a process underpinned by a belief that design can be harnessed to improve, restore, redevelop, or transform the environmental problems we face.

This methodological framework empowers me to trust that together, out of the materials and my hands something joyfully practical will emerge.

Methods

This exegesis focuses on a case study of one of the design outcomes from my research. This approach has enabled me to explore how the two methodologies interweave and how the varying practices I integrate into my design philosophy.

Mending-Ideating as a Design Process – a heuristic²⁸ approach to research

Through ideation I instigate change. Ideation is both a thinking and making that I use to generate material exploration, product understanding and testing, system development and decision-making. This process has become intuitive; I carry out the ideation process instinctively, occasionally stopping to reflect on what I have done. I then record the processes and decisions I have made.²⁹

²⁸

Linking implicit 'knowing more than we can tell' and intuition?
Moustakas

²⁹

Nigel Cross states this is common for practising designers to have difficulty explaining their practice. P8.



Fig.10. Front and back view of hand drawn 'marbling' effect using dyed wool slivers on undyed wool batting. June 2019.

I use observation³⁰ as a starting point. Gathering information, such as visual cues from old drawings and readings (in both the noun and verb form) to discover and realise new directions. Thinking also emerges from my observations. I search for clues and traces of ideas. In work selected for this case study, I drew on older works, drawings of reflections in water and marbles. Part of observation is also 'seeing' and documenting, to do this, I often use photography.

I 'mull' over my observations, turning them around, viewing them from different angles and differing perspectives, this heuristic questioning allows me to consider 'what if scenarios.'

I then apply other design elements such as values, intentions, material, purpose, and sensory communication. Often I depict these processes using diagrams (mainly mind maps), sketching and writing in analogue and digital notebooks and blogs. I record my process, this enables a greater understanding of my ideation processes.

³⁰

It is also noun and verb. I enact both, by documenting what I see.

Fig.11. Graphite pencil drawing of reflections in a silverware object at V&A museum. 1985-1987.





Fig.12. A different perspective of the washing machine felted, felt Loom felted , and hand 'drawn' wool slivers. Laying out the irregular yarns to stimulate ideas by observation and change of sensory communication.

Mending-Ideating describes a 'slow'³¹ approach to practice, which is considered and requires a willingness to take-time, be patient, heal with understanding and re-think design.

³¹

Kim Johnstone, "Make it slow...." *Slow Making*, March 01, 2014, <http://slowmaking.blogspot.com/>

2. Felt as Mending – Constructivism³²

Felting as social purpose. Felting as mending can address real-world issues, its history dates back centuries, yet the traces of it left on the Earth are few. Wool-felting has fallen from widespread use since the 1950s.³³ Felting is a technique that refers to the interlocking of woollen fibres as a natural unique³⁴ way to produce a fabric. Traditionally felt was hand made without the need for specialist technologies.³⁵ However, I also explored using the mechanised Felt Loom to investigate whether there were possibilities for larger-scale production. Rather than becoming a primary method for felt production, the industrial Felt Loom became an explorative tool for drawing with wool.

³²

Thomas M. Duffy and David H Jonassen. *Constructivism and the Technology of Instruction: A Conversation*. City: Routledge, 2013.

³³

Bill Carter and John MacGibbon. *Wool: A History of New Zealand's Wool Industry*. (Wellington: Ngaio Press, 2003), P180.

³⁴

Other fibres can be added to wool in the Felt Loom, others natural and synthetic fibres are woven or knitted.

³⁵

Stephanie Bunn

This is indicated throughout the book, with insights into the local methods of different countries and cultures of society, still practicing this ancient method of fabric making.

I used wool batting and slivers to draw/cut curving lines etched in my mind from my observations.

Felting too produces an intriguing visual aesthetic. Highly textural and sculptural, the type of felting employed and the the process used, can also provide a see-through 'x-ray' like quality.

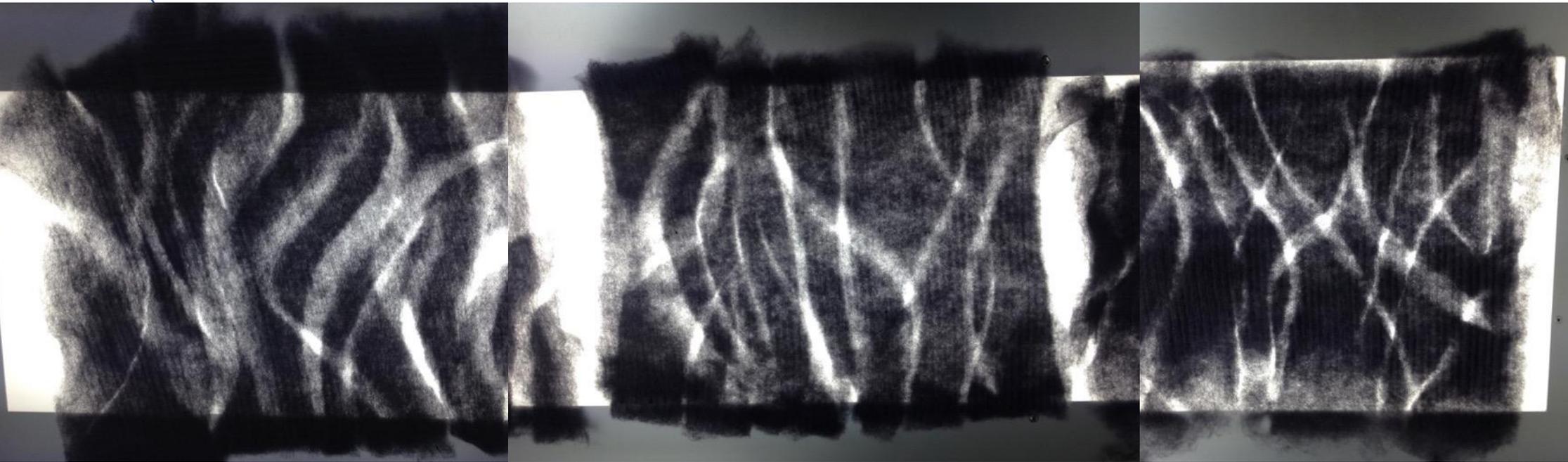


Fig.13. Wool batting with incision patterns 'drawn' with scissors, felt loom felted and photographed laid on 'lightbox' for alternative view of aesthetics.

3. A Washing Machine- as drawing tool

Over time, I developed a felting technique that used my washing machine. This process enabled me to play with the materials and make discoveries I could not have anticipated. Some of the issues I confronted were size shrinkages, the need for props such as net bags, to guide and shape the desired forms of the raw shapes. I tested a range of containers and old synthetic³⁶ garments to create and stop the felt from fusing to itself, plus stuffing - often clothes that need washing. I trialled coffee bags as a ground onto which the felt could adhere. Each iteration produced unexpected outcomes often densely matted; there were an unusual assortment of insect or plant-like shapes and 'bobbly' textures.

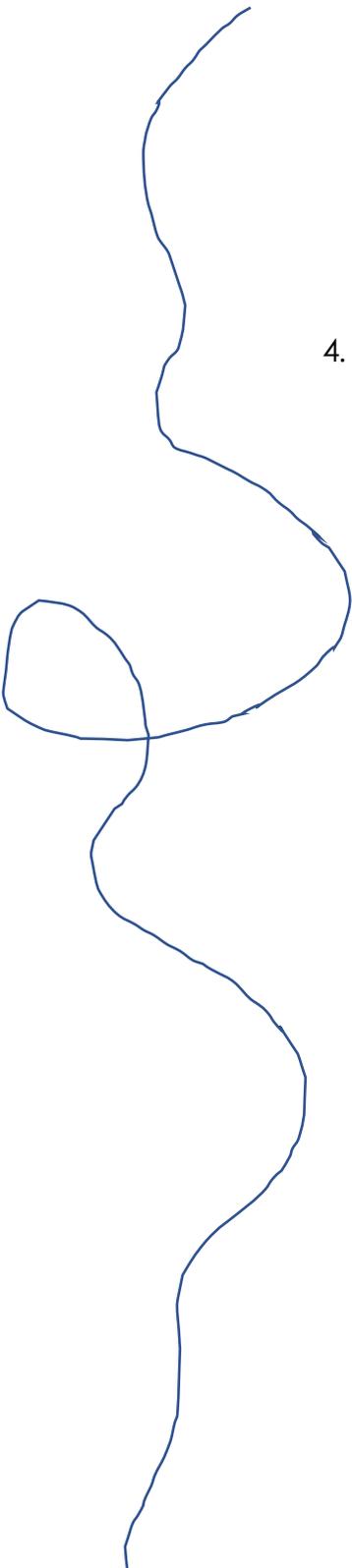
³⁶

Bill Carter and John MacGibbon, p187.
I used a polyester garment, it is a petroleum based chemicals yarn, and fabric.



Fig.14..

4. *Mind Maps – visual and narrative methods*



Although unfamiliar to me at the beginning of my research, mindmaps have become an essential part of my making/reflection process. I moved gradually from analogue to digital ways to map my ideas. Mind maps have become a means to analyse, document, and sort my thoughts and facilitate an understanding of my practice and research. As a tool for visualising information³⁷ they have enabled me to translate the complex relationships taking place. Between my ideation process, my research into how wool could be *mending* material and my developing knowledge. Mind maps became knowledge clouds – where I could think about relationships and develop a radial rather than a linear way of thinking.

³⁷

Ingemar Svantesson, *Mind mapping & Memory: Powerful Techniques to Help You Make Better use of your Brain* (Auckland: Swan Communications, 1989), P9.

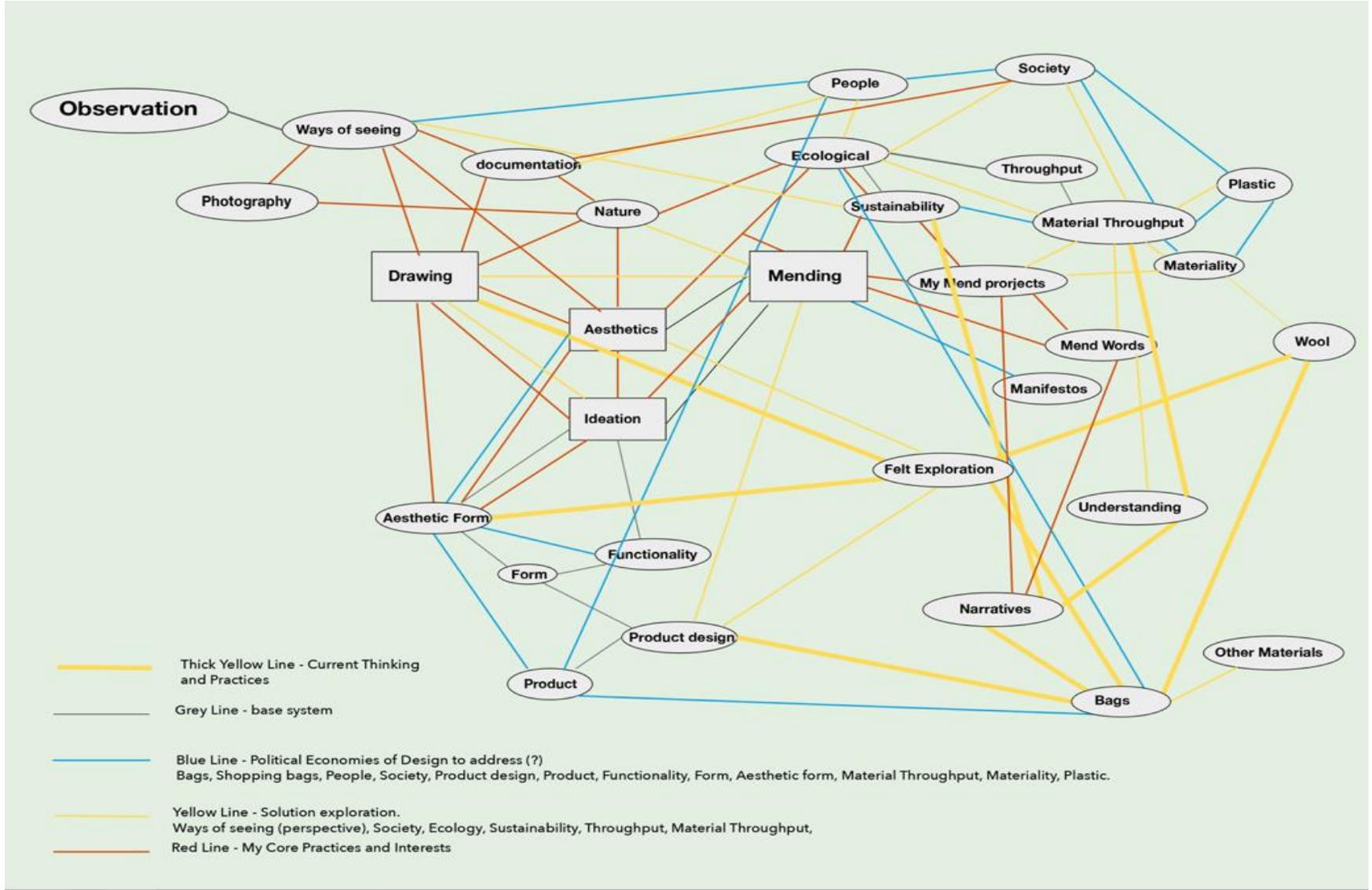


Fig.15. One of many analogue and digital Mind maps to help me sort, organise, see and think from various perspectives.

Mending by

Observations in an Ideation Process.

