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My design identity...
My future...

An essay presented in partial fulfilment of the requirements for the degree of Master of Design at Massey University, College of Creative Arts, Wellington, New Zealand.

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Thank you. So here's to the future...

Abstract

Title: My design identity... My future...

My research project involves the creation of a personal design identity in order to reposition myself within the design industry at a time when the existence of New Zealand designers who work within the mass design services market is being threatened by New Zealand based manufacturing and industry moving offshore.

The design-led research has involved the observation and analysis of designers that are positioned within the high profile and high value area of the design industry including Ron Arad, Ross Lovegrove, Marc Newson and David Trubridge in order to gain insights and inspiration for developing my own personal identity. On the basis of the information gained a process of repeated experimentation and reflection in the field of design art was used to establish the foundation for my personal identity.

Symbolic of this personal design identity is a curiosity for experimentation with material and structure to create everyday objects that are not devoid of function, but not serious either.

The goal of this identity is to make users smile and to increase sentimental attachment and desirability towards these objects by offering experiences that can be described as surprising, memorable, enjoyable, light-hearted and even exhilarating when compared with utilitarian, mass market equivalents.

An example of this is a chair called 'Sprung' that integrates elastic cord with a 2-dimensional plastic sheet that flexes into a 3-dimensional springy form when sat in. This transformation is unexpected and the bounce experience fun, challenging how we view materials and structures and how chairs are perceived and used.

This research has personal significance for my future career as the personal identity developed combined with my renewed enthusiasm for design can be applied to ongoing design art objects, allowing me to establish a track record in this field and move away from the mass design services market.

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This essay follows the American Psychological Association (APA 5th) citation style guidelines.

Introduction

Due to the sale of Navman and Humanware to global organisations and the relocation of their operations offshore I was made redundant twice in one year. The industrial design services that I provided these organisations was viewed as a commodity service and therefore outsourced to providers closer to key markets in North America and Europe, or to providers integrated within their offshore manufacturing partners.

The globalisation of mass market design has threatened my existence as a designer. This has caused me to question my long term future as a New Zealand based designer, and consider how I can secure my future as a designer.

The Engineering and Manufacturing Association (EMA) claims that the New Zealand manufacturing sector is also under threat from globalisation, due to iconic companies such as Swandri, Macpac, ClickClack and Fisher & Paykel relocating some or all of their production facilities offshore (*"Initiative launched to take on China," 2007, p.5*).

Andrew Little, national secretary of the New Zealand Engineering, Printing and Manufacturing Union believes that companies with offshore manufacturing capabilities will in time, also move research and development offshore as the function of design is so closely related to that of manufacturing (*Scherer, 2009*).

In summary, the sale of Navman and Humanware to global organisations has threatened my existence in the field of mass market design services and the continued relocation of New Zealand manufacturing offshore has the potential to further threaten practitioners such as myself.

In contrast, New Zealand based craft designer David Trubridge has received international recognition and success for creating craft designed objects, including the 'Body Raft' chaise lounge and 'Coral Light', for a global market.

"Around three quarters of his products are now exported to places as diverse as Australia, the United States, Europe, Asia and, in smaller quantities, South America... Trubridge's lightingware was used in a Paris Printemps window display alongside Stella McCartney fashion"
("David Trubridge: Designing his own success," 2008).

So the question arises, how has Trubridge, among others, gained international exposure at a time when industry continues to move offshore?

In comparison, on an international level, designers such as Ron Arad, Ross Lovegrove and Marc Newson have achieved celebrity status through the design of everyday items, transforming them into desirable products that are iconic, high profile and command a premium price when compared with their mass market equivalents.

Again the question is, how have these designers used design to achieve international acclaim, and how have they maintained their position within the high profile and high value area of design?

This design-led research project has identified that the personality and point of view of Arad, Lovegrove, Newson and Trubridge are fundamental to their success and position within the design industry.

Consequently, this study investigates how I can establish my personality and point of view as a designer in order to reposition myself within the design industry during these challenging times. This process involved continuous personal reflection and design experimentation, and uses the key elements that underpin the success of Arad, Lovegrove, Newson and Trubridge as reference points to position this study.

Research overview

Research aim

My research aim is to use this study as an opportunity to free myself from the constraints associated with commercial projects and 'find myself' as a design individual by establishing a personal point of view and identity that is expressed through the creation of a limited edition, design art object.

This object is intended to be a signature piece for exhibition with the goal of establishing a track record and reputation outside of the area of commodity based, mass market design services.

Research scope

This research postulates that designers such as Arad, Lovegrove and Newson are pioneers in their field. They design objects that are considered forward-looking and refreshing when compared with mainstream design. Their status is achieved by producing iconic work that focuses on expanding the concept of function, exploiting materials in innovative ways, using new technology in groundbreaking ways and / or exploring new aesthetic boundaries (Fiell & Fiell, 2007, p.6).

The design-led research has been split into three sections: 'contextual research', 'personal reflection and design experimentation' and 'personal identity and design development' (refer to figure 1).

Research outcomes

There are three desired outcomes from this study: the first is the creation of a personal design identity and point of view as a designer. The second is the establishment of a toolbox of knowledge that will aid the future development of my career and the third is the creation of a limited edition, design art object that expresses my personal design identity, which can be used for exhibition and become a signature piece.

My design identity... My future... Design-led research process

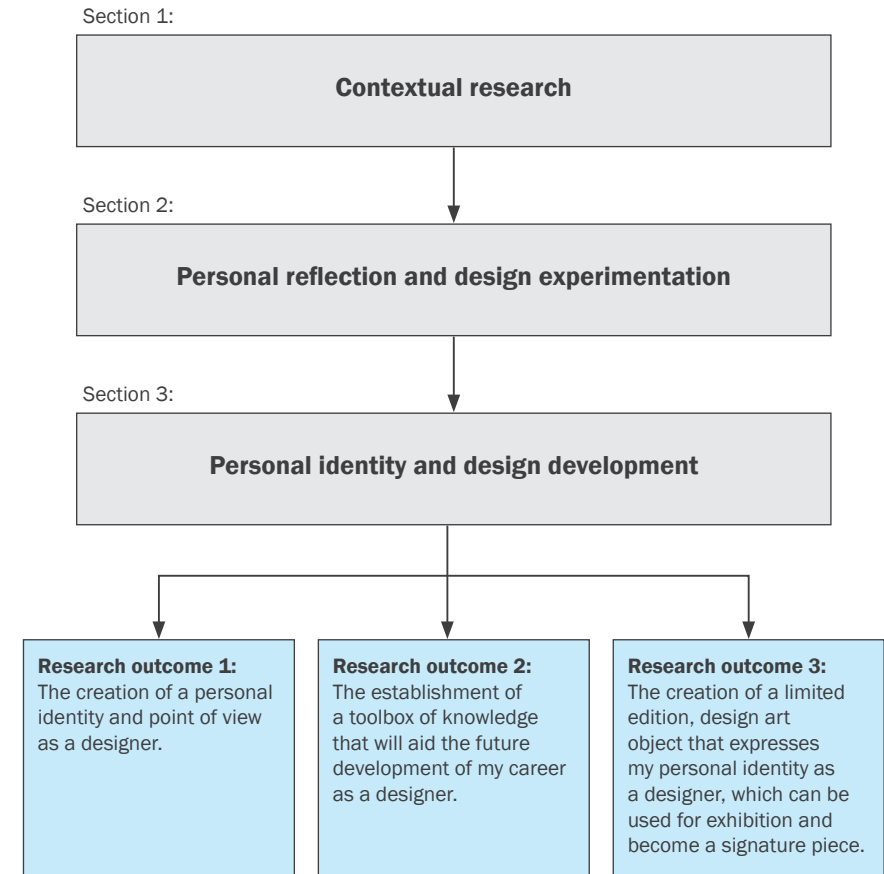


Figure 1 Connections between the three sections and desired outcomes for this design-led research study.

Research objectives

The primary research objective is to understand the key elements behind the success of celebrity designers Ron Arad, Marc Newson, Ross Lovegrove and David Trubridge in combination with their personal design identities.

Secondary research objectives include; understanding how New Zealand designers Peter Haythornthwaite and Simon James have become acknowledged within their fields, understanding the ideology behind the limited edition design art field, and research what national and international channels (e.g. trade fairs, galleries, competitions, groups and websites etc.) exist for designers wanting to gain exposure in this area.

And lastly, research what advances in direct manufacturing and rapid prototyping are available to support this study.

Research questions

- Research question 1: How have celebrity designers Ron Arad, Ross Lovegrove, Marc Newson and David Trubridge achieved celebrity status through design, and how have they maintained their position within the high profile and high value area of design?
- Research question 2: What is the personal design identity of celebrity industrial designers Ron Arad, Ross Lovegrove, Marc Newson and David Trubridge?
- Research question 3: How have New Zealand designers Peter Haythornthwaite and Simon James achieved success and acknowledgement in their fields?
- Research question 4: What is the ideology behind the limited edition, design art field, and what national and international channels support and promote this niche?
- Research question 5: What are the latest developments in direct manufacturing and rapid prototyping?

Contextual research:

Contextual research

This section investigates questions 1, 2, 3, 4, and 5 in order to gain contextual insights and information surrounding my research topic.

Data collection methods

A qualitative research strategy was selected for this component as it provides the flexibility to combine multiple data collection methods in order to acquire detailed and extensive knowledge around the research topic (Robson, 1993, p.89).

Within this qualitative research component, two data collection methods were selected, semi-structured conversations and literature / context review.

This multi-method approach:

- Provides an understanding of the research questions from both a New Zealand and an international perspective. The semi-structured conversations are limited to a New Zealand sample. The literature / context review provides an international perspective.
- Triangulates the data collected, increasing the rigour and quality of the research (Robson, 1993, p.174).

Further information relating to the data collection methods are listed below:

Semi-structured conversations

The semi-structured conversations follow a set of predetermined questions that offer the interviewer the flexibility to modify the order of the questions, omit questions, ask additional questions and request further explanations to questions based on the interviewer's understanding of what seems appropriate (Robson, 1993, p.270).

In order to gain an in-depth understanding of the study topic from a variety of perspectives, not just design, the research sample consists of industry experts that span the areas of craft, design, manufacturing, distribution, marketing and retail / exhibition.

Due to this diverse sample of participants, the flexibility offered by semi-structured conversations, allows for additional questions that are specific to the participant's area of expertise. However, it is acknowledged that the 'body' of the research is to be consistent across all interviews as a lack of standardisation raises concerns about reliability (Robson, 1993, p.273) during data analysis.

Where possible each conversation is face-to-face and 1 hour in duration. Questions follow a proposed sequence and are read from a written questionnaire and recorded onto a digital voice recorder.

In addition to the questions, a series of 'probes' and 'prompts' are used to encourage interviewees to expand on their response to a particular question (Robson, 1993).

At the end of each conversation a session summary sheet summarises the information obtained (Robson, 1993, p.477). The session summary sheet is used in conjunction with interview transcripts during data analysis.

A pilot study was conducted prior to the main body of research in order to test the research questions, the conversation process and equipment such as the digital voice recorder. This pilot study provided the added benefit of building interviewer confidence and polishing interview techniques.

Listed below is the semi-structured conversation sample. Refer to the appendix to view the conversation questionnaire.