My 'bags' are physical tactile and visual representations of my Thinking in my Design Practice, and the elements within Design, that I have identified as possible areas for addressing environment sustainability in this arena: Material in Throughput, Aesthetics, Ideation and Mending.

They are also depictions of my Design process that I use to form my Aesthetics, to aid Ideation, and to manipulate material.

Nigel Cross describes the 'object knowledge'³⁸ integral to design practice, as the ability to perceive and communicate through the design and making processes.

³⁸
Nigel Cross, *Designerly Ways of Knowing*,
(London: Springer, 2006), p9

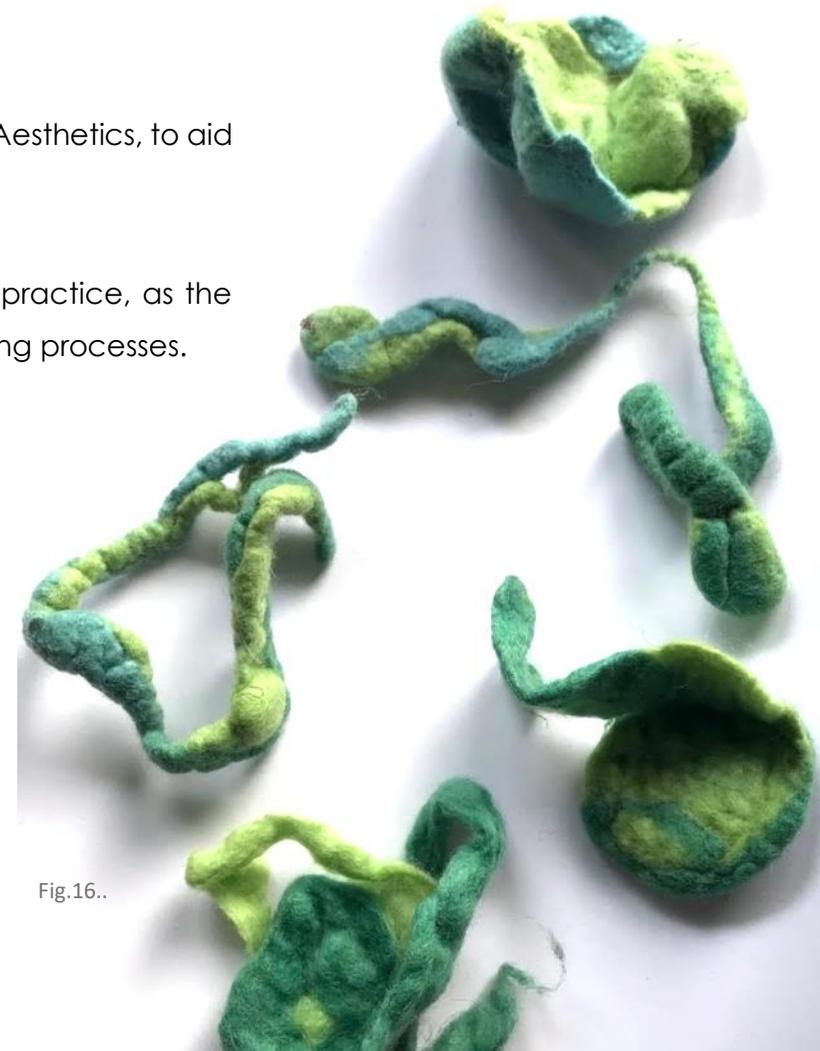


Fig.16..

I present this 'bag' as a tactile and visual representation of my knowledge.

It is not only man-made/ designed items that reveal themselves in their form or constitution. Everything, natural or man-made communicates something to those observant enough to notice. Jane Bennett, in her book *Vibrant Matter*³⁹ describes this communication with 'things' as important to the process of confronting ecological issues. She instructs us to pay attention to all forms of human cultural 'materialism,' and to our relationships with things.⁴⁰

The bag presented in this exegesis, like all bags, tells a story. A predominantly visual and tactile tale. This narrative explains my process, ideas and intentions.

39

Jane Bennett, *Vibrant Matter : A Political Ecology of Things*. (Durham: Duke University Press, 2010).

40

Vera List Center, "Jane Bennett - Powers of the Hoard: Artistry and Agency in a World of Vibrant Matter," September 25, 2011. <https://vimeo.com/29535247>. Paper presented at the centre's focus on "Thingness" during 2011-2013.

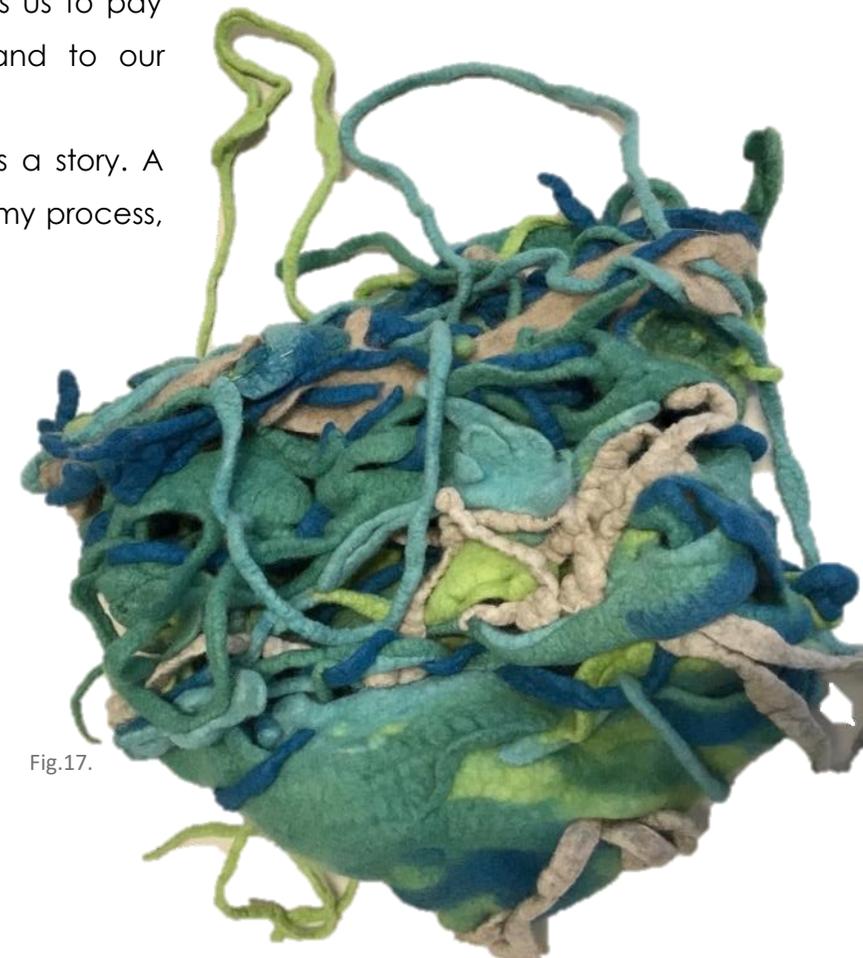


Fig.17.

I think Roger Bernstein states the obvious, commenting about debates over paper bags versus plastic bags, declaring “people have carried things from millennia without the aid of plastic or paper bags.”⁴¹

Evidence of this is recorded in an exhibition catalogue (1985)⁴² showcasing lacquered baskets from China. The baskets, being exhibited, date from 5000b.c. and were from early Neolithic sites in Banpo village in the Shaanxi province, of China. The catalogue describes the arrangement of the baskets on display, as following “a moral order” of aesthetics. This moral order referred to the value and status of the materials the artefacts were made out of.⁴³ Beginning with “the practical and plain,” they became “ornate and ostentatious,” and finally, those considered “phoney” because they were made from metal wire, and not bamboo.⁴⁴

This reading made me reflect on how my material decisions and if the construct methods I had chosen would communicate my values and concerns to the viewer?

⁴¹ Roger Bernstein from, America Chemistry Council, commenting on the debates on of both plastic bags and paper bags, quoted in Susan Freinkel, *Plastic: A Toxic Love Story*, (Boston Houghton Mifflin Harcourt, 2011), AUT Library Catalogue. P228.

⁴² Catalogue found in the Auckland War Memorial Museum library, written by James C.Y. Watt, *The Sumptuous Basket: Chinese lacquer with basketry panels*, exhibition China Institute in America, in New York, in March 30 - June 3, 1985.

⁴³ In page 18 -19, an insight into the early existence of a divide in functionality versus democracy and status, is disclosed by a narrative of the opinions of the economic production of the more ornate and expensive lacquered baskets at the time. They were considered ‘luxury’ items, and comments by prudent economists in the Han period 206b.c. – 8 A.D. criticised the worth of these objects, remarking that the labour would have been better spent on making more of the practical “basic productions.”

⁴⁴ James C.Y. Watt, P11

Calling attention to aesthetics, Bonne Zabatloney ⁴⁵ points to some key consideration: sensory aesthetics, material throughput, the need to understanding our own design behaviours, and to situate Design within its own knowledge system. To address these things, it is important to align personal design practices with contemporary politics, economics, and social, environmental issues.

⁴⁵
Bonne Zabatloney, p26

My research, therefore, starts with my concern for the planet.

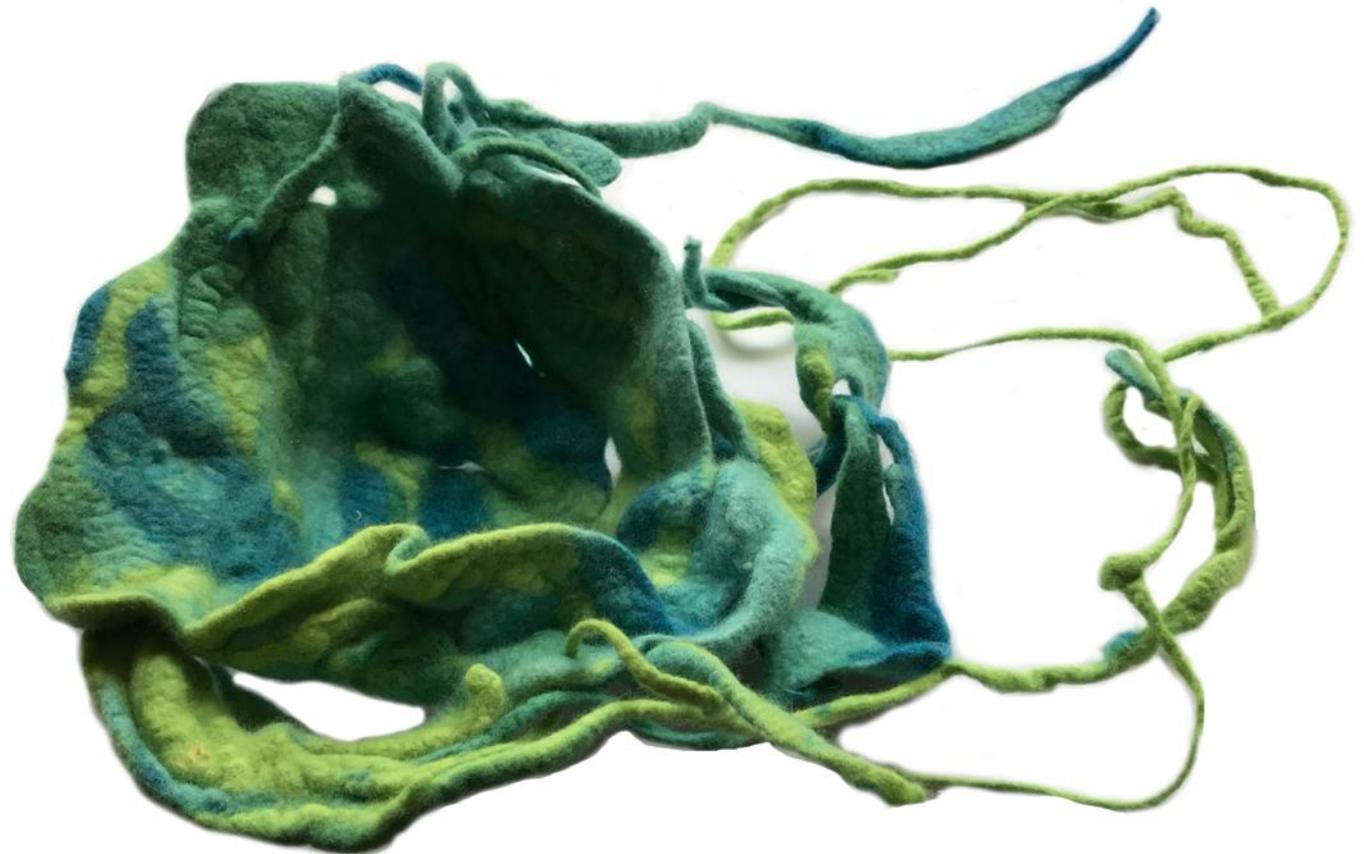


Fig.18.

Mending

Mending, in the traditional sense, means sewing to repair, making visible and invisible ⁴⁶mends. In my search for meanings of change, I discovered a wealth of information on practitioners, ⁴⁷ activities, ⁴⁸ organisations, ⁴⁹and businesses⁵⁰ who exemplify this method of Mending within the context of undertaking and promoting practices aligned to environmental and social sustainability.

These communities of people practising, discussing⁵¹ and talking about 'mending' affirmed my research trajectory. I also realised that there were gaps in this understanding of mending. Such as an environmental and social ethos that impact how designers could approach making new products. A conceptual notion of mending that focuses on awareness and thoughtfulness.

How then, might one 'mend' something new?



Fig.19.

⁴⁵ Rain Desisle, "Denim repair restoration and custom tailoring," Indigo proof, 2019, <https://www.indigoproof.com/>.

⁴⁷ Pippa Gray owns a repair shop in St Day, Cornwall, UK. Source **Newspaper**

⁴⁸ Trips out on a boat made from recycled plastic at London Docklands, UK.

Trewin Restorick, "Hubbub launches world's first recycled plastic boat," Hubbub, accessed June 2018, <https://www.hubbub.org.uk/blog/hubbub-launches-worlds-first-recycled-plastic-boat>

⁴⁹ Website and organisation of advice, news, and guidance for anyone wishing to action 'Mending.' Platform 21, Zandschulp, Klasien van de. "Platform 21." <http://www.platform21.nl/page/133/en.html>

⁵⁰ The Great Sewing Bee, a British reality television programme, featuring sewing competitors, and instruction, available online on video platform. <https://www.youtube.com/playlist?list=PLcZoqvBks42MQ8nR00kzbvf6TxfSOi54P>

⁵¹ Prolific researcher on various themes of mending. Alison Gwilt, "What Prevents People Repairing Clothes?: An Investigation into Community-Based Approaches to Sustainable Product Service Systems for Clothing Repair." *Making Futures Journal*, 3 (2014 Date): pages.

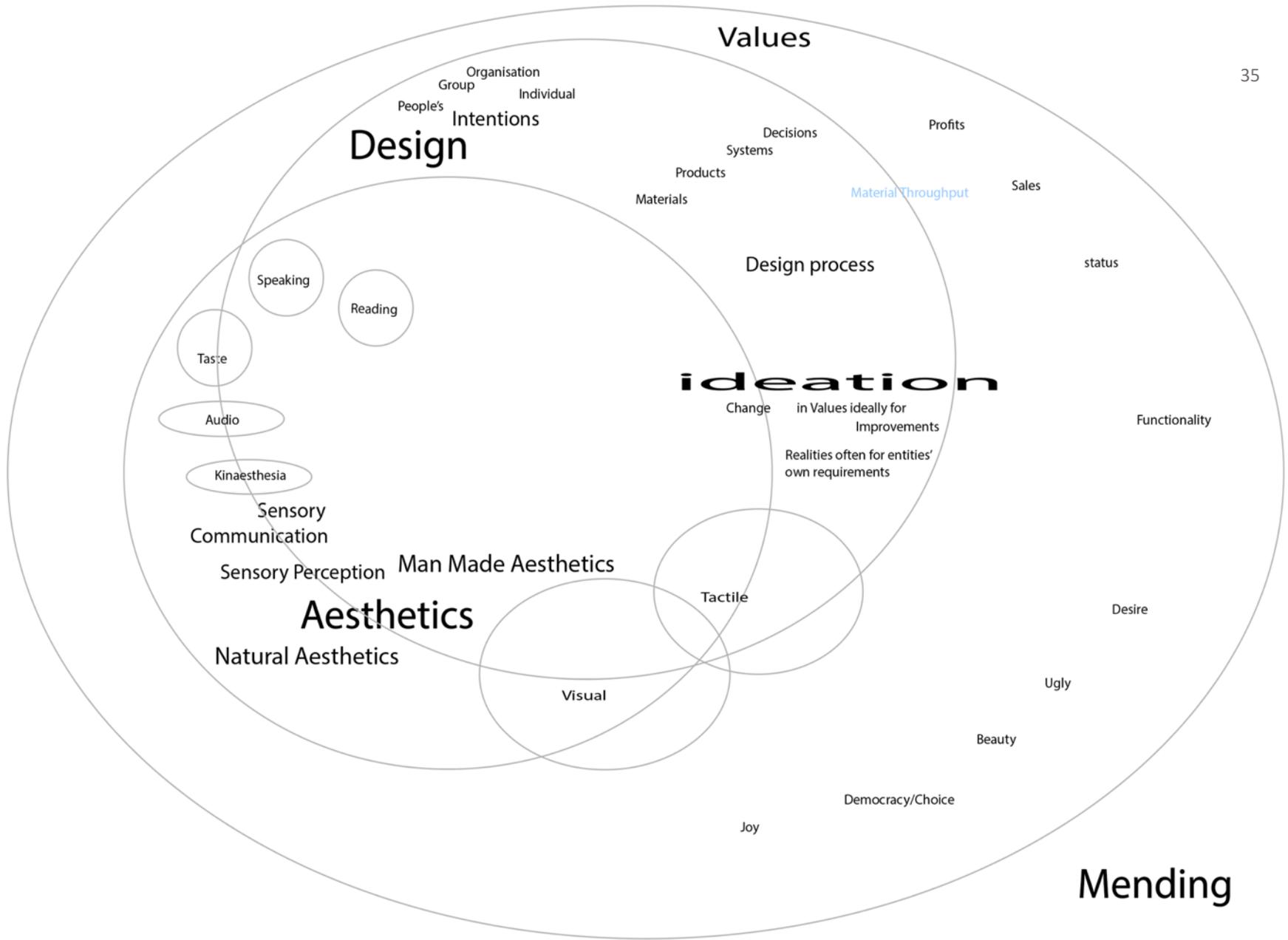


Fig.20. Radial 'mind mapping' / Venn diagram to sort my thinking on how all my readings on differing views or specific values, aesthetics, Ideation, in design function together, and embodies mending. U. Mowatt.

For me, ideation is a process that effects change. Through ideating, I have endeavoured to create artefacts that respond to my personal beliefs and values – it shapes my decision-making process. Ideation requires intuition and understanding, as well as material knowledge. Drawing is a key technique for ideating. The actions and haptic exploration becomes a dialogue with the 'self' and between myself and the elements of my design. I am creating a physical form of my thoughts - 2D sketches, 3D paper models, analogue or digital writing, making objects, or drawing diagrams, they all 'speak' to me, and about me, as a designer. Forming ideas and concepts in the heuristic manner allows me to move in new directions; to the next phase, backwards and forwards across methods.



Fig.21. Top right. Early exploration of wool sliver drawing prior to Felt Loom needle felting. April 2018.



Fig.22. Below right. Same piece after Felt Loom needle felting, photographed to emphasise three dimensional textures.

The Marble Bag exemplifies the physical and conceptual 'conversations' that have unfolded using my interweaving methodology, Mending and Drawing.

Making the marble bag began with thinking about some 'marble drawings' from my archive of old work. I have long been intrigued by the form of marbles. The 'Cat's Eye' marbles always have what appears to be sections or ribbons of colour 'frozen' in a spherical clear glass casing. These droplets, like stilled *time*, blur when rolled fast enough. This melding of colours was what I want my wool slivers to look like when felted, it made me reflect on how could be formed.

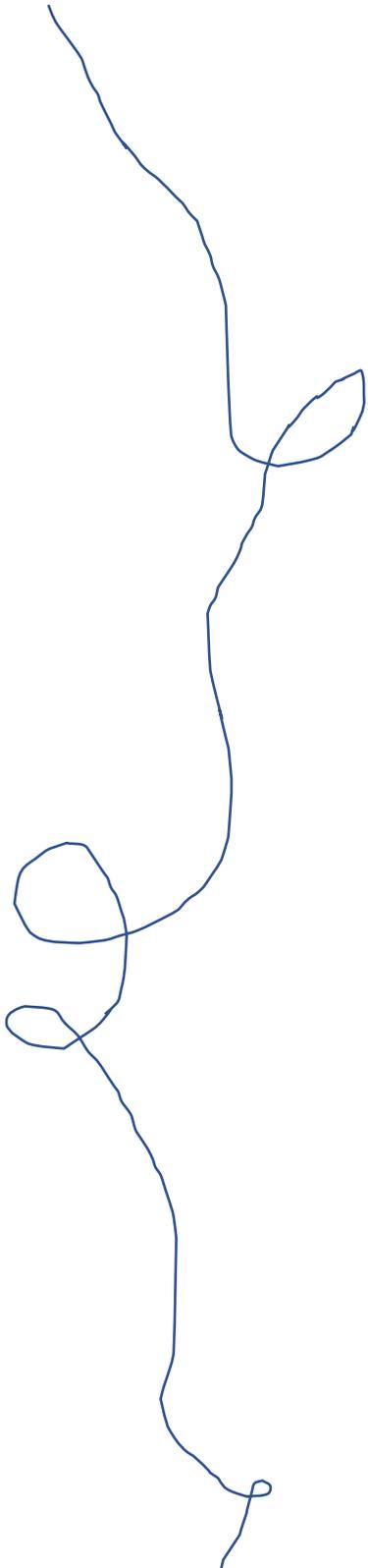
Fig.23



Fig.25



Fig.24



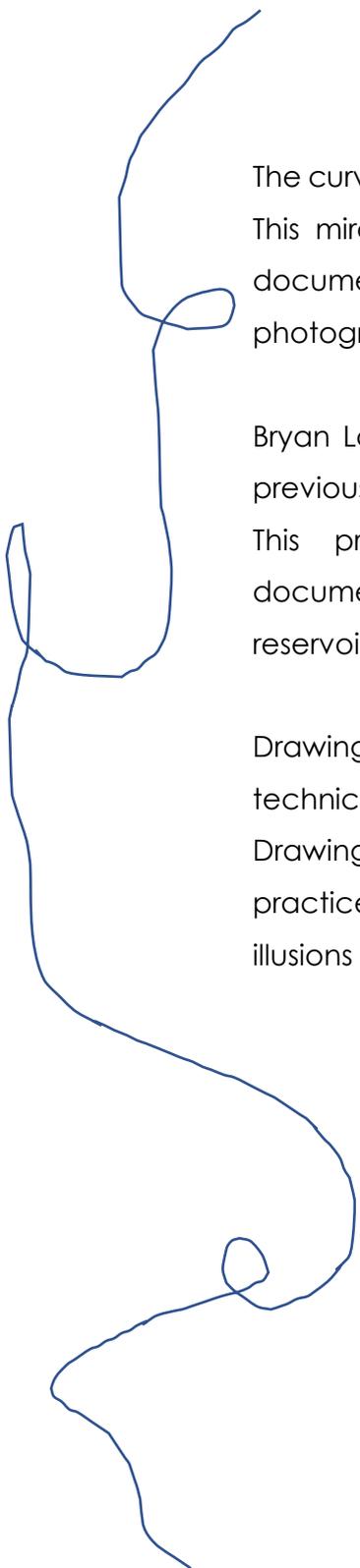
The curved 's' shapes inside glass marbles add to the illusion of movement. This mirage influenced my observation of reflections in water. I had documented water and its reflective surfaces extensively using photography, pencil, and gouache.

Bryan Lawson noticed that professional designers habitually retain their previous work (usually in forms of sketchbooks) as reference materials.⁵² This propensity highlights the importance of observation and documentation for designers, who enjoy equipping themselves with a reservoir of images for later use or reference

Drawing the 'marble bag' did not mean drawing its form as a way to technically illustrate its dimensions and look, but as an embodied action. Drawing in this instance refers to a visual, tactile and kinaesthetic design practice, using wool, my hands and a felt loom to physically form the illusions of moving ribbons of colour.

⁵²

Bryan Lawson, *How Designers Think: The design process demystified*, 4th ed. (Abingdon: Routledge, 2005), P300.



The colours I chose were based on my haptic experience formed by decades of archiving reference photo images of observations, of plants, reflections in water, flowers, captivating patterns formed in natural environments. I selected the pre-dyed colours closest to some fragments of the sea and of leaves in springtime. Two prominent colours from our Earth

In his book about Green Aesthetics, under the title 'Visions of Earth'⁵³ Lance Hosey details the journey of America's race to the moon. A profound impact on those first astronauts was their view of Earth from outer space. The photo by Jack Schmitt of Earth is titled 'Blue Marble.'

⁵³
Lance Hosey, *The Shape of Green: Aesthetics, Ecology, and Design*. (Washington: Island Press, 2012), p167 -177.

Fig.27. Illustration of 'wool earth' image inspired by the photo image of 'Blue marble' Earth, composed of two photographs of dyed wool slivers.