Conversation 1: *David Trubridge, New Zealand based, internationally recognised craft / furniture designer.*

Conversation 2: *Peter Haythornthwaite, leading New Zealand industrial designer / design entrepreneur.*

Conversation 3: *Simon James, leading New Zealand furniture designer.*

Conversation 4: *John Hatrick-Smith, design specialist, Better by Design.*

Conversation 5: *Clare Mora, founder of design retail gallery Essenze.*

Conversation 6: *Object expert at Creative New Zealand (CNZ).*

Conversation 7: *Derek Manson, Rapid prototype expert, One.61.*

Literature / context review

Literature / context review is described as a low cost and unobtrusive data collection tool that allows information to be assessed across a wide variety of existing documents including minutes of meetings, letters, diaries, speeches, newspapers and magazine articles (Robson, 1993, p.351).

During this research component, literature / context review is used as a secondary research tool to provide a wide angle and an international perspective to the information gathered during the semi-structured conversations. It also helps triangulate the information gained during these conversations.

Information was gathered by accessing a variety of books, journals, databases and internet sources via keyword searches.

During the data collection process, information is collated and a document sheet created for each question, summarising its significance and context for later data analysis (Robson, 1993, p.477).

Listed below are the keywords used and the sources accessed:

1. Keywords: Various starting with combinations of 'Ron Arad', 'Ross Lovegrove', 'Marc Newson', 'David Trubridge', 'design art', 'limited edition', 'personal design identity' and 'personal design style'.
2. Books: Various including: '100 New Zealand craft artists' (Schamroth, 1998), '1000 Chairs' (Fiell & Fiell, 2000), 'Crafted by design: Inside New Zealand craft artists' studios' (Cook, 2005), 'Design now' (Fiell & Fiell, 2007), 'Fragiles: Porcelain, glass and ceramics' (Commentz, 2008), 'Memphis' (Fitoussi, 1998), 'Limited edition: Prototypes one-off and design art furniture' (Lovell, 2009) and 'Telling tales: Fantasy and fear in contemporary design' (Williams, 2009b).
3. Journals: Various including: 'Art & Australia', 'Crafts', 'Domus', 'Form', 'Object', 'Prodesign', 'Wallpaper*' and 'Whitewall'.
4. Databases: Art, Design and Performing Art Databases including 'Design and Applied Arts Index' and 'Scopus'.
5. Websites: Various starting with 'Designboom', 'Core77', 'Design Sponge', 'Design Addict', 'Dezain', 'Contemporist' and 'D*Hub'.

Data analysis methods

Analysis of the data collected during the semi-structured conversations and the literature / context review involve three stages as described by Robson (Robson, 1993, p.476):

1. Data reduction: Key 'themes' are extracted, collated and placed into categories identified as 'codes'. Similar 'themes' are summarized into one single theme.
2. Data display: Key 'themes' are organized and displayed in a format that is easy to understand.
3. Conclusion drawing: Depending on the findings, this will be achieved by either noting patterns, themes or trends and / or making comparisons.

Combined, the contextual insights and inspiration gained through this designed research will be used as reference points for positioning and informing my practice of design and personal design identity development during the following sections of this study.

Research question 1

How have celebrity designers Ron Arad, Ross Lovegrove, Marc Newson and David Trubridge achieved celebrity status through design, and how have they maintained their position within the high profile and high value area of design?

Findings are summarised with individual career overviews from which key themes have been extracted:

Career overview: Ron Arad

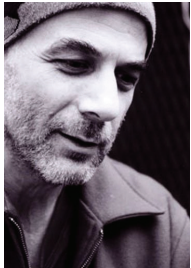


Figure 2
Ron Arad.

Ron Arad's reputation is built on his innovative, experimental and influential furniture that has been created in small editions over three decades (Williams, 2009a).

In 1981 Ron Arad co-founded with Caroline Thorman, One-Off, a design studio, workshop and showroom in Covent Garden, which became a focal point for alternative design in Britain. Opposing mass manufacture, Arad gained the reputation of a designer who challenged convention by exploring the relationship between art and design, commanding art-market prices for one-off pieces (Dormer, 1991).

In 1989 Ron Arad Associates was formed, an architectural and design practice in London that allowed Arad to establish relationships with leading European manufacturers such as Vitra, Kartell and Moroso, developing designs that could be manufactured for mass production (*"Modern design dictionary: Ron Arad,"* 2009).

Examples of Arad's iteration based design approach:



Figure 3 (top left) 'Big Easy' chair (1988).

Figure 4 (top right) 'Soft Big Easy' chair (1990).

Figure 5 (bottom left) 'New Orleans' chair (1999).

Figure 6 (bottom right) 'Big E' chair (2009).

Continuous experimentation and investigation with materials allowed Arad to develop iterations of a single design over many years. An example of this iterative process includes the limited edition welded steel 'Big Easy' chair (1988) evolving into the upholstered 'Soft Big Easy' (1990) for Moroso, later evolving into the limited edition hand painted fibreglass 'New Orleans' chair (1999) and most recently into the rotationally moulded polyethylene 'Big E' chair (2003), also for Moroso.

Another example of this iterative product approach is a limited edition release of the 1981 'Rover Chair' with Vitra. Arad describes the re-release as *"It's going to be what the new Mini is to the old Mini"* (Haden-Guest, 2009).

Arad's work within the area of design art has allowed him to create limited edition objects that can later be adapted for mass manufacture. For example, Kartell approached him to develop an adaptation of his tempered sprung steel 'Bookworm' bookshelf (1993) for mass manufacture from semi-transparent flexible plastic. Another example, which became one of Arad's biggest commercial successes, is the adaptation of the 'Tom Vac' chair (1999) for Vitra (*"Ron Arad: No Discipline,"* 2008).

Arad's 2009 exhibition, 'No Discipline' reinforces his position in the design industry as an individual who does not subscribe to one specific discipline. He lists the disciplines that he works in as architecture, industrial design, as well as studio and gallery pieces. He describes his studio and gallery pieces as:

"Things that are not designed to be sold in shops. And things that are not mass-produced. Things that are not necessarily practical solutions to real problems, but things that are done for their own sake—without considering or negotiating with anything or anyone" (Haden-Guest, 2009).

Design museums and galleries around the world showcase Arad's experimental work thereby reinforcing his international status and reputation as a sculptural furniture designer (*"Modern design dictionary: Ron Arad,"* 2009). There is no doubt that these high profile exhibitions have created high demand and premium prices for his mass produced products, allowing him in turn to remain at the forefront of contemporary design.

Career overview: Ross Lovegrove



Figure 7
Ross Lovegrove.

Ross Lovegrove is renowned for creating sculptural objects that combine state-of-the-art materials and technology (Bearman, 2006). He experiments across the boundaries of science, technology, design and architecture (“Ross Lovegrove: Design Museum Collection,” 2007). Inspired by nature to create organic minimalism, he says:

“I’m interested in developing an aesthetic for the 21st century which comes from the intelligent use of resources, materials and structures” (“Biography: Ross Lovegrove,” 2008).

After graduating from the Royal College of Art (RCA) in 1983, Lovegrove’s career began at Frog Design in Germany. At the time, Frog design was the leading design consultancy in the world, this allowed him to design for leading international companies such as Sony and Apple Corporation (O’Toole, 2004).

Lovegrove then moved to Paris where he worked as a consultant to Knoll International. During this time he was invited to join Atelier de Nîmes, a design practice to which Jean Nouvel, Philippe Starck, Martine Bedin and Gérard Barrau belonged, consulting to Louis Vuitton, Hermes and Dupont (“Ross Lovegrove: Biography,” n.d.). He describes this as a pivotal moment in his career where he met and mixed with internationally recognised designers such as Ettore Sottsass, Richard Sapper, Richard Meier and Andree Putman, believing this helped build and strengthen his reputation as a designer (Bearman, 2006).

Returning to London in 1986, Lovegrove established a design practice with Julian Brown. In 1990 he formed Studio X consulting to leading international companies such as British Airways, Cappellini, Driade, Herman Miller, Lucepan, Moroso, Olympus and Philips (“Ross Lovegrove: Design Museum Collection,” 2007).

During his career Lovegrove has actively participated in the design community, as curator of the British Design Museum’s first Permanent Collection Exhibition in 1993 (O’Toole, 2004) and as Editor of The International Design Yearbook in 2002 (“Ross Lovegrove: Design Museum Collection,” 2007).

Lovegrove has received numerous internationally recognised awards for his designs and the exhibition of his commercial projects has been prolific. More recently he has also exhibited his personal design art objects, showcasing his application of advanced and leading-edge materials and processing technologies. This approach has allowed Lovegrove to experiment with materials to achieve new forms. He says that the knowledge gained is then transferred to his mass production, commercial projects (“Biography: Ross Lovegrove,” 2008).

Influenced by his respect for artists Henry Moore and Anish Kapoor (O’Toole, 2004), Lovegrove has developed a unique design style that he calls ‘Organic Essentialism’ that is inspired by the natural world and reinterpreted into new and futuristic forms (Bearman, 2006).

In summary, Lovegrove’s high profile reputation has been achieved through successfully fusing advanced materials and processing technology into a distinctive form to create breakthrough products that can be described as blurring the boundaries between art and design.

Examples of these breakthrough products span his career and include the magnesium ‘Go’ chair (2001) designed with Bernhardt Design; sculptural ‘Water Bottle’ (2001) for Ty Nant; ‘Supernatural’ chair and table range (2005) which incorporates advanced injection moulding technology for Moroso; ‘Muon’ (2007) limited edition two metre tall speakers for KEF made from super-formed aluminium; ‘onehundred&ten’ suitcase (2008) for Globetrotter incorporating a new carbon fibre and Kevlar composite; as well as the futuristic looking ‘Cosmic Angel’, ‘Cosmic Leaf’ and ‘Cosmic Ocean’ lamps (2009) for Artemide.

Examples of Lovegrove successfully fusing advanced materials and processing technology with a distinctive form factor. In this case experimenting with lighting for Artemide:

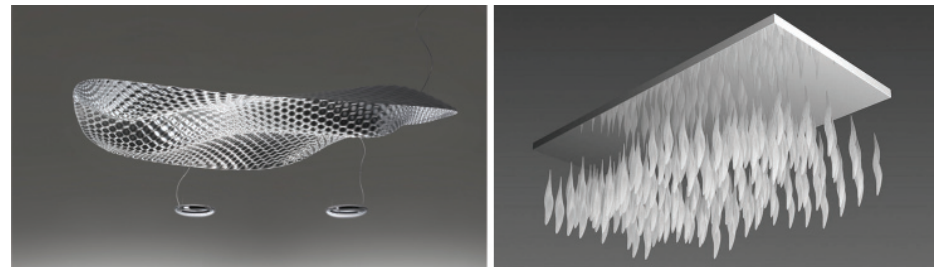


Figure 8 (left) ‘Cosmic Angel’ lamp for Artemide (2009).
Figure 9 (right) ‘Cosmic Ocean’ lamp for Artemide (2009).

Career overview: Marc Newson

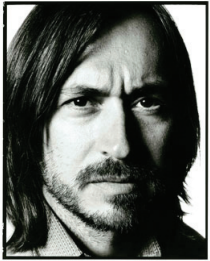


Figure 10
Marc Newson.

Marc Newson is renowned for designing both iconic products for mass production and design art objects, some of which have revolutionised furniture design and created a new niche within the area of high art (Brant, 2009). He is described as being perhaps the most famous established designer working in the design art field and his collection of Carrara marble objects made for the Gagosian Gallery in 2007 are considered legendary within this field (Lovell, 2008).

When working on commercial projects for clients ranging from Nike to Qantas, Newson offers a fresh perspective and corporate clients engage his services because *“His design star status lends a ‘cool’ factor that boosts a company’s brand image timeliness and trendiness”* (Jana, 2006).