Fig. 28. Apollo 17 View of Earth. Nasa, accessed 2 September 2019, <http://spaceflight.nasa.gov/gallery/images/apollo/apollo17/html/as17-148-22727.html>

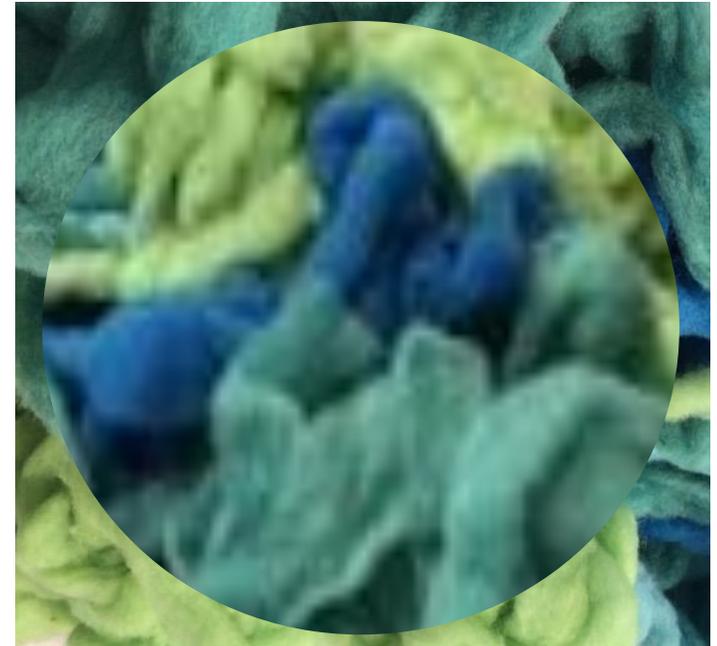


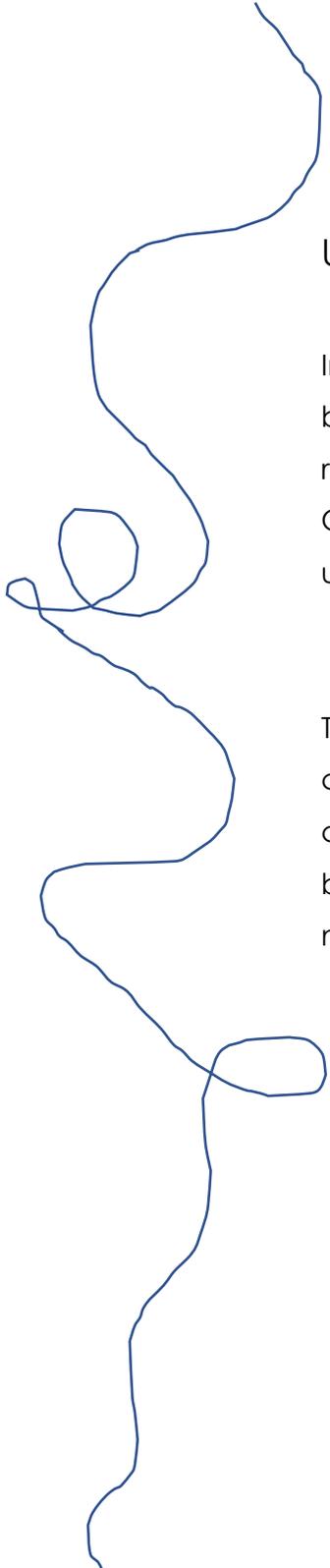
Fig.26

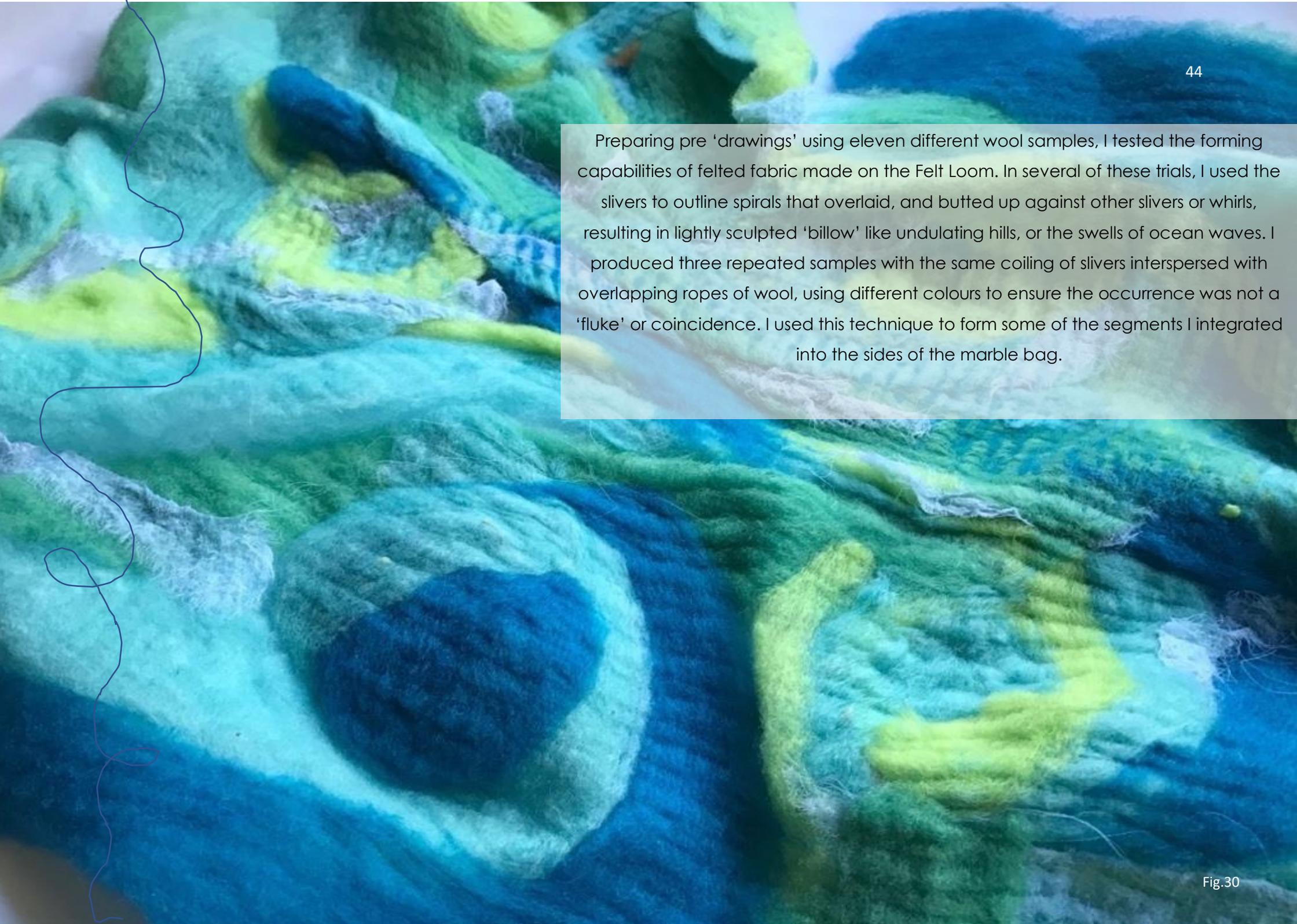
Understanding and enacting - form in yarns and bags

In the haptic process of 'drawing', forming the curling and wavy contours of the bag, I found I instinctively knew how much tension was needed to tease the rounded gauge of the wool slivers into the shapes I wanted.

Creating the folded basket-like structure required visually researching folded forms used to make bags and baskets, online and of those I owned.

There were various frameworks, some in a radial formation, spiralling out from a centre outwards before curving up to form sides. Others were woven around a central 'spoke' configuration, and some were 'moulded' by crocheted out into a big coil. These observations, and the visual images determined my construction method.





Preparing pre 'drawings' using eleven different wool samples, I tested the forming capabilities of felted fabric made on the Felt Loom. In several of these trials, I used the slivers to outline spirals that overlaid, and butted up against other slivers or whirls, resulting in lightly sculpted 'billow' like undulating hills, or the swells of ocean waves. I produced three repeated samples with the same coiling of slivers interspersed with overlapping ropes of wool, using different colours to ensure the occurrence was not a 'fluke' or coincidence. I used this technique to form some of the segments I integrated into the sides of the marble bag.

The base was configured using the same 'drawing' method using spirals, but this time I coiled just one, single, very large 'vortex', inspired by the behaviour of water. The flattened form reminded me of ocean vortex's which, incidentally create great plastic gyres these are effectively rubbish dumped in that sea gets trapped by these vortexes, 'gathering' and 'grouping' into floating plastic islands.

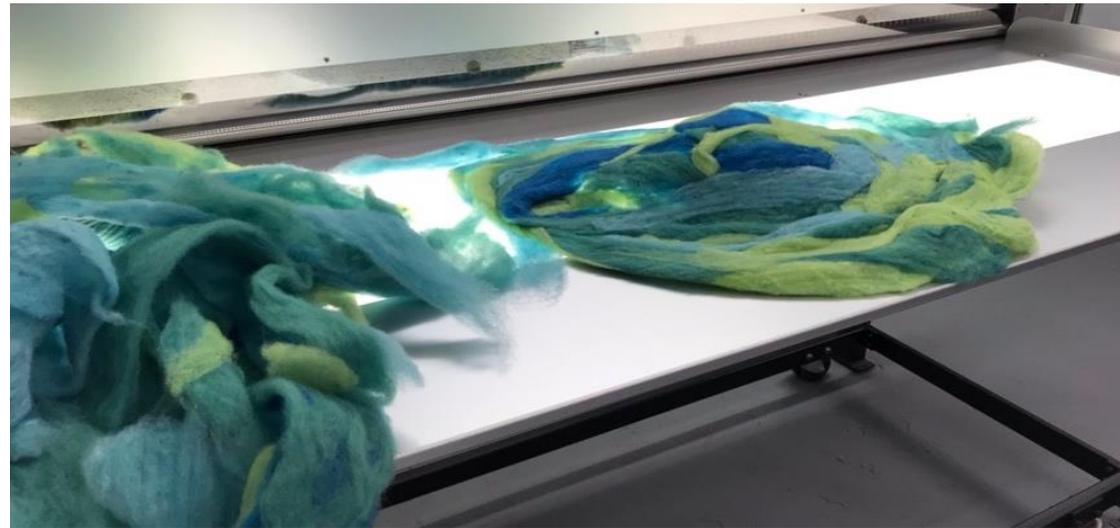
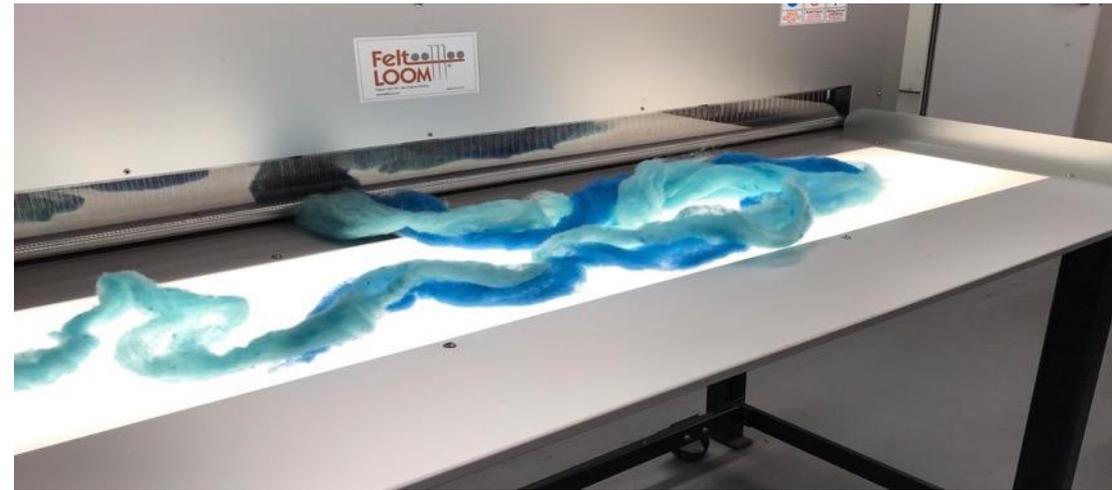


Fig.31. Top. felt Loom at Textile Design Lab (TDL), at Auckland University of Technology (AUT), needle felting hand drawn wool slivers to create the ribbons of colours.

Fig.32. Drawing the Vortex with Felt loom needle felted yarns. April 2019.

My ideation process and design ethos expressed through the Marble Bag

Making is for me, an expression of intentions and to an outsider, my practice may appear 'slow.'⁵⁴ This is understandable but viewed from a different perspective, slow practices can be understood as embodying contemplative values. Taking the requisite amount of time to make thoughtfully.

Taking time to ask "why we need more bags?"

⁵⁴ Kim Johnstone, "Make it slow...." *Slow Making*, March 01, 2014, <http://slowmaking.blogspot.com/>



Fig.33

Single-use plastic bags made from extremely thin plastic don't fully break down, they appear in the environment as microplastics or tiny particles which can be found in the stomachs of birds, sea animals, and fishes and well as in the sedimentary rocks on the ocean floor. Alternative, reusable shopping bags are often still made from plastics; polyester or nylon. In New Zealand, ⁵⁵ we have a lot of jute shopping bags. they hold a substantial amount of goods when filled with shopping and are heavy to carry and transport. This might not be a too greater problem when we are fit and healthy, but it may be for the older, the unwell or physically unable. What is needed is to take time, to do as Virginia Postrel suggests, make an 'aesthetic investments.'⁵⁶ This requires spending the necessary time and money on designing products that respond to ecological needs as well as human ones.

My bags are designed to decompose when placed as weed mat or mulch in the garden.

This content has been removed by the author of this thesis for copyright reasons.

⁵⁵

New Zealand banned plastic bags in July 2019.

⁵⁶

Virginia Postrel, p172.

Fig.34.

'Turtle with Net' | Francis Periz posted in blog post, Robert Frerck, "Powerful Images of plastic Pollution Go Viral," *Blue Ocean Network*(blog), accessed 2 September 2019, <https://blueocean.net/powerful-images-of-plastic-pollution-go-viral/>

Embodying Patience

After establishing that the Felt Loom would not felt in the manner desired for my 'drawn' aesthetics I was unsure how to move forward. In my quest for another way to make felt, I tried steam felting, which despite containing all the required components in water, friction and detergent (added separately) did not work. I was not able to control the temperature of clothes steamer, and the steam is dangerously scalding hot. Using existing technologies to test ideas, often means they are unfit for purpose. By necessity, tinkering became a key part of my ideation process.

Next, I used my open criss-cross metal base on my ironing board to provide friction, which worked well as I was able to fully felt a small 10cm piece of batting, but it was not suited to larger sized felt pieces, such as the base for the marble bag. I was left with contemplating two options traditional hand felting methods which are physically demanding or using my washing machine. This second option, whilst tricky to control, proved interesting.