Trained in jewellery design and sculpture, Newson initially gained international exposure through the design of hand-made, exhibition-specific objects. His breakthrough piece, the ‘Lockheed Lounge’, was first exhibited in Sydney and appeared in magazines around the world. The exposure this gained led him to work and live in Tokyo for design entrepreneur Teruo Kurosaki and his company Idée, manufacturing and exhibiting pieces, such as ‘Orgone Lounge’, ‘Black Hole Table’ and ‘Felt Chair’, throughout Asia and Europe (*“Marc Newson interview,”* 2003).

Upon moving to Paris in 1991, Newson worked on commissions for Italian manufacturers such as Cappellini and Flos before moving to London where Marc Newson Limited was established as a larger studio capable of working on more ambitious industrial projects. Projects for companies have included Alessi, Biomega, Cappellini, Flos, Ford, Magis and Moroso (*“Marc Newson interview,”* 2003).

In 1999 Newson designed the ‘Falcon 900B’ business jet, followed by a commission from Qantas for the A380 interior that resulted in his appointment as their Creative Director in 2006. In combination, this experience undoubtedly provided him with the reputation and credentials needed to design the concept for the EADS Astrium Space Jet that was released in Paris in 2007.

An Australian, Newson has become a national icon of Australia and, in addition to his relationship with Qantas, he has worked on projects for the Sydney Opera House and the 2004 Australian Olympic team (*“Modern design dictionary: Marc Newson,”* 2007).

When discussing the relationship between limited edition projects and commercial projects Newson says, *“When I make a sculptural object, its shape will carry on to commercial projects. It also works the other way around”* (Jana, 2006).

There is no doubt that his diversity of work has contributed to his high profile within the high value area of the design industry.

Examples illustrating how Newson’s limited edition projects influence his commercial projects:



Figure 11 (left) Limited edition ‘Event Horizon Table’ (1992).
Figure 12 (right) ‘Haircare Appliance’ for Vidal Sassoon (2000).

Examples illustrating how Newson’s commercial projects influence his limited edition projects:



Figure 13 (left) ‘Nimrod Chair’ for Magis (1997).
Figure 14 (right) Limited edition ‘Zenith Chair’ for Galerie Kreo (1998).

Career overview: David Trubridge



Figure 15
David Trubridge.

David Trubridge, a New Zealand based designer and manufacturer of furniture and lighting objects is internationally recognised in the field of designed craft. He exhibits each year at the Milan Furniture Fair where he has received acclaim for his 'Body Raft' chaise lounge and 'Coral Light'.

His designs, typically involving advanced wood crafting techniques, reflect his background in naval architecture and his travels through the Pacific (Cook, 2005).

When interviewed, Trubridge says that the turning point in his career that led to the establishment of his international profile occurred after his 'Body Raft' chaise lounge was licensed to Italian furniture manufacturer Cappellini following its exhibition at the 2001 Milan Furniture Fair.

Trubridge describes the objects that he creates as a reflection of his surroundings in Havelock North which tell a unique and exotic story in American and European markets, claiming that this narrative and approach to design is what initially captured the attention of Cappellini.

When creating an object Trubridge breaks his process into three: art, design and craft. The art process involves developing the object's narrative and point of view. The design process transforms this narrative into an object and the craft process involves making the object.

Trubridge believes that the craft process is key to his unique identity, saying it is the result of combining two processes not previously combined in the area of furniture design. These are the combination of traditional woodcraft skills such as steam bending with state-of-the-art Computer Numeric Control (CNC) cutting technology. Trubridge says that although architect Frank Gehry was doing similar work in architecture, no one had applied it to furniture, allowing Trubridge to achieve an aesthetic not seen before in the furniture industry and subsequently establish a niche.

When further explaining the craft process, Trubridge thinks that increased environmental design awareness is causing the value of craft to be reappraised

and that this awareness will continue to have a significant influence on this field in the future. He says that the values which are inherent in responsible design have always existed in craft, believing that fundamental to both is the word 'care'.

Trubridge considers the 'Coral Light' to be his most successful product, claiming it was simply the result of experimenting with the characteristics of a certain material with no brief in mind. He believes designers need to experiment with materials and ideas more and focus less on responding to a specific brief.

He also believes that it is imperative for designers wanting to establish themselves in the area of design art / craft design to have a workshop where they can experiment with materials in conjunction with digital tools.

When discussing creating a personal design identity he says, "You want to get those initial statements which are radical and strong to draw attention to your name and then build on that".

Although there is no expectation regarding the number of new products exhibited every year at events such as the Milan Furniture Fair, Trubridge says that the media are only interested in showcasing what is new, so it is in the designer's best interest to regularly exhibit new work.

In summary, Trubridge has established a personal design identity by combining the process of art, design and craft, resulting in his high profile within the area of high value design.

Examples illustrating Trubridge's skill and knowledge in the area of wood processing:

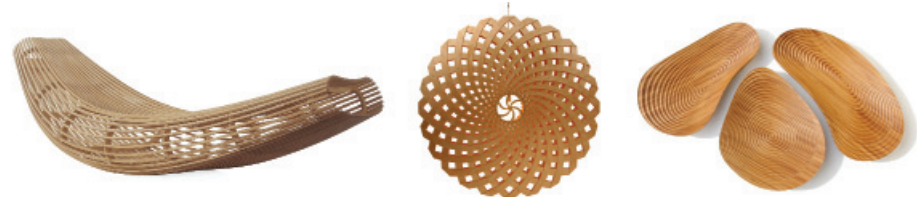


Figure 16 (left) 'Body Raft'.
Figure 17 (centre) 'Flax'.
Figure 18 (centre) 'Pebble Bowls'.

Key themes common to the success of Arad, Lovegrove, Newson and Trubridge include:

Continual experimentation with materials and processes has been instrumental in establishing the personal identity of Arad, Lovegrove, Newson and Trubridge.

“The technical expertise of Arad’s studio is in constant state of evolution as he and his team vigorously exploit one material and process after another: from ready-mades and welded heavy metal; to extruded plastic and rapid-prototyping” (“Ron Arad: Celebrating 25 years of design,” 2009).

Examples of Arad’s career long fascination and dedication to the experimentation with materials and processes to achieve distinctive objects that blur the line between art and design:



Figure 19 (left) 'Concrete Stereo' (1993).

Figure 20 (centre) 'Uncut Chair' (1997).

Figure 21 (right) 'Pic Chair' (1997).

Arad, Lovegrove, Newson and Trubridge are renowned for their experimentation with materials and processes which allows them to create forward-looking and refreshing new objects. This approach appears to be a key element in achieving a distinctive and recognisable personal design identity.

Lovegrove, when discussing his personal approach says, *“Materials and their intelligent or inventive application are at the root of what I do as a designer” (“Ross Lovegrove interview,” 2007).* He has built a reputation as a designer who successfully fuses advanced materials and processing technology within a distinctive form to create a unique design style that he calls 'Organic Essentialism' (Bearman, 2006).

Examples of Lovegrove’s continual experimentation with advanced materials and processes to achieve his personal design identity that he calls 'Organic Essentialism':



Figure 22 (left) One-off 'DNA Staircase' (2003) constructed from unidirectional carbon fibre.

Figure 23 (centre) 'Supernatural Chair' for Moroso (2005) with advanced moulding technology.

Figure 24 (right) Limited edition 'Muon Speakers' for Kef (2007) made from super-formed aluminium.

Many of the materials and processes used by these designers for experimentation are the result of collaborations with technical experts at great development and implementation cost, involving leading edge and specialist technologies such as carbon fibre and aeronautical metal forming processes.

Newson’s experimentation with materials and processes has resulted in many distinctive objects such as the sculptural 'Event Horizon Table'. Like many designers experimenting with materials and processes in this high profile field, Newson collaborates with specialist suppliers. As an example, for the 'Event Horizon Table' he commissioned a specialist Aston Martin subcontractor to produce the table from a single piece of aluminium in order to avoid visually distracting split lines (Rawsthorn, 1999, p.65).

Newson’s 'Event Horizontal Table' is the result of collaboration with a specialist Aston Martin subcontractor:



Figure 25 'Event Horizon Table'.

In his 2006 solo exhibition at the Gagosian Gallery, New York, Newson experimented with a number of materials including marble and nickel. He says

“Sometimes I start with the material, sometimes the idea. In this case the materials were the inspiration. I began by identifying materials that I had always been interested in but had never used. Often the context of materials strikes me more than the materials themselves. Context is new, not materials” (“Marc Newson,” 2007).

Further examples of Newson’s experimentation with materials, in these cases, white Carrara marble for his solo exhibition at the Gagosian Gallery in New York:



Figure 26 (left) ‘Extruded Chair’ (2006).
Figure 27 (centre) ‘Extruded Table 1’ (2006).
Figure 28 (right) ‘Voronoi Shelf’ (2006).

However, Newson has also demonstrated that the use of leading edge materials and technologies is not essential when creating a personal design identity. In 1986 his debut product, ‘Lockheed Lounge’, with its refreshing and aeronautical appearance, was hand-made from pieces of aluminium riveted to a fibre glass body (Brant, 2009).

Newson’s debut product, ‘Lockheed Lounge’ demonstrates that leading edge materials and technologies are not essential when creating a personal design identity and a statement object:



Figure 29 Newson’s ‘Lockheed Lounge’ (1986).

So successful, it appeared in magazines around the world after being exhibited at the Roslyn Oxley Gallery in Sydney (*“Marc Newson: Designing modern Britain,”* 2006). The iconic status associated with this product was further reinforced when it sold at auction in 2009 for US\$1.6 million, establishing a new record for a living designer (O’Shea, 2009).

Similarly, during my interview with Trubridge, he commented that the biggest breakthroughs in design come from advances in material and processes. When discussing the products he creates, he says that his unique identity evolved by combining two processes not previously combined in the area of furniture design. These were the combination of traditional woodcraft skills such as steam bending with state-of-the-art CNC cutting technology, which allowed him to achieve an aesthetic not seen before in the furniture industry.

Furthermore, Trubridge claims that his most successful product, the ‘Coral Light’, was simply the result of experimenting in his workshop with shapes and the characteristics of a certain material. He continues by saying that it is essential for designers to work and experiment with materials by hand, in order to understand their unique characteristics and to imagine their possibilities.

Trubridge’s ‘Coral Light’ was the result of experimenting in his workshop with shapes and the characteristics of a certain material:



Figure 30 ‘Coral Light’ (2005).

It should be noted that the types of materials and processes experimented with are directly related to the statement that the designer wants to make with the object. These statements reveal the designer’s point of view and attitude regarding cultural, social and political issues.

Examples include the work created during the 1980s at Arad's One-Off design studio. The work produced during this period became the focal point for alternative design in Britain, in opposition to mass manufacture it explored the relationship between art and design.

"In 1981 Britain was in a deep economic recession and the smokestack industries of heavy engineering, coal-mining and iron and steel manufacturing were closing. This context of a rusting Britain provided the theme and the much-imitated aesthetic of Arad's work, which was, throughout the 1980s, coarse in its looks and usually made in metal" (Dormer, 1991, p.40).

The statement of rusting Britain is evident in the 'Rover Chair' which combines recycled scaffolding with seats taken from scrapped Rover cars.



Figure 31 'Rover Chair' (1981).

Furthermore, the objects created by Trubridge make a statement about respecting the environment and are often told through a story that relates back to nature. The 'Three Baskets of Knowledge' hanging light installation that is based on Maori mythology about three baskets that contain natural world knowledge, mankind's rational knowledge and spiritual knowledge is such an example.

In particular, the wooden objects created by Trubridge feature a handcrafted quality and appearance which is used in combination with the natural characteristics of wood to create interesting structures. It is this use of wood and his woodworking processes that have earned Trubridge the title of an eco-designer in Europe (Trubridge, 2009).

'Three Baskets of Knowledge' is based on Maori mythology about three baskets that contain natural world knowledge, mankind's rational knowledge and spiritual knowledge.



Figure 32 'Three Baskets of Knowledge' hanging light installation (2009).

Examples illustrating the handcrafted quality and appearance of Trubridge's work, which utilise the natural characteristics of wood to create interesting structures.



Figure 33 (left) 'Nanau' chair (2008).

Figure 34 (right) 'Koura' light (2009).

In summary, it is the continued experimentation with materials and processes that have allowed these designers to create distinctive and iconic objects as statements that reveal their attitudes and personality as design individuals, and ultimately establish their personal design identity. Being pioneers in the area of experimentation reinforces their international reputation and high profile within the high value area of the design industry.

Arad, Lovegrove, Newson and Trubridge have been endorsed through collaborations with leading international manufacturers and authorities who are renowned for design.

Traditionally endorsement through collaborations with internationally recognised manufacturers such as Cappellini, Flos and Moroso has provided these designers with the exposure and recognition required to enter the high profile and high value area of design. Design renowned events such as the Milan Furniture Fair and the International Contemporary Furniture Fair (ICFF) are typical venues for designers to be discovered and offered commissions or licensing agreements – often for design furniture items.

While working in his Covent Garden studio One-Off, Arad gained the reputation of a convention-challenging designer by exploring the relationship between art and design, commanding art-market prices for one-off pieces that became the focal point of alternative design in Britain (*Dormer, 1991, p.40*). After establishing Ron Arad Associates in 1989, his international exposure grew to new levels as he focused on commissions that were produced in mass production for Vitra, Kartell and Moroso (*“Modern design dictionary: Ron Arad,” 2009*).

Arad’s iterative ‘Big Easy’ chair range began with the ‘Well Tempered Chair’ upon invitation to collaborate with Swiss furniture manufacturer, Vitra:

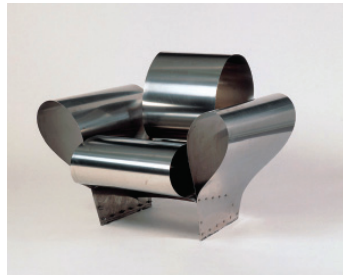


Figure 35 ‘Well Tempered Chair’ (1986).

For Newson, the ‘Lockheed Lounge’ was his breakthrough piece. First exhibited in Sydney it appeared in magazines around the world and eventually led to him living and working in Tokyo for design entrepreneur Teruo Kurosaki and his company Idée. Here, pieces such as ‘Orgone Lounge’, ‘Black Hole Table’ and ‘Felt Chair’ were manufactured and exhibited in Asia and Europe, ultimately leading to the establishment of Marc Newson Limited in London (*“Marc Newson interview,” 2003*).

Newson’s ‘Lockheed Lounge’ led to him living and working in Tokyo for design entrepreneur Teruo Kurosaki and his company Idée:



Figure 36 ‘Lockheed Lounge’ (1986).

Early in his career, when working in Paris, Lovegrove was invited to join Atelier de Nîmes, a design practice, to which Jean Nouvel, Philippe Starck, Martine Bedin and Gérard Barrau belonged, consulting to Louis Vuitton, Hermes and Dupont (*“Ross Lovegrove: Biography,” n.d.*). Lovegrove claimed that meeting these designers helped to build his career and strengthen his reputation as a designer, noting that Starck commented that Lovegrove was the designer he most wanted to meet in the world (*Bearman, 2006*).

Trubridge, on the other hand, believes the turning point in his career that established his profile internationally was the licensing of the ‘Body Raft’ to Cappellini following its exhibition at the 2001 Milan Furniture Fair.

Trubridge’s ‘Body Raft’ exhibited at the 2001 Milan Furniture Fair led to a licensing agreement with Cappellini, establishing his international profile:



Figure 37 ‘Body Raft’.

Design writer and author of 'Limited Edition: Prototypes, one-offs and design art furniture', Sophie Lovell comments that most of the leaders in designer furniture, at the end of the twentieth century were Italian manufacturers and included Moroso, Cappellini, Flos, Magis and Alessi. However, she continues by saying that times have changed, and now the most talked about design furniture items come from galleries such as 'Friedman Benda', 'Johnson Trading Gallery' and 'Moss' in New York, 'Contrasts' in Shanghai, 'Kreo' and 'ToolsGalerie' in Paris. Unlike the Italian names, these are not industrial producers but rather gallerists, collectors and shop owners who deal with limited editions or one-offs that are commissioned through both established and up and coming designers (Lovell, 2009, p.165).

In summary, Arad, Lovegrove, Newson and Trubridge have been endorsed through collaborations with leading international manufacturers such as Cappellini, Flos and Moroso, other authorities renowned for design and more recently collaborations with gallerists, collectors and shop owners. These endorsements have helped establish their high profile and international reputations and placed them in the high value area of the design industry.

Research question 2

What is the personal design identity of celebrity industrial designers Ron Arad, Ross Lovegrove, Marc Newson and David Trubridge?

Findings are as follows:

It could be said that Arad's values have been formed by his artist parents. Trained in architecture he works across many disciplines with the ideal that there is no line between art and design, believing that an object can have several existences depending on how it is presented (Greenwood, 2009).

Although continually evolving, his personal design identity can be viewed as a creator of sculptural objects that are informed through innovative and continued experimentation with materials, technologies and structures ("Ron Arad: Biography," 2009).

Examples of sculptural objects that are synonymous with Arad's personal design identity, being applied to both limited edition and commercial projects:



Figure 38 (left) Limited edition 'Southern Hemisphere' (2007).

Figure 39 (centre) 'Ripple Chair' for Moroso (2005).

Figure 40 (right) 'PizzaKobra' lamp for iGuzzini (2008).

As mentioned earlier, this approach with experimentation has allowed him to continually develop iterations of a single design over many years. This iterative approach has involved adapting his iconic limited edition objects for mass manufacture. Kartell, for example, asked Arad to develop his tempered sprung steel 'Bookworm' bookshelf designed in 1993, into a semi-transparent flexible plastic adaptation for mass manufacture and release in 1996.

Another example is the adaptation of the 'Tom Vac' chair for Vitra, which became one of Arad's biggest commercial successes (*"Ron Arad: No Discipline,"* 2008).

As with Newson, Arad's limited edition objects also inform and provide opportunities for his commercial projects:



Figure 41 (left) Limited edition tempered sprung steel 'Bookworm' bookshelf (1993).

Figure 42 (right) Plastic (polypropylene) 'Bookworm' bookshelf for Kartell (1996).

Throughout his career, Arad's work has been central to many statements that have commented on cultural, social and political issues. An example of one of these statements is the 'Rover Chair' which combined recycled scaffolding with seats taken from scrapped Rover cars in reaction to the closure of heavy engineering, coal-mining as well as the iron and steel industry in Britain in the 1980s. Another example is the group of objects created for his 'Not Made by Hand, Not Made in China' series that as the name suggests, consisted of a collection of limited edition objects that utilised, for the time, leading edge laser curing rapid prototyping technologies. These statements have all helped position and maintain his personal design identity.

The statement that Lovegrove makes is that he considers himself an evolutionary biologist rather than a designer and has based his personal design identity around this concept. His work, which he relates to nature, serves a succinct function, uses appropriate technology and material efficiently to achieve objects that are calm and have an elegance of form. He explains:

"My work also relates to nature, in an evolutionary sense as I'm concerned with reduction. I exercise what is called 'organic essentialism' which means using nothing more – nothing less than is needed" (*"Ross Lovegrove interview,"* 2006).

Examples of Lovegrove's personal design identity – 'organic essentialism':



Figure 43 (left) 'Go Chair' for Bernhardt Design (2001).

Figure 44 (centre) One-off 'DNA Staircase' (2003).

Figure 45 (right) 'Andromeda' lamp for Yamagiwa (2009).

In addition, Lovegrove says that his approach is to be an artist with a studio that employs people that can support him in this art (*Wolf, 2009*). Although he debates ideas with the designers in his studio, he has final say. He explains that the reason he has interesting projects is because companies like his philosophy, approach and resulting design signature:

"At the end of the day I can't afford to have 16 styles, otherwise I don't exist. I work for myself; they work for me, not the other way round. So, in a sense, they come to me because I display a philosophy, and I have an approach to design that they want to share and be a part of" (*O'Toole, 2004*).

Newson has a broad, contemporary design style that uses state of the art materials and processes to make everything around him better, in order to avoid being annoyed by poor design. His approach to design is, *"Don't just tinker with existing typologies, but take a long lateral look at them and imagine how the perfect version would be"* (*"Marc Newson: Designing modern Britain,"* 2006).

If *'imagining a perfect vision'* is the statement that Newson is making about his objects it could be argued, that for his corporate clients, this is the reason why he is the most popular designer of those researched; and why he is also able to, and willing to work across many product categories from furniture design to consumer electronics to airline interiors.

His reputation and popularity amongst corporate clients is due to *“His design star status [which] lends a ‘cool’ factor that boosts a company’s brand image, timeliness and trendiness” (Jana, 2006).*

Examples of Newson’s bold and vibrant personal design identity, described as having a ‘cool’ factor:



Figure 46 (top left) ‘Embryo Chair’ (1988).
Figure 47 (top centre) ‘Orgone Lounge’ (1989).
Figure 48 (bottom left) ‘Felt Chair’ (1989).
Figure 49 (bottom centre) ‘Skybed Business Class Seat’ for Qantas (2003).
Figure 50 (right) ‘Nickel Chair’ (2006).

The ‘cool’ factor associated with Newson and his products may be a by-product of growing up in a beach front hotel in Australia where he was exposed to and inspired by Italian design objects from the Nineteen Fifties, objects such as Joe Colombo trolleys and Sacco bean bags. He says that growing up in Australia, a country without an indigenous design tradition was an advantage, *“Coming from Australia and studying jewellery and sculpture, my design was self-taught and instinctive” (“Marc Newson: Designing modern Britain,” 2006).*

The personal design identity of Trubridge unites his respect for the environment with his 35 year career as a craftsman working with wood (Trubridge, 2009). The wooden objects he creates express this statement by incorporating a hand-made quality and appearance using natural materials. John Hatrick-Smith from Better by Design describes Trubridge’s products as having an element of uniqueness that gives his customers the impression that the product has been made specifically for them.

Fundamental to Trubridge’s personal design identity is a point of view that does not subscribe to fashion or trends, a point of view, he believes, that provides him with integrity both as a designer and manufacturer. When interviewed for this research Trubridge commented:

“I just do what I do. I like that integrity, you don’t look around, you don’t try and copy, you just find your own place and work from your own skills and you don’t follow fashions.”

Examples illustrating how Trubridge’s personal design identity expresses his respect for nature and the environment that is captured through the hand-made quality and appearance of his work:



Figure 51 (left) ‘Three Baskets of Knowledge’.
Figure 52 (top centre) ‘Coral Light’.
Figure 53 (top right) ‘Glide’.
Figure 54 (bottom centre) ‘Flip’ and ‘Ruth One’.
Figure 55 (bottom right) ‘Kina Light’.