Fig.35



Fig.36



Fig.37

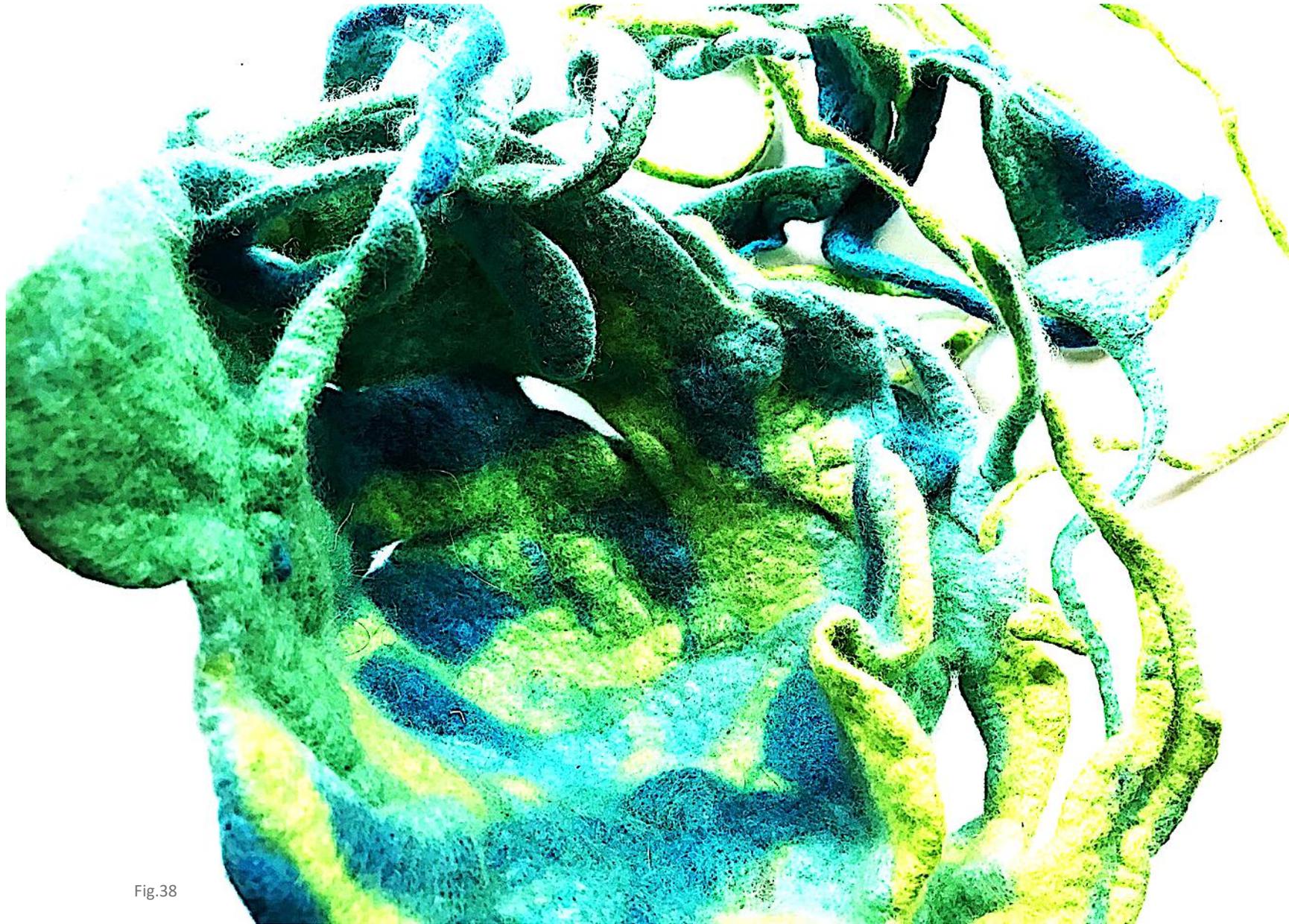
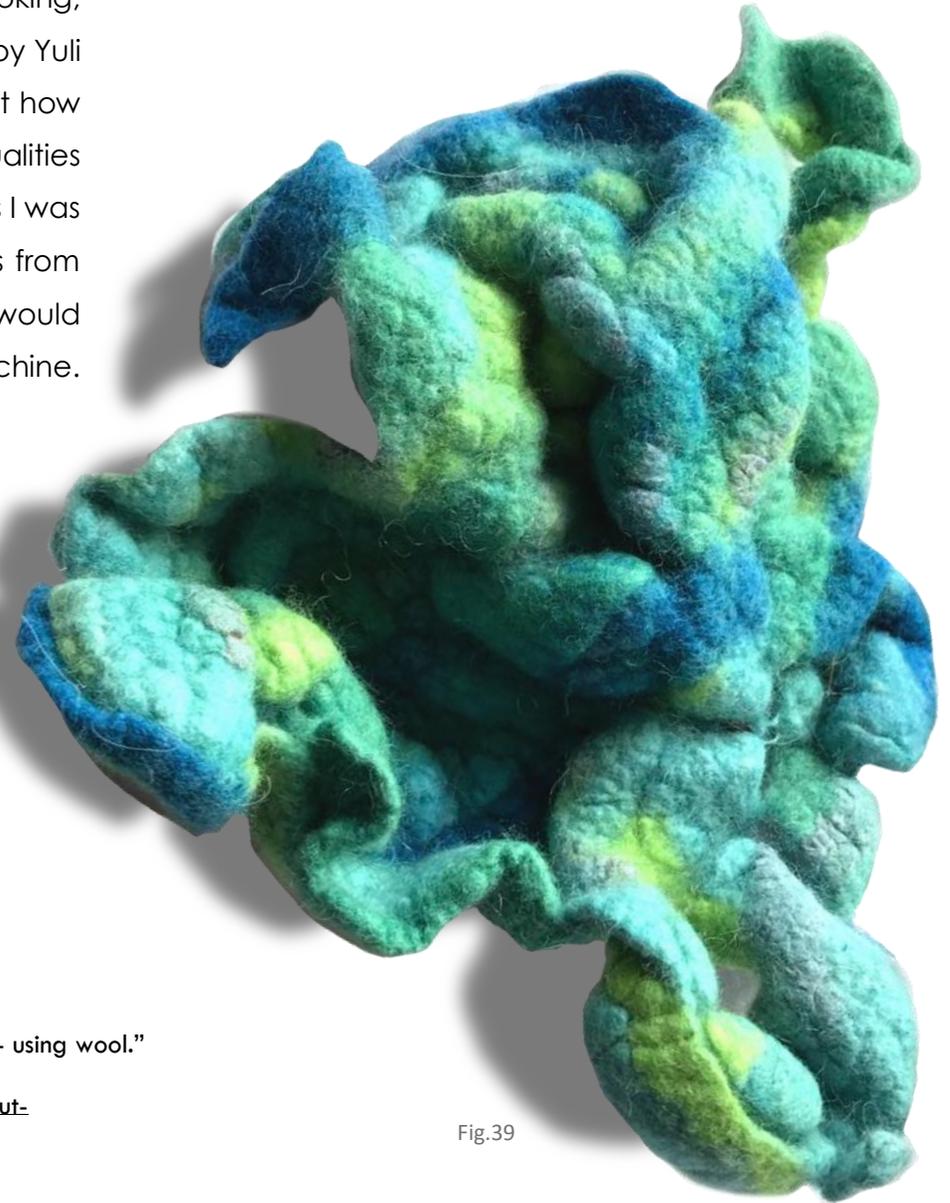


Fig.38

Re-thinking with a change in perspective, is the reiterating aspect of ideation, I find new information, tools and techniques by looking, reading about and talking to other designers. I was intrigued by Yuli Somme's Felt Coffin designs,⁵⁷ her work made me think about how wool is fully biodegradable, yet strong and resilient. These qualities were something I was looking for the bags and other products I was planning to make. Sometimes the shift in perspective comes from the materials used or the processes/tools. I never knew what would be produced when I made a piece of felt, with a washing machine.



57

Yuli Somme, "Bellacouche: Down to Earth - using wool." Bellacouche, accessed 7 April 2018. <https://bellacouche.com/yuli-somme/about-bellacouche-wool-felt-studio/>

Fig.39

All my bags required me to trust in the material to make something useable or intriguing to work with. There was no information to guide me as to how I was going to approach using a washing machine as a tool. Almost every time I put a wool item in, the results were a complete surprise.

The unusual transformations of the yarns and wool forms, after the washing machine felting method always produced astonishing results. Sometimes the surprise was also very challenging, requiring a new step to be developed in my 'mending' journey.



Fig.40

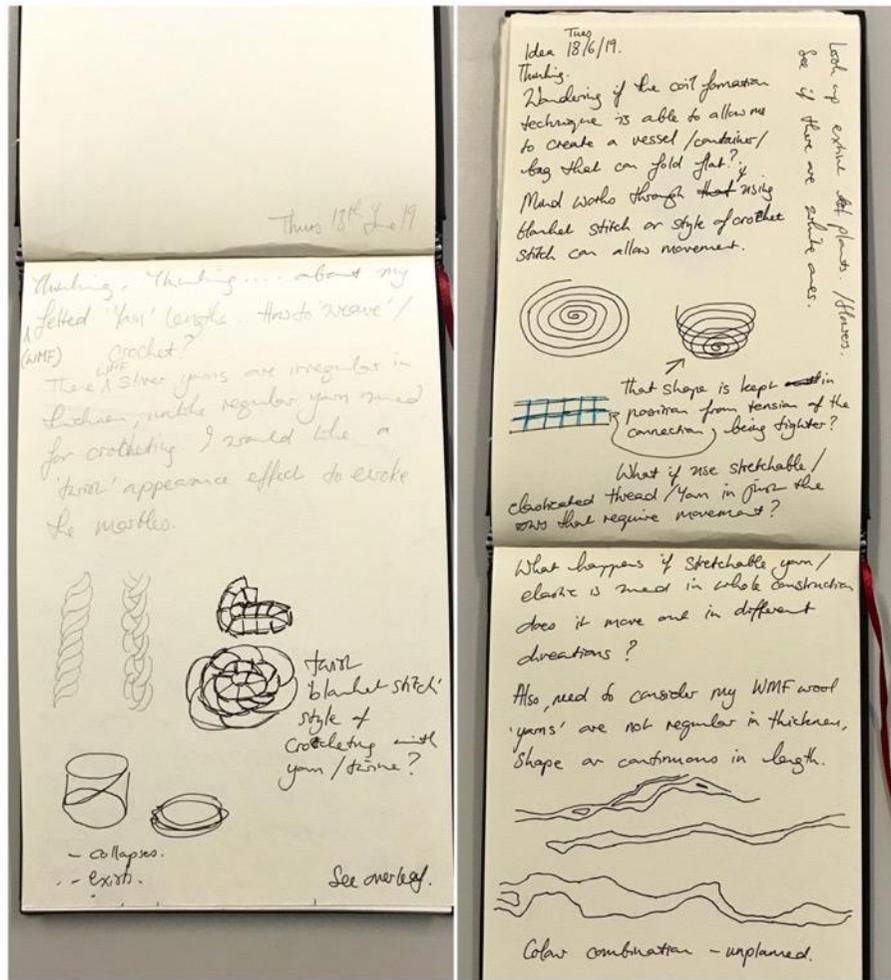


Fig.41. Sketchbook pages of thinking.

The Marble bag, as is most of my other prototype bags, are made from dyed wool. The wool I used for this particular bag came as slivers, while the other bags were made from varying size sheets of wool batting. This decision set this bag apart, as the yarn needed further thinking, batting is uniform and flat – slivers are not. The other bags made from sheets or parts of batting, formed as a whole shape, or nearly whole bag. Therefore they did not require too much re-construction after felting in the washing machine. Using slivers was quite different - how would I construct a form from them?

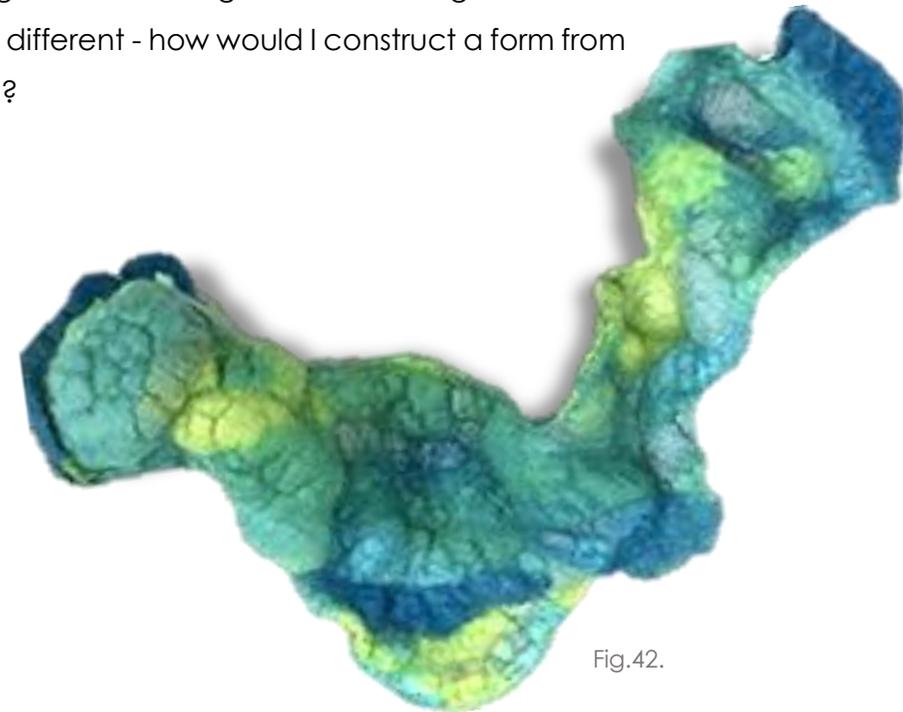


Fig.42.