In summary, the personal design identity of these designers is a reflection of the statements they make which is expressed through the objects they create. These statements offer a new or alternative point of view regarding cultural, social and political issues, often resulting in distinctive and iconic objects. These statement objects are also described as signature objects that typically receive media exposure, reinforcing the position of these design individuals within the high profile and high value area of the design industry.

Research question 3

How have New Zealand designers Peter Haythornthwaite and Simon James achieved success and acknowledgement in their fields?

Findings are as follows:

They offer an in-depth knowledge that is focused within a specific niche.

In my interview with industrial designer Peter Haythornthwaite, he claims that the success of his Artifakts range of products was due to their focused niche, a niche he discovered by accident.

Initially designed for the North American mass market, the range was limited in its success and it was not until Haythornthwaite approached a Japanese marketing company to sell Artifakts in Tokyo that sales increased. Over time, Haythornthwaite came to realise that he had designed a range of products more suited to international design stores rather than the North American mass market specifically. Eventually the Artifakts range sold in design stores across Japan, Europe and North America. He says that this range was so successful that at one stage the tape dispenser became the largest selling item in the Museum of Modern Art (MoMA) store.

Consequently, Haythornthwaite encourages designers to create their own products as he created the Artifakts range and warns them to avoid the temptation of designing too many variations. When creating their own products, he recommends that designers keep things simple so they can remain focused and not confuse their audience.

Similarly, furniture designer Simon James, in an interview says that during the first few years of establishing Simon James Design he experimented with exporting products overseas to markets such as North America. However, due to a number of reasons he realised that this was not feasible and decided to focus on the New Zealand commercial furniture market instead. His point of difference was to provide simple, contemporary products which were European rather than 'kiwiana' in style. As a result, his showrooms display his products alongside targeted products imported from Europe, in order to strengthen his niche and position in the contemporary furniture market.

In summary, Haythornthwaite's and James' success is the result of having an in-depth knowledge of a specific field, allowing a specialist niche and product offering to be developed.

They have an entrepreneurial approach to everything that they do.

Haythornthwaite believes that design has no barriers and that design opportunities exist everywhere. During his career he has taken an entrepreneurial approach to design. For example, during the late 1980's Haythornthwaite used industry relationships to establish a collaboration between Greenpeace, Haythornthwaite Design and a leading print company. This collaboration allowed Haythornthwaite's design team to develop Greenpeace's message and profile by applying it to a wide range of promotional material.

Another example is the wood burning stove Haythornthwaite was forced to develop and market during the 1987 stock market crash, in order to supplement revenue from his design consultancy. The wood burner called the 'Studio Stove' was the result of existing knowledge in this field and industry contacts. Haythornthwaite says that he developed a brand and company for this product that he was able to later sell as a business when the economic pressure on the design consultancy market had lessened.

In summary, the entrepreneurial approach of these individuals has resulted in new opportunities, providing them with freedom and flexibility to work across a number of different industries.

They collaborate with industry experts and establish strong relationships.

Throughout his career Peter Haythornthwaite has successfully collaborated with a number of industries to receive both national and international awards and recognition. He believes that New Zealand based designers can be internationally recognised and that connections are essential in receiving this recognition.

"You can produce the best stuff in the world and a lot of the time we are working in a vacuum, so often this great work just sits there and does not go anywhere."

He says in order to gain exposure, New Zealand designers have to be prepared to go and knock on somebody's door and tell them what they are doing.

He also believes that in order to create a great product, designers have to establish strong relationships with industry. Haythornthwaite refers to toolmakers and fabricators as development partners; saying that it is essential that they work with you to understand your vision. He uses the example of the relationship that he established with a toolmaker for the Artifakts plastic mouldings. At the beginning of their relationship Haythornthwaite showed him examples of mouldings by the manufacturer Braun, saying that if New Zealand was to succeed internationally, it had to be as good as Braun. Haythornthwaite believes that this toolmaker shared his vision and describes the quality of the Artifakts plastic moulding as probably better than anything else ever produced in New Zealand.

Likewise, Clare Mora, founder of design retail gallery Essenze also believes that it is important for designers to establish collaborations, in particular with retailers. She says that many New Zealand designers need to learn to view the retailer as a business partner, not the enemy. She encourages designers to form relationships with retailers and to create systems that will benefit both parties. According to Mora, David Trubridge has learned a lot from working closely with retailers.

In summary, Haythornthwaite and James have demonstrated that forming strong collaborations with industry is essential to the success of a product. Haythornthwaite says:

“If you are creating an object, it is about playing around and getting a darn good companion company to work with.”

Research question 4

What is the ideology behind the limited edition, design art field, and what national and international channels support and promote this niche?

Findings are as follows:

The ideology behind the limited edition, design art field

Design art refers to limited edition, prototype and one-off objects that are described as chairs, tables and luminaires of which designers are commissioned to sell prototypes, one-offs or limited editions through galleries and auction houses. These objects are intended to be appreciated as sculptures and pieces to be used but do not fulfil the definition of modern design, in that they are not designed for industrial mass production and do not necessarily solve problems to enhance life (Zehentbauer, 2008).

These objects often integrate a narrative as an integral part of their finished form and are considered to be ‘evocative’ and ‘symbolic’ when compared with utilitarian, equivalents (Williams, 2009a). Typically they are created by the designer outside of the industrial manufacturing system and are the results of exploring the boundaries of materials, process and medium (Lovell, 2008).

Gareth Williams, curator of the furniture department at the Victoria & Albert Museum (V&A) describes Arad and Newson as prophets in the design art field. He says that Arad’s reputation is built on his innovative, experimental and influential furniture created in small editions over three decades. He goes on, to describe Newson’s output as more limited in range but no less visually distinctive with its rarity and panache contributing to its value in the market. Williams believes:

“These designers have almost completely disengaged with the design world for their most personal (and collectable) works, preferring to show at art fairs and with art galleries. Newson exhibits with the Gagosian Gallery in New York and Arad with London’s Timothy Taylor Gallery, alongside the painters Craigie Aitchison, Bridget Riley and Alex Katz. The contemporary art market has welcomed these designers as, relative to the cost of art, design objects remain affordable but no less distinctive” (Williams, 2009a).

Arad's 2009 exhibition at the Timothy Taylor Gallery in London, a gallery that has sole representation of Arad's limited edition and design art works in the United Kingdom:



Figure 56 Exhibition 'Ron Arad: New Work'.

Newson uses a hands-on sculptural process when experimenting with new and fresh shapes in his studio based design art work and later applies this knowledge to client and commercially based projects. Newson explains the benefit of working between the areas of design art and mass produced projects as mutually beneficial. *"When I make a sculptural object, its shape will carry on to commercial projects. It also works the other way around"* (Jana, 2006).

Examples of Newson's experimental works were displayed in 2007 at the Gagosian Gallery, a renowned New York contemporary art gallery:



Figure 57 Exhibition 'Marc Newson'.

Design art work mutually benefiting mass produced projects is also a point of view shared by Lovegrove:

"I approach my work also from the position of a sculptor of modern technology and the in-depth research I make with my limited edition pieces is fed back into the system to make my industrial design products a form of accessible art – my water bottle is a good example of this perhaps" ("Interview mit Ross Lovegrove," 2008).

Lovegrove's 2007 exhibition, 'Endurance' was displayed at the Phillips de Pury & Company's New York headquarters featuring ten limited edition pieces. These objects capture the essence of Lovegrove's 'organic essentialism', being an opportunity for him to experiment and grow as a designer:



Figure 58 Exhibition 'Endurance'.

In addition to Arad's, Lovegrove's, Newson's and Trubridge's use of design art to reinforce their high profile status, a number of other designers such as Marcel Wanders, Hella Jongerius and Tord Boontje have also used design art to build their profiles.

In summary, the area of design art has provided the creative freedom for these designers to showcase distinctive objects that are the result of experimentation with materials and process. The work produced is free from the constraints associated with projects of a commercial mass production nature, and has allowed these designers to create personal objects that express their point of view and identity. Findings from this experimental work are often used to benefit commercial mass production projects. This, in combination with the subsequent publicity received through public display, helps reinforce their high profile status in the high value area of design.

Channels that support and promote the limited edition, design art field

Summarised below is a snapshot of the national and international channels that support and promote the limited edition, design art field. Clare Mora, founder of design retail gallery *Essenze* believes that it is essential for designers to understand how all areas of the design industry work in order to appropriately position an object and gain exposure as a designer. The information below will be used as a reference as I work to establish a track record and build a reputation in this field.

National galleries

Creative New Zealand (CNZ) describes *Objectspace* in Auckland as an exhibition based organisation and a national exhibition space. It has a project committee that receives expressions of interest and proposals regarding exhibition types which they use to develop their annual exhibition plan. CNZ say that galleries such as *Objectspace* are great venues for designers wanting to build their exhibition track record. They go on to say that building a track record is essential for a number of reasons, including eligibility for funding and grants. Phil Cuttance is used as an example of a designer who participated in a 2007 *Objectspace* exhibition, 'Showroom' and later applied for and received project funding to attend the Milan Furniture Fair.

The Victoria & Albert Museum (V&A) in London could also be described as a national gallery. Their 2009 exhibition 'Telling Tales: Fantasy and fear in contemporary design', curated by Gareth Williams, featured designers from around Europe who experiment with the boundaries between art and design (Williams, 2009b).



Figure 59 Website of the Victoria & Albert Museum's 2009 exhibition, Telling Tales: Fantasy and fear in contemporary design.

Curator and dealer galleries

Sophie Lovell in her book 'Limited Edition: Prototypes, one-offs and design art furniture' describes curator and dealer galleries as 'the new patrons' of experimental and contemporary design objects. These venues commission limited editions, collections and one-offs from a small selection of designers and architects (Lovell, 2009, p.165). A number of these galleries such as *Moss* in New York also have retail gallery spaces attached to them.

This is consistent with CNZ's description of Auckland gallery *Masterworks* as a dealer and retail gallery. The dealer gallery exhibits artists' work and the retail gallery display cabinet and shelf based work for sale.

Design specific retail gallery stores

New Zealand design store *Essenze* showcase and retail New Zealand made, designed and crafted objects for an international audience. Clare Mora, *Essenze* founder, says that they are selling the romance associated with New Zealand through their collection of objects that span furniture, lighting, floor coverings and lifestyle categories to the world.

With a head office and retail gallery based in Auckland, *Essenze* also have a store-in-store in New York and an affiliated office in Amsterdam. She says that *Essenze* works closely with New Zealand designers and crafters such as David Trubridge, Peter Collis and Katie Brown to create craft orientated objects that can be scaled to production volumes. She calls this field 'designed-craft'.



Figure 60 (left) Clare Mora and the *Essenze* retail gallery, Auckland
Figure 61 (right) The *Essenze* retail gallery, Auckland.

Trade fairs and design specific events

According to CNZ the Milan Furniture Fair and the International Contemporary Furniture Fair (ICFF) are important events for designers. CNZ financially support designers to attend these fairs through their various funding schemes. The importance of attendance at these fairs is reinforced by the understanding that David Trubridge's initial exposure came from the Milan Furniture Fair.

Annually there are a number of general design fairs held around the world, such as 100% Design as well as more specific events catering to the design art industry such as Design Miami / Art Basel.

Auctions

The sale by auction of vintage twentieth century design objects in the 1990's from designers such as Charlotte Perriand and Eileen Gray helped fuel the demand for contemporary design objects and establish the design art market (*Lovell, 2008*).

Phillips de Pury & Company (London) was the first auction house to have a dedicated design art sale in 2001 (*Williams, 2009a*) and now Sotheby's (London), Christies (London) and Wright (Chicago) also hold dedicated auctions.

The design art market has grown to such an extent that Newson's 'Lockheed Lounge', designed in 1986 sold for US\$1.6 million at Phillips de Pury & Company in 2009, establishing a new auction record for a living designer (*O'Shea, 2009*).

Creative New Zealand

CNZ is an arts development organisation that provides support and funding for New Zealand practitioners across a variety of art-forms including craft-object art. This category includes jewellery, ceramics, woodwork, metal, textiles and design.

Funding is available for the initial design stage, prototype stage and the public presentation of this work, including travel and freight costs if displaying at an international fair. The funding does not support the commercial production of a design project.

In terms of gaining exposure as a designer, CNZ recommend that practitioners approach CNZ at the appropriate stage of their career to build a track record. They describe the 'quick response grants' as being available to emerging practitioners, while the larger grants, have specific criteria that applicants need to meet.

Competitions

This research found no evidence to suggest that design related competitions provide designers with the exposure necessary to work as a design individual within the high profile and high value area of the design market.

Blogs

There are a plethora of design blogs to promote designers and experimental objects. This research found no evidence to suggest that blogs, as a medium, provide designers with the exposure necessary to work within the high profile and high value area of the design market.

Research question 5

What are the latest developments in direct manufacturing and rapid prototyping?

Findings are as follows:

Derek Manson is the founder of One.61, a New Zealand based design consultancy and rapid prototyping bureau. He can be considered a New Zealand rapid prototyping authority as he regularly attends Euromold, an industry tradeshow in Germany.

According to Manson the 'rapid prototyping' industry is attempting to change its name to 'additive fabrication' in order to alter the market perception of this technology. He says that One.61 is also exploring new applications for their Fused Deposition Modelling (FDM) rapid prototype machine and uses his electric guitar concept ("*One of a kind*," 2009) as an example of a limited edition production item, rather than a prototype.

Manson's guitar concept is made via the FDM process and features geometry that can be turned on or off between builds so that no two guitars will look the same or produce the same sound:



Figure 62 Manson's electric guitar concept.

He considers 'Materialise', a European based rapid prototyping bureau as a leader in the field of additive fabrication. Manson cites the 'Pininfarina Sintesi' concept car, and a range of houseware products displayed at MoMA, as results of their collaborative experimentation with the design industry. These projects incorporate lighting and exploit the freedom of geometry that only the additive fabrication process allows. This experimentation demonstrates what rapid prototyping machines are capable of outside the area of prototyping.

Manson describes advancement of material properties and Finite Element Analysis (FEA) tools as significant advances in the industry, saying that titanium and aluminium materials are now able to be laser sintered.

Materialise, a European rapid prototyping bureau uses a collaboration with Pininfarina to demonstrate the possible applications of the additive fabrication process:



Figure 63 'Pininfarina Sintesi' concept car.

When discussing new applications for rapid prototyping technology outside the experimental and conceptual field, Manson says that the technology still has a number of limitations. These are poor surface finish, limited material types and limited colour choice when compared to processes such as injection moulding. Consequently Manson believes that the main future application for additive fabrication technology outside of the area of traditional prototyping is within the industrial product sector, rather than the consumer sector.

Haythornthwaite also believes that today's fabrication technologies provide a new level of opportunity for designers wanting to develop their own products. He refers to David Trubridge as an example of someone who has achieved success through experimentation with fabrication technologies.

"The beauty is that you can produce 1 or 1000. In a way, the beauty is that you can design something, run 1, run 2, run 10, test the market and if you are feeling comfortable then you can run more. Certainly David Trubridge has proved this very well."

Reflecting on Haythornthwaite's comment, I realised that Trubridge uses a 'removal fabrication' technique via CNC machining, rather than an 'additive fabrication' process. Compared with the additive fabrication process this approach offers Trubridge many more material, colour and finish options for his objects.

However, in recent years there has been a proliferation of objects that utilise removal fabrication techniques such as laser cutting and CNC cutting. These objects utilise similar materials and consequently all share a similar aesthetic quality.

For this reason, while aware of the potential of direct manufacturing and rapid prototyping techniques, I decided that I would not let this constrain the direction of

my subsequent design experimentation and development sections.

I believe that this way of working would potentially provide me with the creative freedom necessary to arrive at a unique object by combining new or unconventional fabrication methods. This approach was inspired by Bertjan Pot's 'Random Light' which:

"...started out as a crafted object, but now is mass-produced by Dutch furniture brand Moooi. The first ones were hand-coiled, but then they invented a machine to do the coiling. So craft is helping develop industry." (Fairs, 2007)

Example illustrating how hand-made processes can be used to inform automated processes when working within the limited edition, design art field:



Figure 64 Bertjan Pot's 'Random Light' (2007).

To conclude, additive fabrication processes such as FDM printing and removal fabrication processes such as CNC or laser cutting are readily available within New Zealand. It is inevitable that some of these processing techniques will be employed for both the fabrication of an object created during this study and for later iterations or editions. However, drawing inspiration from Pot's 'Random Light', these techniques will not be the focus of this investigation as I will be experimenting with other fabrication techniques including analogue and hand-made processes with the view that they could later be automated using digital technology.

Conclusion: Contextual research

In summary, the continuous experimentation with materials and processes to create objects that make statements is common to the personal design identity of Arad, Lovegrove, Newson and Trubridge. Their personal design identities have been endorsed through collaborations with leading international manufacturers and authorities who are renowned for design, and contributed to their celebrity status within the high profile and high value area of design. The personal design identities of these designers are broader and deeper than the superficial aesthetics of a design signature and are a result of their individual point of view and attitudes.

In recent years the area of limited edition and design art has grown and become acknowledged as a field where these designers can showcase studio based experimental projects that are free from the constraints of commercial projects. The international interest in this growing field has been instrumental in reinforcing their celebrity status within the high profile and high value area of design. This field has also allowed a number of designers such as Marcel Wanders, Hella Jongerius and Tord Boontje to establish an international profile.

Growth in the limited edition and design art field has changed the way in which experimental work is showcased and endorsed within the industry. Curator and dealer galleries are now viewed as 'the new patrons' of experimental and contemporary design objects instead of the design renowned furniture manufacturers such as Cappellini, Magis, Moroso and Vitra.

In combination, these findings have provided me with an understanding of the two important factors that need to be considered when establishing a personal design identity and creating an object that expresses this identity.

The first area is to understand what statement I would like to make as a design individual. The second area is to experiment with materials and processes to define an idea and object that reflects this statement. This experimentation will consider the potential of direct manufacturing and rapid prototyping techniques but will not constrain any ideas generated. Time will also be spent experimenting with hand-made processes with the view that they could later be automated using digital technology.

Personal reflection and
design experimentation:

Introduction: Personal reflection and design experimentation

This section involves the process of ‘personal reflection and design experimentation’ to ‘find myself’ as a design individual. The focus of this section will be on the two areas identified during the previous section as being important factors to consider when establishing a personal design identity and a subsequent object that reflects this identity.

The first area of focus, understanding what statement I would like to make as a design individual, will be achieved through a process of personal reflection. This process involves reflecting on my point of view, values and approach as a design individual when creating objects for myself.

The second area of focus, experimentation with materials and processes, involves design experimentation where findings from personal reflection are transformed into actual concepts.

For the context of this study, the following definitions are provided:

‘Personal reflection’ refers to the personal evaluation and analysis of me as a designer and the ideas that I generate during this study.

‘Design experimentation’ refers to the exploration of ideas generated through this study. In this context experimentation involves the creation of a number of concepts using sketching, modelling, fabrication, rendering and 3-D Computer Aided Design (CAD) techniques.

Personal reflection

My nineteen year career as a designer has allowed me to work around the world both as a design consultant and as an in-house designer for a number of leading New Zealand and international organisations including Samsung Electronics, Navman, Fisher & Paykel Appliances, Navico, Lowrance, General Electric, Whirlpool, Esselte, Dymo and Humanware.

As a child I was curious. Typically this curiosity involved the question, “How does this work?” and “What happens if I do this?” This curiosity fuelled my enthusiasm for making things. The best afternoons after school were spent in my father’s shed either pulling something apart or building things. I would spread cake tins full of fasteners over the floor and spend hours imagining how individual components could be used in my inventions.

These inventions included a Batman suit made from newspaper and wire that should have allowed me to slowly descend from the top of a high fence, a spaceship that floated across my room on strings that acted as guide wires, a Star Wars inspired robot suit for my cat and a space invader machine made from flashlight bulbs and a car battery. While each varied in degree of success all shared the common theme of imagining how everyday items could be used in new contexts.

Inevitably, this curiosity led me to the field of industrial design. A 1991 graduate of the Wellington Polytechnic School of Design, I received an Honourable Mention Award at Sony Design Vision 91 (an international student design competition) for the design of ‘My Pal Sony’, a children’s audio player.

The concept behind this product was the result of exploring and understanding new potential market categories and experimentation with ideas around digital technology. ‘My Pal Sony’ is an interactive product that grows with the child for the first eight years of his / her life. Initially it acts as an intercom between the child and parent and is a source of passive learning, music and a night light. As the child grows the product becomes more interactive, facilitating their independence as the night light becomes a reading lamp and the intercom a microphone.

'My Pal Sony' is an interactive audio player that grows with the child for the first eight years of his / her life:



Figure 65 'My Pal Sony' (1991) received an Honourable Mention Award at Sony Design Vision 91.

Another object, also designed during my final year at design school, was an outdoor chair that focused on the idea of multi-position seating when relaxing and socialising. The footrest and side platter move to allow the user to sit in a number of positions while the overall aesthetic of the object was chosen to express the feeling of relaxation and the outdoors. This project is referenced because the personal satisfaction gained during the design and crafting process of the chair made me realise that I had a passion for furniture design and creating objects that are inspired by observing them in different or new contexts. It could be argued that this object was the most personal created to date.

Outdoor chair that focused on the notion of multi-position seating when relaxing and socialising. Perhaps the most personal object that I have created to date?



Figure 66 Outdoor chair (1991).

Upon graduating I was employed by Fisher and Paykel Appliances for five years, contributing to the industrial design and Graphic User Interface (GUI) design for a number of refrigeration and laundry products, including the Smart Drive 3 washing machine.

This washing machine is a good example of the constraints that I have faced during my career when working on commercial projects. In this case the constraint was to restyle the product to match Fisher & Paykel's new 'Softline' aesthetic by changing only one moulding, the top console. The result was a fresh looking product that maintained its position in a changing market.

An evolution of Smart Drive washing machine family designed for the mid to high end American and Australasian domestic market:



Figure 67 Fisher & Paykel Smart Drive 3 washing machine (1994).

After working in New Zealand for six years, I spent another five years in London working for two design consultancies, PSD:Fitch being one of them. At the time the Fitch network was the largest group of design consultancies in the world and I was given the opportunity to work on a diverse range of projects around Europe and India.

Here I gained a reputation for designing products that solved problems and usability related issues, and I took great pride in my ability to quickly change my design style in order to meet client and brand requirements. The Dymo 'Junior' label maker, a label embosser for children, is an example of a product I designed to replace its iconic predecessor.

The 'Junior' label maker's form factor was designed to complement Dymo's design language. Functionality was informed by user research:



Figure 68 Dymo 'Junior' label maker (2001).

The soft form factor of the label maker was designed to complement and grow Dymo's design language and the details were informed by observing how children interacted with the previous product to understand their frustrations. These insights led to the product being reconfigured to internally hold the embossing tape and allow the product to be gripped in a number of ways.