Fig. 43. Top left. Observing to trial construction in to 'bag' form.

Fig. 44. Top centre. Interweaving the yarns.

Fig. 45. Top right. Crocheting construction using jute yarn.

Fig. 46. Below left. Plaiting.

Fig. 47. Below centre. Interweaving the yarns.

Fig. 48. Below right. More 'weaving' of the irregular yarns. June 2019.



Constructing baskets tends to require regular and uniform widths of material. I explored numerous methods of structural weaving but often had to undo them and reuse the materials. The techniques resulted with the yarns camouflaging their own distinctive 'twigs' and clustering contours, thus requiring another re-think on using basket forming techniques to form with.

Fig.49. Left. The yarns became too tangled soon after this photo was taken. Clusters of yarns prevented the yarns from being woven into gaps.

Fig. 50. Below. Unmaking, by undoing the woven section.



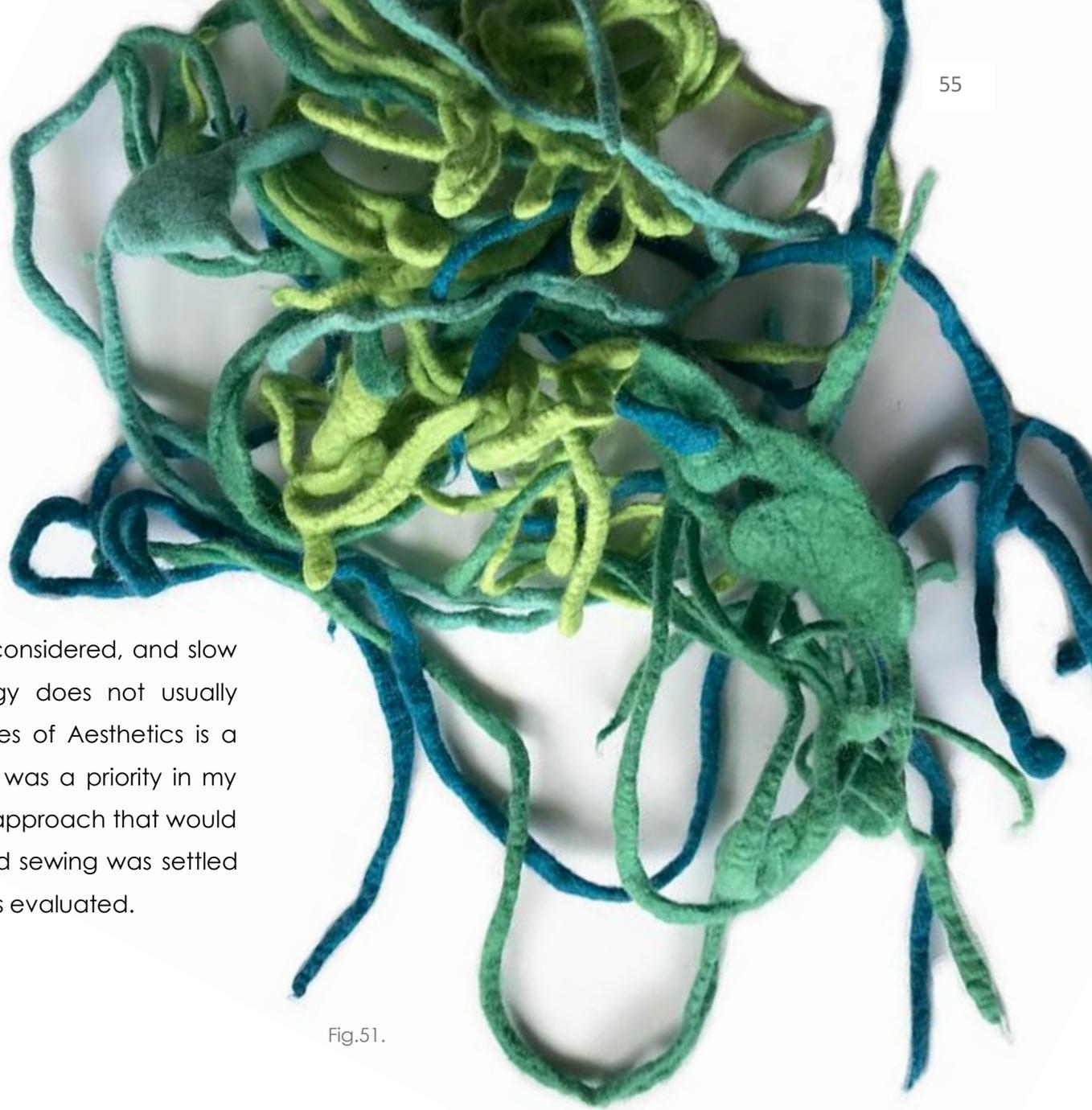


Fig.51.

I had not set out to advocate for a considered, and slow process of making, using technology does not usually conform to this purpose, still the issues of Aesthetics is a requisite to my explorations, and this was a priority in my considerations. My yarns required an approach that would exemplify this, and the option of hand sewing was settled after options of a sewing machine was evaluated.

If we are to consider mending as a methodology, I find that a different, and usually a historical perspective for insight of events, in their environment and social contexts of the time help situate the issues. In Susan Freinkel's book about Plastics, she informs us of the changes introduced in the 1950s, with a throw-away culture introduced⁵⁸ and publicised.⁵⁹ A 'Make Do and Mend' effort indoctrinated during World War II, was supplanted with the new idealism of a convenient 'throw away' lifestyle of plastic goods and packaging.

58

Susan Freinkel, p166.

There are many poignant accounts in Susan Freinkel's book about Humans' relationship with Plastics. One in particular, informs the reader how the generation who emerged from the War with attitudes to reuse, (from the World War efforts and campaigns to conserve material resources). Needed to be educated to dispose of the plastic cups supplied by coffee machines, because they were washing, saving, and reusing them.

59

Susan Freinkel. P166.

Cover of 'Life' magazine and article.

56



Fig. 52.Left. "Drawing the yarns to 'see' differently. Looking at length and pattern making.



Fig. 53. Centre. Observing the unusual shapes and traits of the yarns



Fig. 54. Right Seeing 'nodules' and branching in the yarns.

Johan Hadberg's research⁶⁰ provides valuable dates of events in the history of shopping bags in Sweden, providing evidence of the 'herd behaviour' Pamela Yeow et al,⁶¹ identifies as a pattern of our behaviour in society, that has enabled plastic bags to grow from inception in 1962, to the figures of billions produced and used today.



Fig. 55. Tools for sewing. July 2019.

⁶⁰

Johan Hagberg, "Agencing Practices: A Historical Exploration of Shopping Bags." *Consumption, Markets & Culture* 19, no. 1 (2016): 111-32.
<http://dx.doi.org/10.1080/10253866.2015.1067200>.

⁶¹

Pamela Yeow, Alison Dean, and Danielle Tucker. "Bags for Life: The Embedding of Ethical Consumerism." *Journal of Business Ethics* 125, no. 1 (2014): 87-99.
<http://dx.doi.org/10.1007/s10551-013-1900-2>.

Today numerous sources estimate the number at 8 billion plastic bags are still being used annually despite multiple initiatives to stop their use.⁶² In my search for an answer, I came across a paper by Pamela Yeow, et al.⁶³ That identifies certain patterns of social behaviour, for example, the 'attitude-behaviour gap,' that highlights the gap that exists between consumers' action and what they say or claim that they do. As well as Abhijit V. Banjee's model of 'herd behaviour,' which refers to how people learn from and conform to the behaviours of others.⁶⁴

⁶²

The World Counts, accessed 19 September, 2019.

http://www.theworldcounts.com/counters/waste_pollution_facts/plastic_bags_used_per_year

⁶³

Pamela Yeow, Alison Dean, and Danielle Tucker. "Bags for Life: The Embedding of Ethical Consumerism." *Journal of Business Ethics* 125, no. 1 (2014): 87-99.

<http://dx.doi.org/10.1007/s10551-013-1900-2>.

⁶⁴

Synthia Ishrat Jahan, and Kabir Shafquat, "An Investigation of Consumer Attitudes Towards New Varieties of Shopping Bags: Exploring Eco-Awareness and the Possibility of Behavior Change." no. 5 (2015): 183.

<http://dx.doi.org/10.1353/jda.2015.0062>.

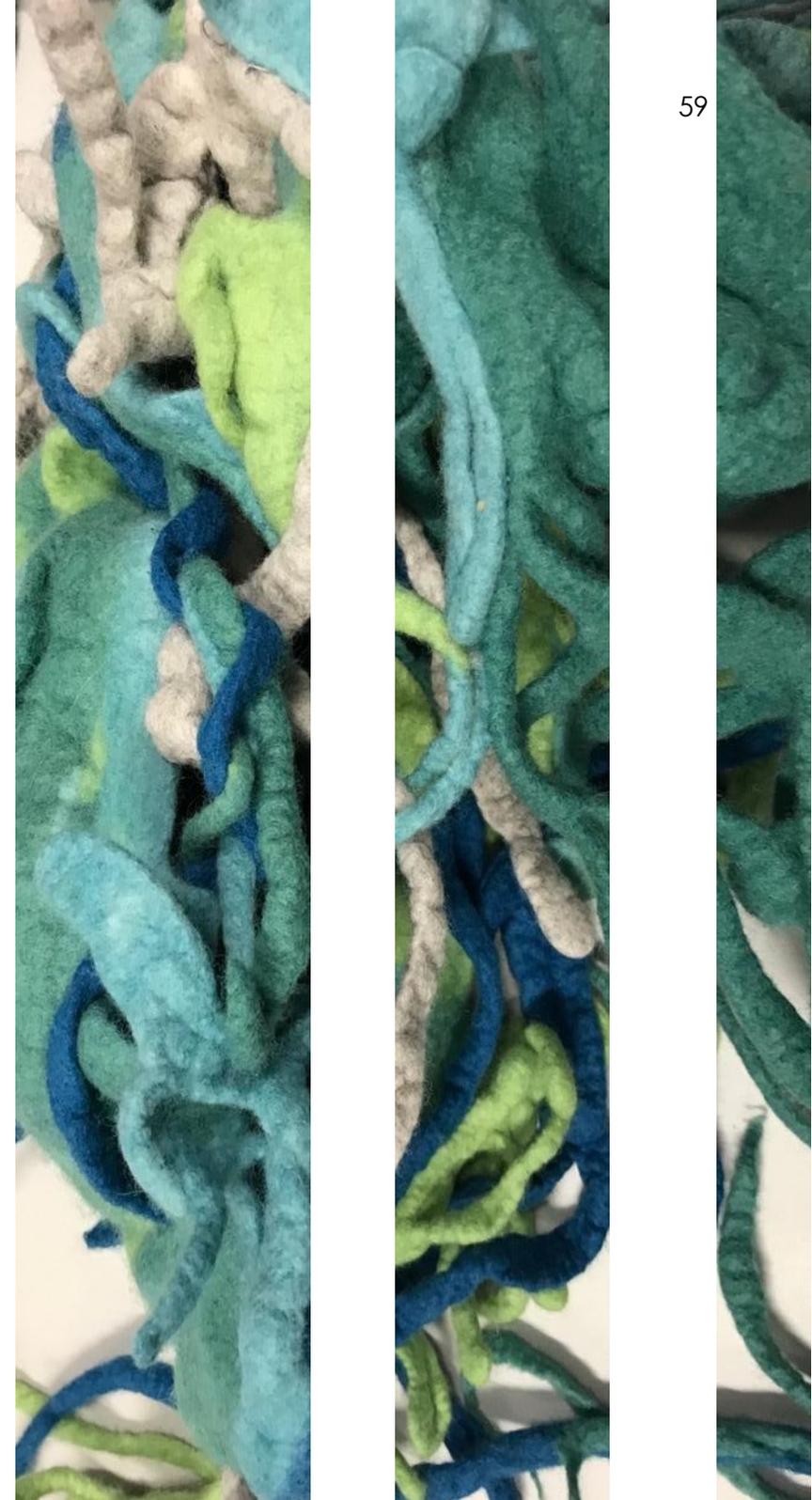


Fig.56. Spreading the yarn lengths out.

Researchers Synthia Ishrat Jahan and Kabir Shafquats' suggest that the 'attitude-behaviour gap,' and Banjeree's 'herd behaviour' are the reasons why the plastic bag ban, first introduced in Bangladesh in 2000, was a failure. Their results and analysis makes disappointing reading, they even identify deliberate acts of resistance to the ban.

In the ten years since the ban in Bangladesh, there has been no significant or obvious improvement to the situation of plastic bag pollution. In part, this is due to a lack of committed participation in enforcing the ban by governing bodies. I had to wonder what will happen here? The ban on single-use plastic bags introduced by the New Zealand Government, has not yet stopped supermarkets from offering single-use fruit and vegetable bags, or from putting fish or seafood in single use plastic packaging.

Fig.57



How then, as a designer, could I address the practical issues, as well as overcome entrenched human behaviours? The bag I designed had to be *functional*, it had to be carrying food. Yet I wanted it to be *personalised*, so that it would not be left behind.



Fig. 58. Top. Pinning 'drawn' sections into place.....

Fig. 59. Below.before stab stitching

My marble bag is an exploration into the substance and communication of its aesthetics. I have made it this way because I wanted to keep the aesthetic irregular and to emphasize the shapes of the yarns. This enhances the unique aspect of its appearance.