Following London, I received a two year contract to work at the Samsung Electronics Design Centre based in Seoul, South Korea. My role included; inventing new product categories and concepts for Samsung's emerging technologies, guiding Samsung employees during the design process, providing an international point of view in order to help Samsung develop a design language that was more appropriate to their European customers. Again, I took great pride in my ability to quickly adapt my design style to suit the client, in this case Samsung.

I then returned to New Zealand and worked hard to establish a design presence within organisations such as Navman and Humanware where I contributed to the design of some very successful products. These included the Navman F20 which sold close to one million units, to become the United Kingdom's second best selling in-car navigation product at the time, and the S-Series, a range of in-car navigation products that received a number of accolades throughout Europe for its compact size and ease-of-use.

Examples of products designed while at Navman that in time became viewed as mass market commodity products. Perhaps this was a result of their nine month inception to market time line that provided no allowance for design experimentation?



Figure 69 (left) Navman F20 in-car navigator (2006).
Figure 70 (left) Navman S-Series in-car navigation range (2007).

Reflecting on my career to date, while it has been extremely enjoyable and rewarding, my focus as a commercial designer has affected the development of my own design personality.

I could be dubbed a design chameleon, whose camouflage has been the identity of the brands I have been designing for...

Figure 71 illustrates this situation, in a humorous way, with my personality as a designer being safely disguised behind the brands that I have been designing for. It also illustrates some of the personal attributes that I have 'road-tested' during the 'personal reflection and design experimentation' process of 'finding myself' as a designer.

It could be argued that being labelled a design chameleon is not undesirable, especially if the designer is offered job security. However, in recent years, for me, this has not been the case, hence motivation to ideally become acknowledged as a design individual through the design of studio based limited edition, design art objects. As with Arad, Lovegrove, Newson and Trubridge, it is intended that my work in this field will also inform and strengthen my work, profile and position as a designer when working on commercial projects, ultimately providing me with more autonomy and security than before.

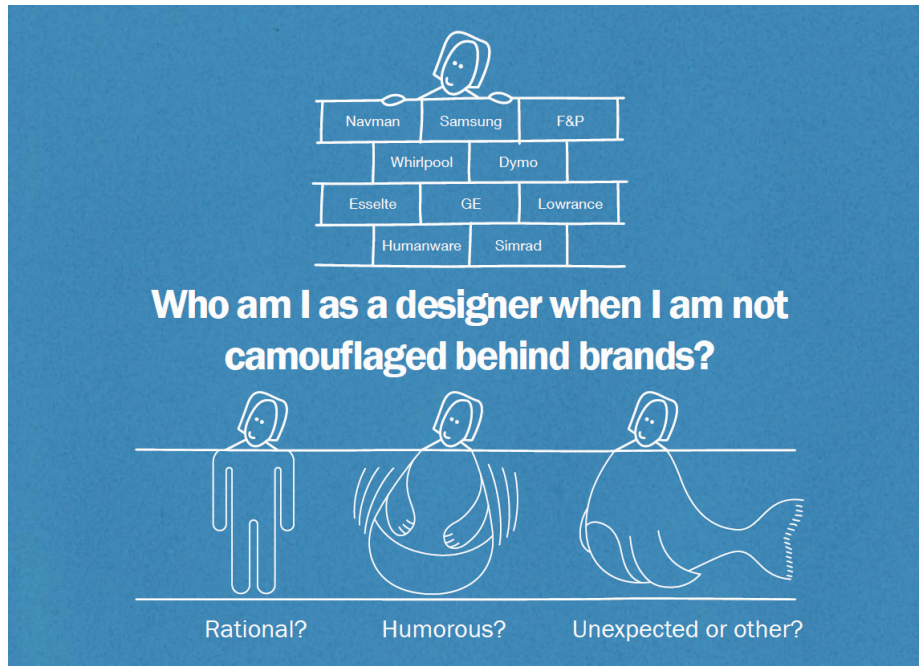


Figure 71 Who am I, as a design individual, when I am not camouflaged behind the brands I design for?

Furthermore, when looking at my various roles as a designer over the past few years I have realised that I have become increasingly dissatisfied with my day-to-day workload. The reason I was attracted to design as a child was because of my curiosity and enthusiasm for making new things. I have realised that this component of design is generally no longer part of my day-to-day life as a designer. Rather, the focus is on gaining known results quickly and efficiently – not unknown results through experimentation, combined with the increasing administration responsibilities of being a design manager.

This realisation has reinforced my motivation to enter the limited edition, design art field to gain more creative freedom and autonomy within the design industry. According to Williams, a number of well known designers have also entered this field for the same reasons and same desired outcomes:

“These designers, often well-known names, are seeking more autonomy from the design-manager role prescribed for them, and more creative freedom than working to industrial briefs will allow. They realise that also art fees are potentially more lucrative than design royalties will ever be. For those designers without the backing of gallerists, small editions of self-initiated projects offer a way to produce their own work, giving access to collectors and a chance to build a media profile” (Williams, 2009a).

Subsequent personal reflection revealed that I have been serious for my whole career, having worked predominately on serious projects, which is in contrast to my personality of a fun-loving, not too serious individual who is easily drawn towards the quirky. The design style that I aspire to typically combines bold geometric shapes with bright colours and patterns that are more often than not inappropriate for use as a corporate designer. These two factors have also contributed to a desire to work on projects that offer greater creative freedom than my commercial projects allow.

In summary, the process of personal reflection has provided me with a theoretical understanding of ‘who I am’ and what statements I could make as a design individual:

I am a designer that has always had a passion for furniture design. I have a natural curiosity and enthusiasm for making new things. I enjoy the challenge of using everyday materials in new and alternative ways. As a designer I would like to work on projects that provide more autonomy and creative freedom than my typically serious and rational commercial projects allow, by creating objects that are primarily ‘emotionally rich’. I have sense of humour and like to make people smile, laugh and be happy. I receive great satisfaction from seeing people enjoy and amuse themselves. I am drawn towards quirky ideas and objects. Bold geometrical shapes, colours and pattern provide me with great pleasure.

The challenge from here for the following ‘design experimentation’ sections is to change my way of thinking from that of a corporate focused designer to that of a design individual and to transform the above into a personal design identity.

Design experimentation 1

The goal of this section is to translate all of the knowledge gained into ideas, concepts and objects.

But where and how do I start?

Not knowing where to focus, I decided to explore design art ideas that captured the essence of what I believe New Zealand is renowned for. In my mind New Zealand is famous for outdoor living, beaches, wine and a social culture that encapsulates all of these aspects, as illustrated in figure 72.

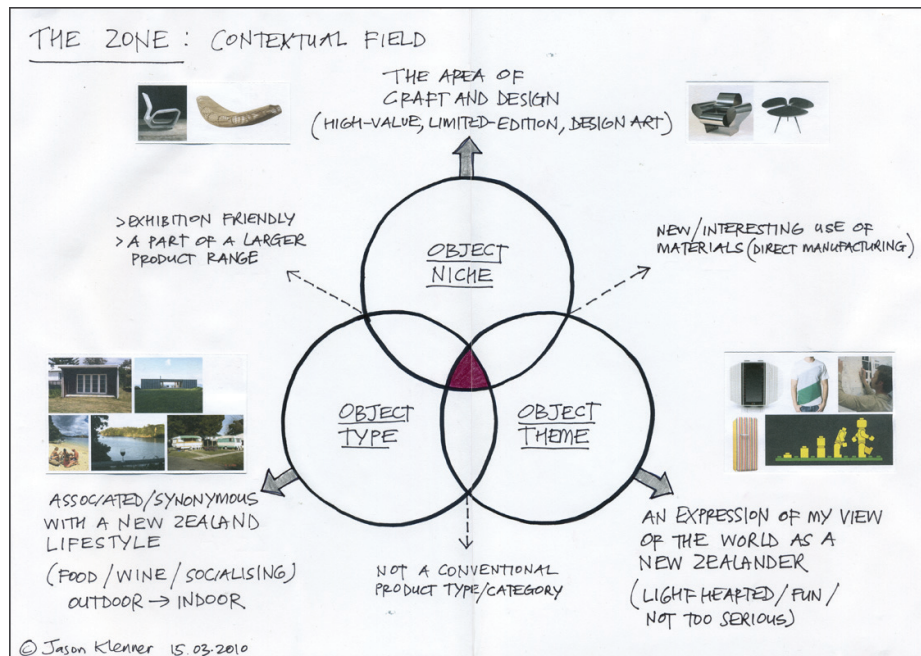
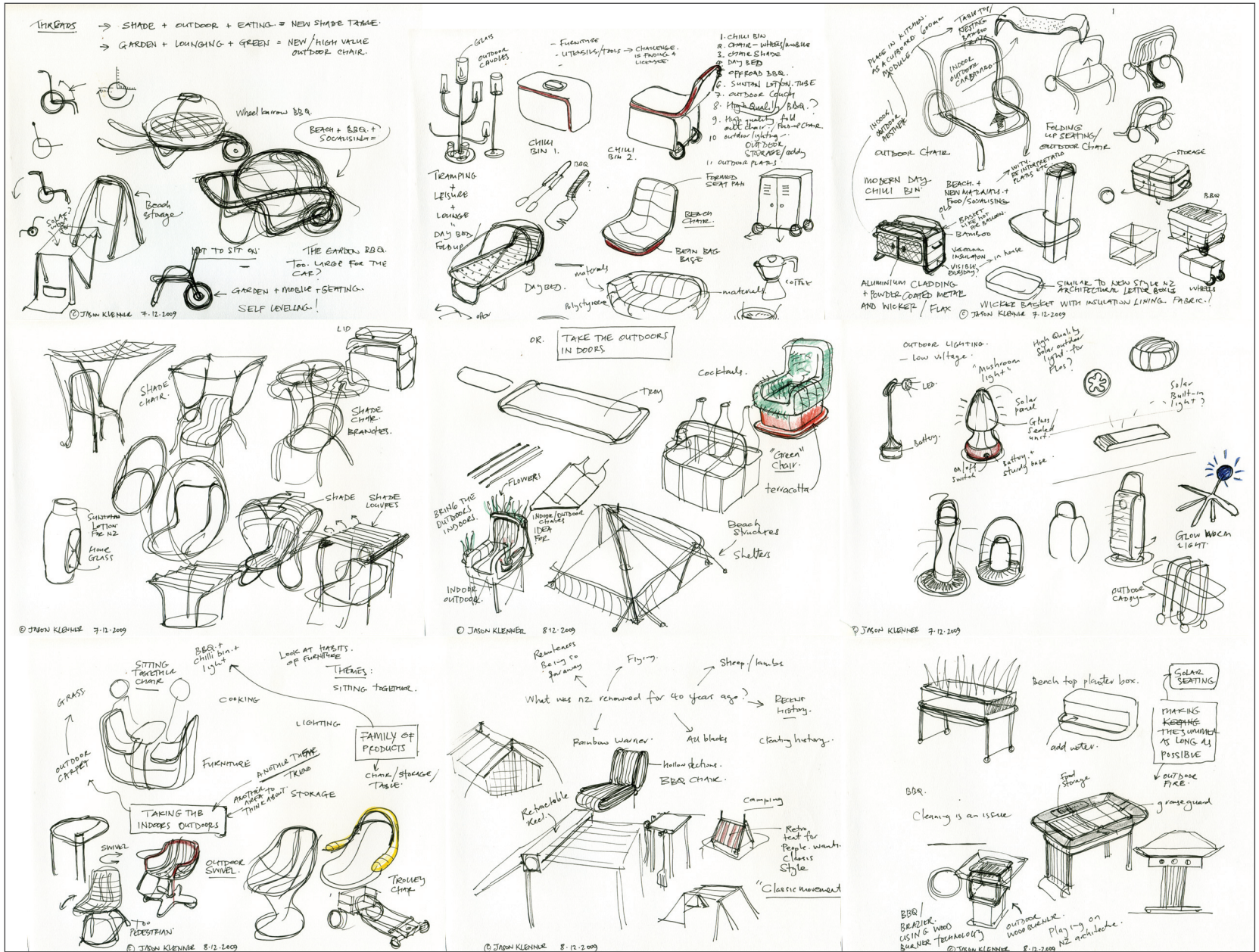


Figure 72 'The Zone, the contextual field that I was initially working in.