I make objects that produce the sensation, Designer Ingrid Fetel Lee writes about, namely 'Joy.' I agree with Ingrid, and think, it is a vital aesthetic value, that does not necessarily have to be demonstrated by the physical and surface elements – the look of the object. The value of Joy can also be generated through functionality, through the process of making, and ideation.



Fig.60

This unique bag is 'bespoke,' and in a manner 'ostentatiousness', it is made in a manner and of a material no longer considered economical – however, wool and the time it has taken to produce, are both commodities that reinforce its value.

Perhaps this bag could be viewed as impractical? Again this depends on the perspective of the beholder, maybe the time is right for re-thinking practicality?

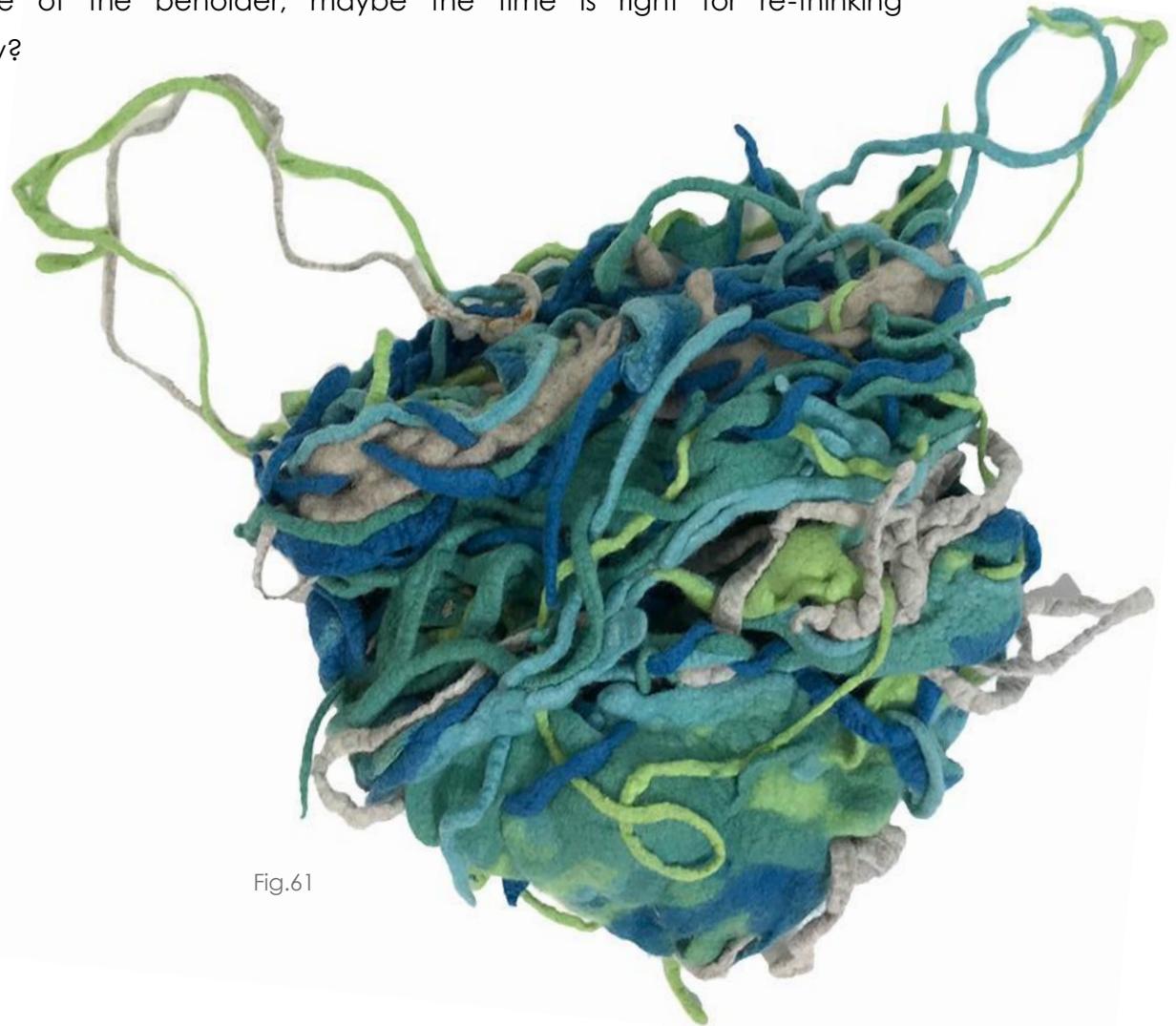
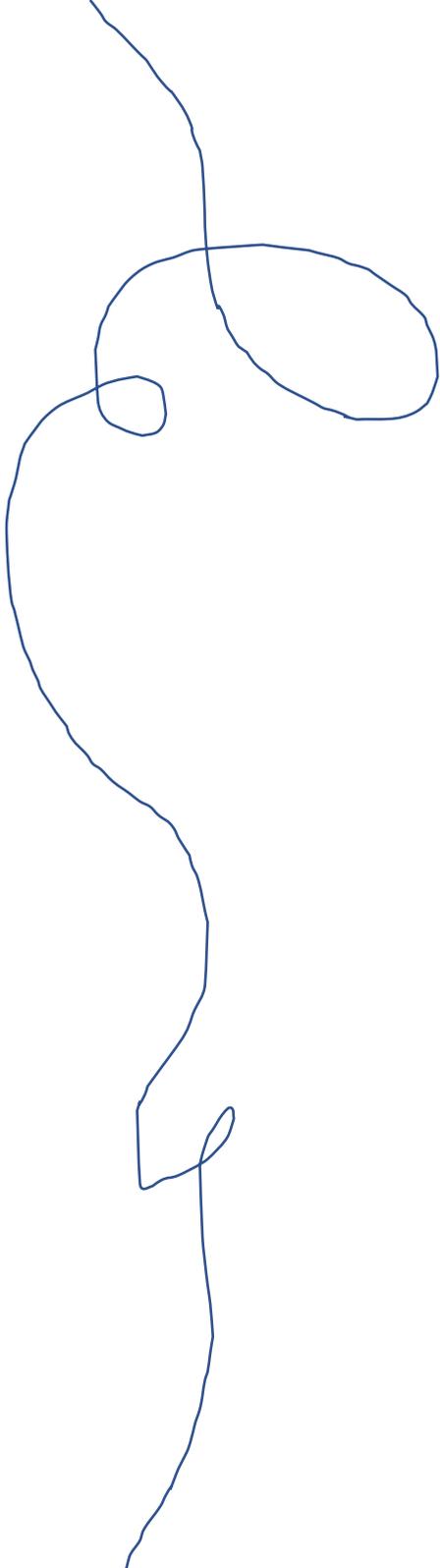


Fig.61



Conclusion

In this project, I have explored the capacity for mending using design, beginning with an analysis of the material throughput of wool as a material. Analysing key elements of my design process I have recognised how ideation, informed by a desire for change, can be used to produce sensory communication. A consideration of aesthetics in design, combined with the values of time through slow-making, have resulted in products that embody care and joy.

The bags I have produced in my master's research all demonstrate a focus on particular beliefs and concerns about the environment. The *marble bag*, used as an example in this exegesis, has been through the most number of process, culminating in a contemplated method of construction. This bag represents my making/thinking practice the most.

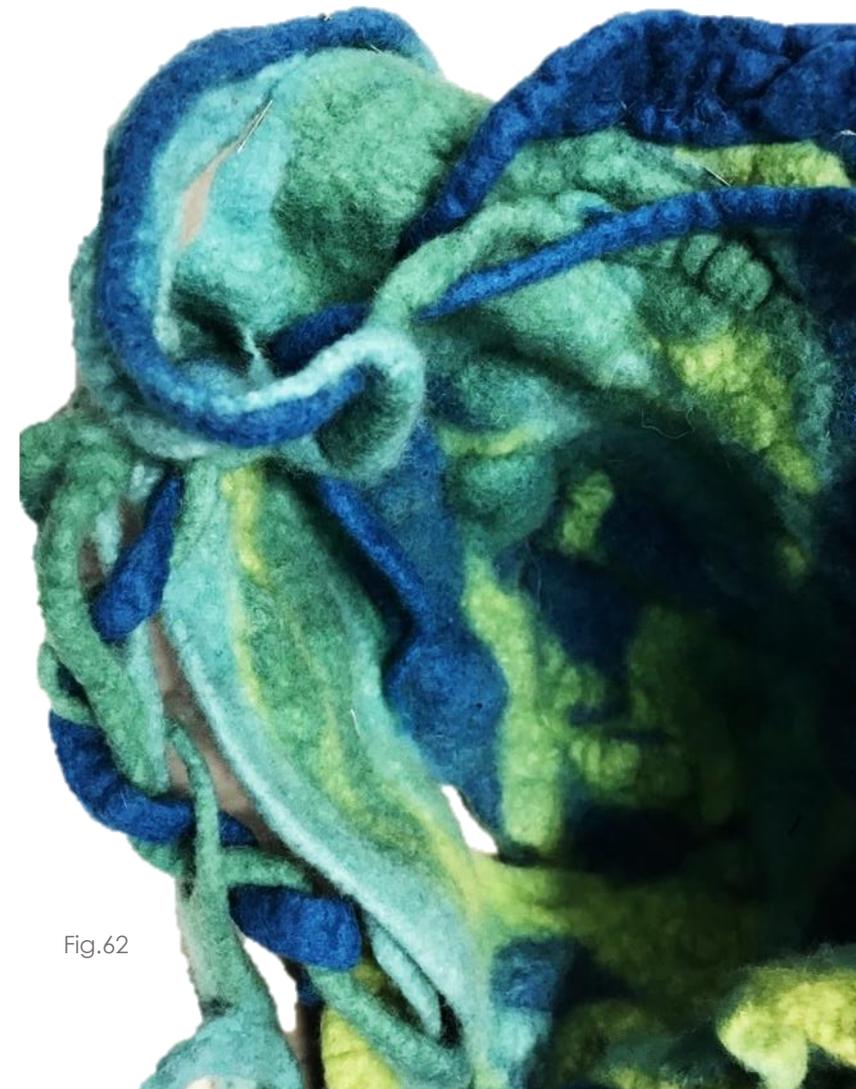
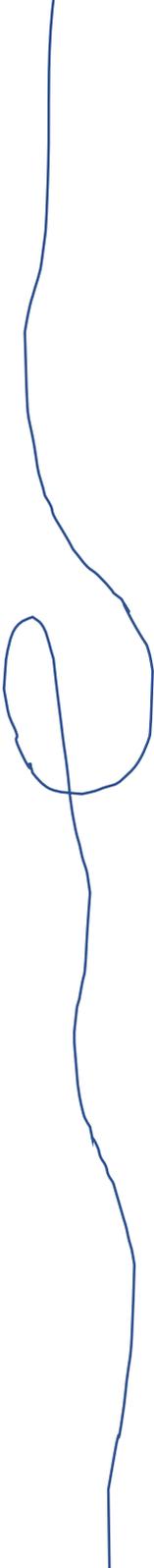


Fig.62



In these bags I have also explored personality, our propensity to personalise artefacts to meet our own requirements, to suit our preference, in function, value and appearance. These choices are reflected in the output 'narrative' that, as the Designer, I have created through material choice, the tools with which I make and the objects final form. The multitude of decisions in the colours, patterns, or non-patterned textures, form, shape, size, of my designs highlight my desire to create something new, different or improved, rejecting the default form of bag used for shopping.

Some of my other bags highlight my ideation solutions for: insulating cold produce, protecting glass jars or bottles, holding smaller quantities, revealing my focus on sensory aesthetics in a range of ways.

This personalisation points to my thinking that we should, when possible, make things ourselves. If we invest time and energy into making we are more likely to respect and treat the objects produced with more care and consideration. People may be more inclined to repair rather than discard handmade items because of the value in time spent. It may encourage people to think about their intentions and ethical responsibilities and perhaps transfer this thinking to caring for the Earth.

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My research draws attention to a new aesthetic sense inspired by a deep concern for our planet. This sensibility identifies a need for designers to reconsider the qualities of joy inherent in our products. Joy is vital in our lives, and I wonder if we all think and experience this emotion enough, and how we might design it into the products we create. Do we receive enjoyment from the objects we own? If we do, why are we so willing to discard them in the volumes and quantities that we do?

Susan Freinkel says,

...individual action is no substitute for the exercise of our collective political will, neither can we legislate our way to.....a...sustainable enriching future. We don't need to reject material things, but to rediscover that their value may reside less in the quantity of things we own.....and more in the way our material possessions connect us to one another and to the planet that is the true source of our wealth.¹

⁶⁵

Susan Freinkel, P314.



There is potential for me to expand and explore the discoveries I have made as a designer: using diagrams as guides for mending-design, drawing with different materials and tools, felting with a washing machine, even inventing possibilities for new types of felting technology by learning from the problems I have encountered. By thinking about mending as representing values, reconsidering aesthetics, and rethinking the real costs of the artefacts in our lives, I have come to the conclusion that sharing my knowledge and ideation process with others is the next step. I have enjoyed making these discoveries, and intend to continue blogging my mending projects, and to continue to keep thinking up new mend words or phrases, using them to ideate and stimulate creative actions, to remake things with consideration and care for the planet.

I believe there is huge potential for machine felted wool. I have only begun to explore this new direction. I can identify possibilities for using moulds to shape the wool batting or slivers. It is a fast and fun (surprising) way to produce felted material.

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Appendices –

Examples of my other ideation thinking in this research

1. Other bags p70
2. Felt Loom exploration p77
3. Other Mind maps p81
4. Exhibition thinking p83



Fig. 1, 2 and 3

From left to right: Bowl Bag, felt Shopper, and Pebble rock bag.



Fig. 4. Collage depicting exploring functionality with reuse: An odd sock 'pocket.'



Fig. 5, 6, and 7.

Left column top to below.

The 'pebble rock bag' practicality explored, with buttons, a handle, removable 'pouch.'

Fig. 8, 9 and 10.

Right column top to below.

Stages of unusual 'rock creature,' adapted as a cover to the pocket.

Formation processes of layering, felt Loom felting, drawing, more drawing with scissors, felt loom needle felting, and washing machine felting.



Fig. 11, 12, 13, and 14.

From top left, anticlockwise to top right.

The 'pebble rock bag' before additions of 'practicality.'





Fig. 15, 16, Left top and below.

Fig. 17. Above

Felt Shopper, formed with hand tacking of synthetic nylon garment to assist for formation.

I intend to adapt the 'bag' above, as the handles require reinforcement. My ideas are waiting till I can return to making.

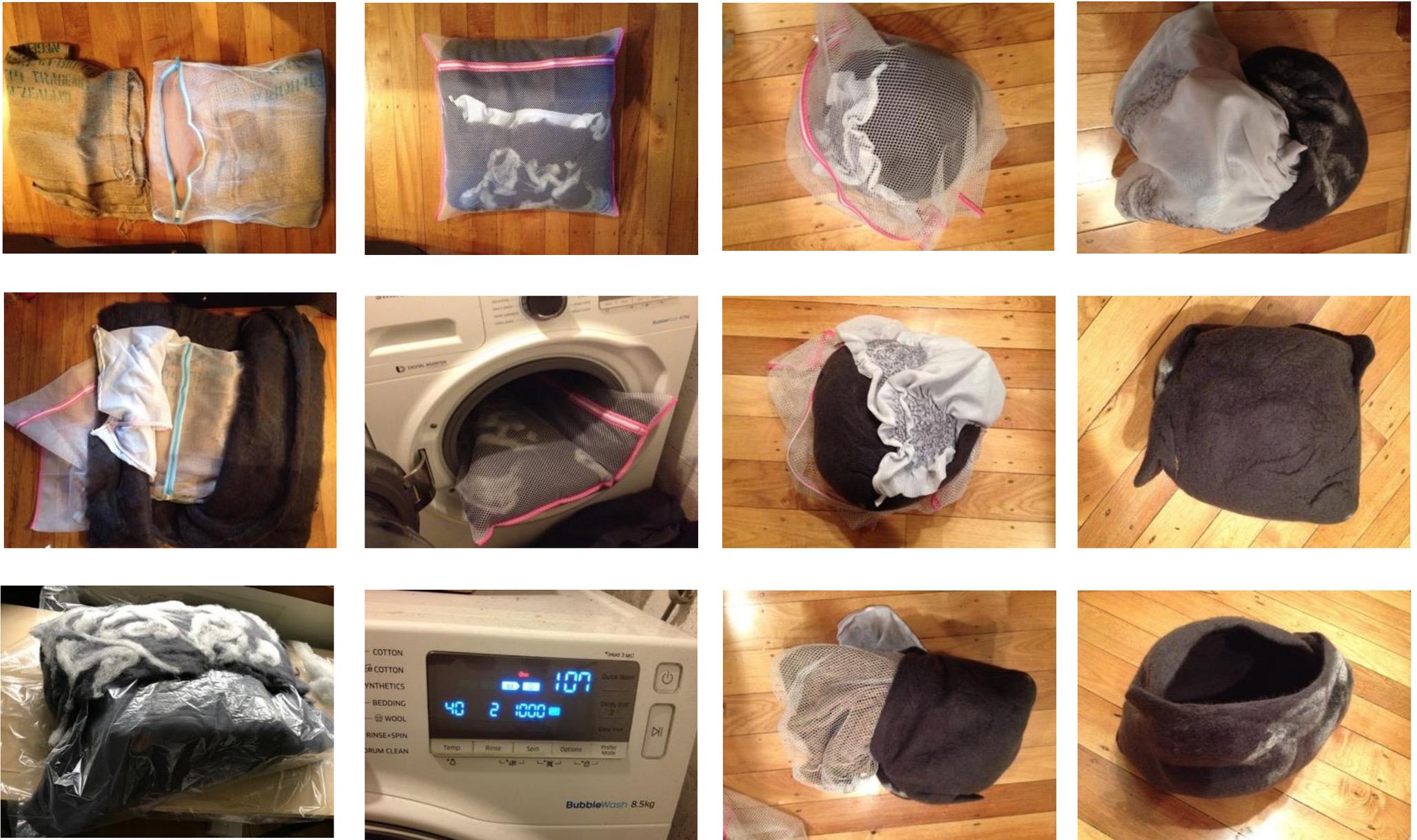


Fig. 18 – 29. Left to right, top to below. Washing machine felting stages for 'Bowl Bag.' Exploring size shrinkage with aim to form a rounded shape, achieving one out of two result. Observe each column top to below, from left to right.

Fig. 30 – 33. Left to right.

Re-making same 'bag', by re-thinking, de-emphasising and emphasizing properties, functionality, and traits to explore purpose.



My Other Ideation Thinking

2. Felt Loom Samples Explorations



Fig. 34 – 36. Left to right.

The value of 'Time' for re-thinking the values, in use material, and aesthetic form for function.

Three development stages of explorations.



Fig. 37 – 41.

Observe left to right. Top to below at each column.

Tan sample through three stages of process.





Fig. 42 – 44. Left to right.

Exploring through perspective: Different ways of observing same piece recorded through still photography.



Fig. 45 and 46.

Left to right.

Potential function based scaled or shaped pieces.

3. Other Mind maps

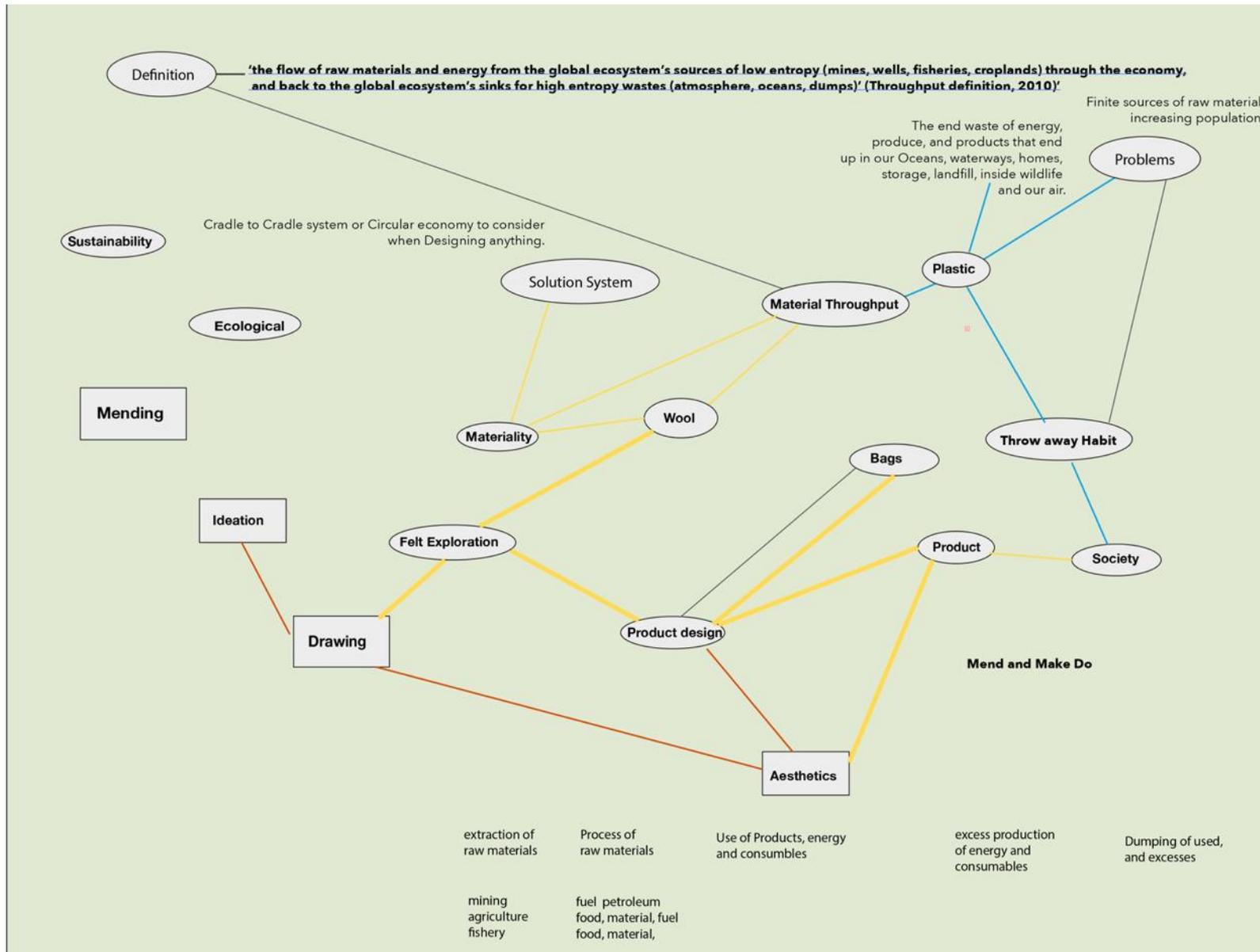


Fig. 47. Mind map in progress to understand elements and material throughput, and connections within my research.

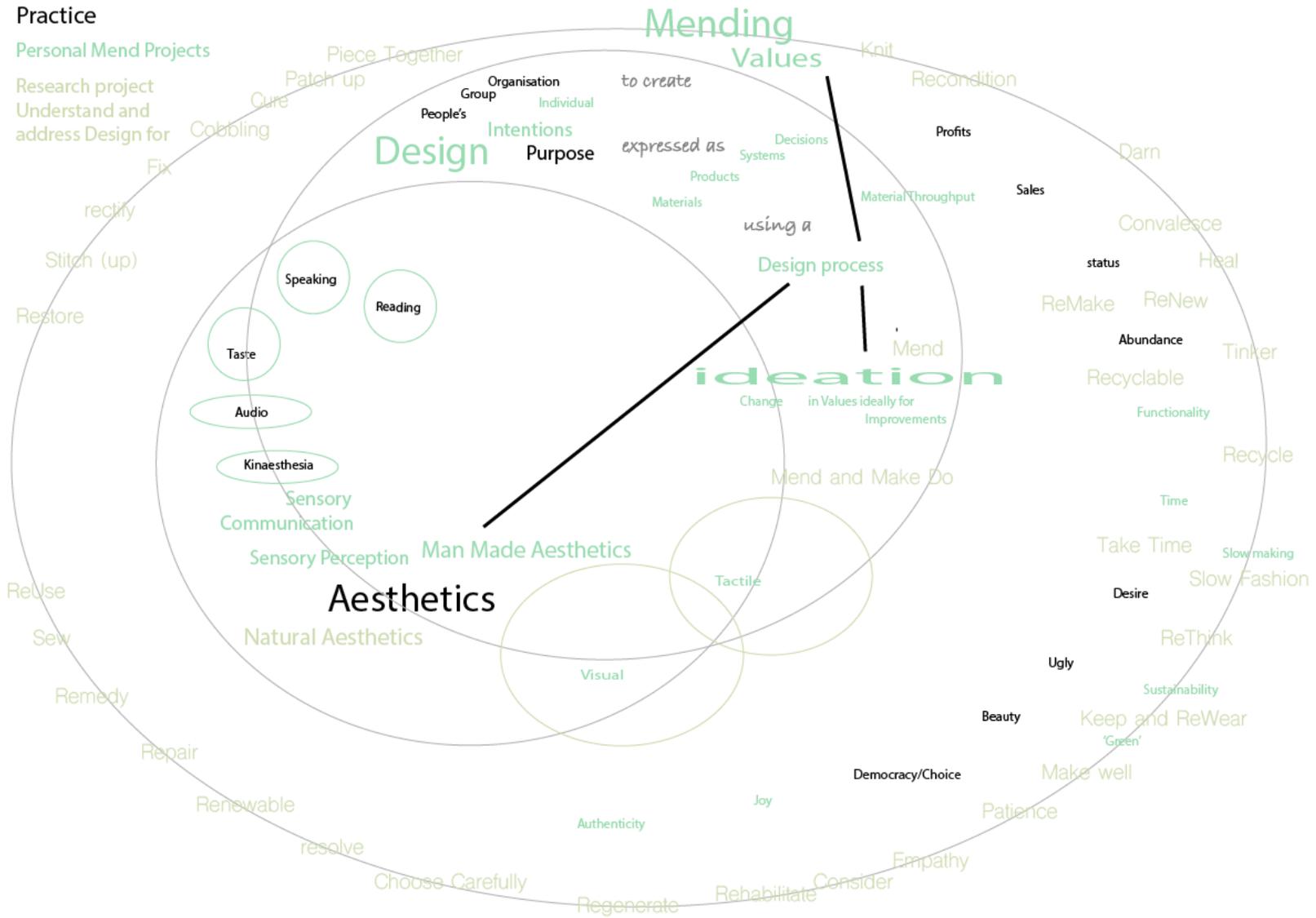


Fig. 48
Venn diagram adding mend values into the process of design.

4. Exhibition thinking



Fig. 49.

An wool timeline of process from batting and sliver wool forms, to felt Loom felting 'drawing,' and washing machine felting.



Fig. 50.

Added samples and bags to the sensory experience.