The first sketch was the hardest... I felt vulnerable creating ideas that expressed my personality... what if nobody liked or understood them?

Included is a selection of the initial thoughts generated during this stage:

Figure 73
A selection of sketches illustrating my initial ideas.



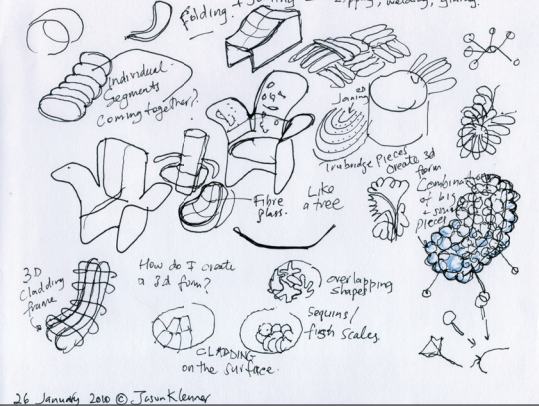
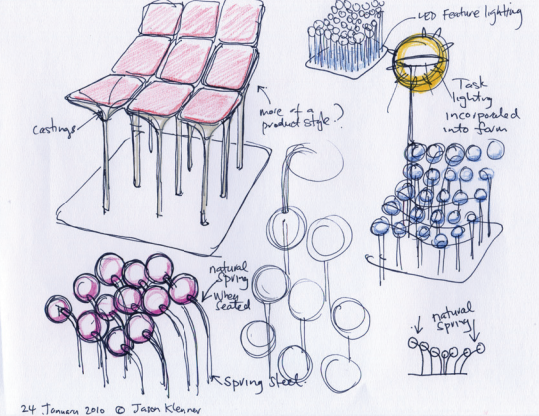
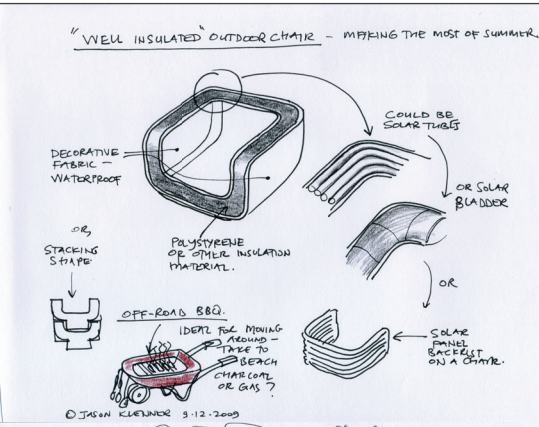
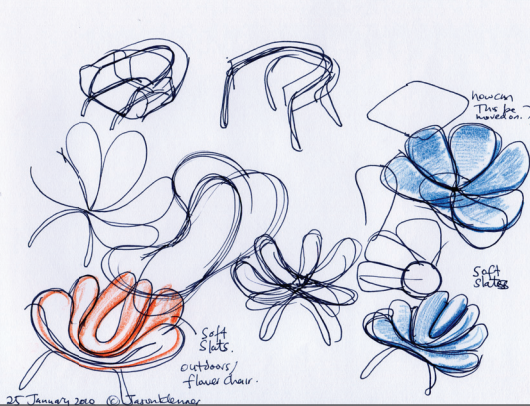
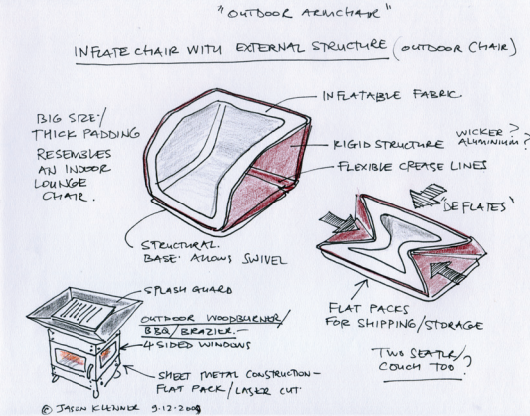
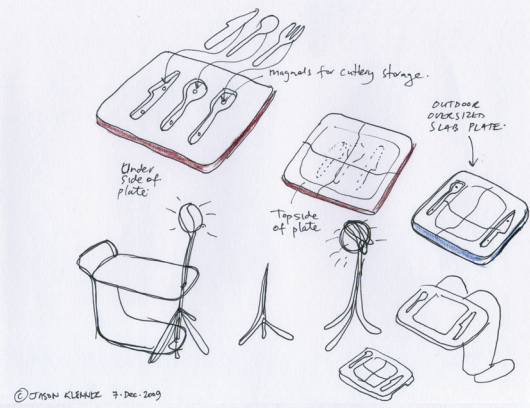
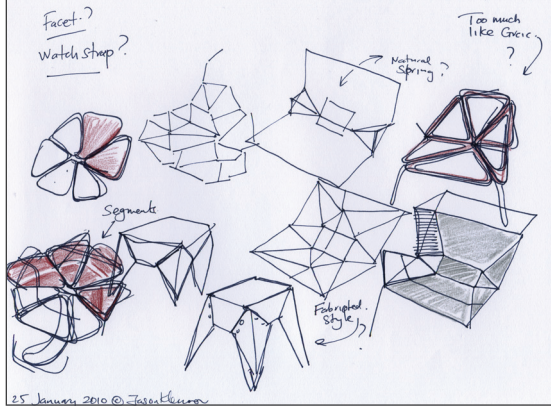
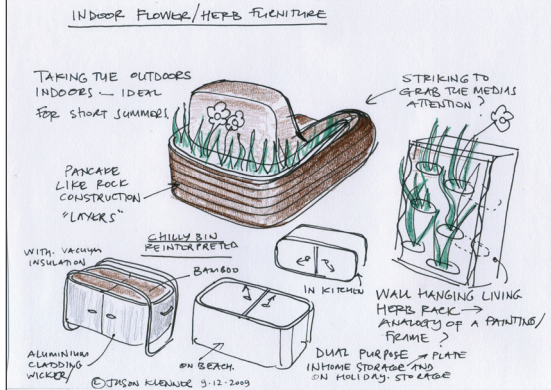
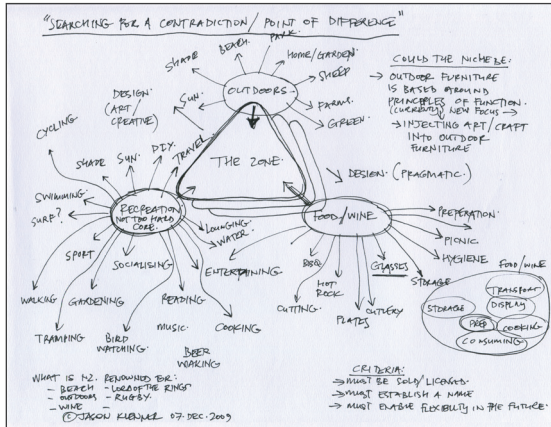
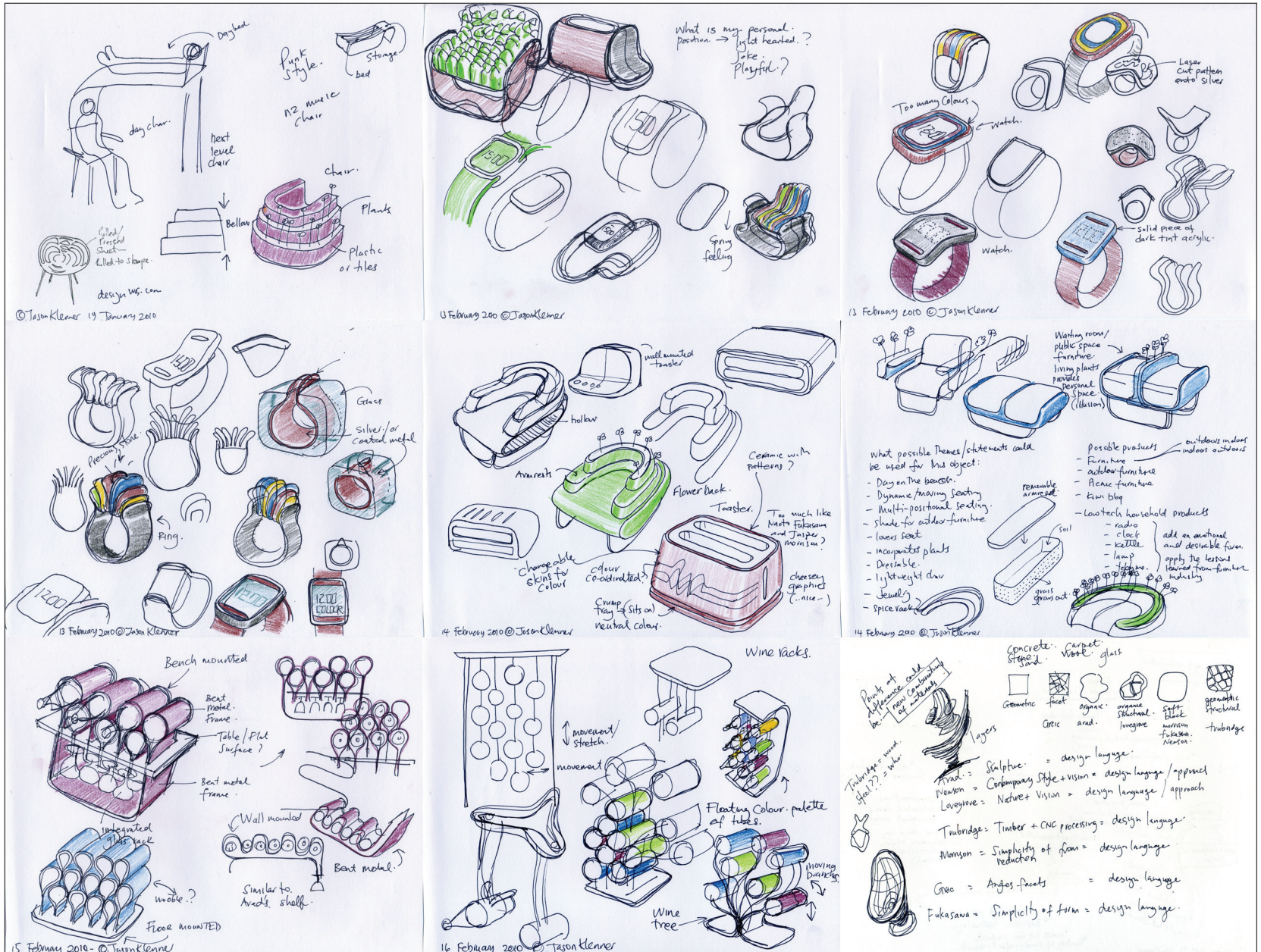


Figure 74 A selection of sketches illustrating my initial ideas.

Figure 75

A selection of sketches illustrating my initial ideas. Note how the sketches to date apply colour boldly.



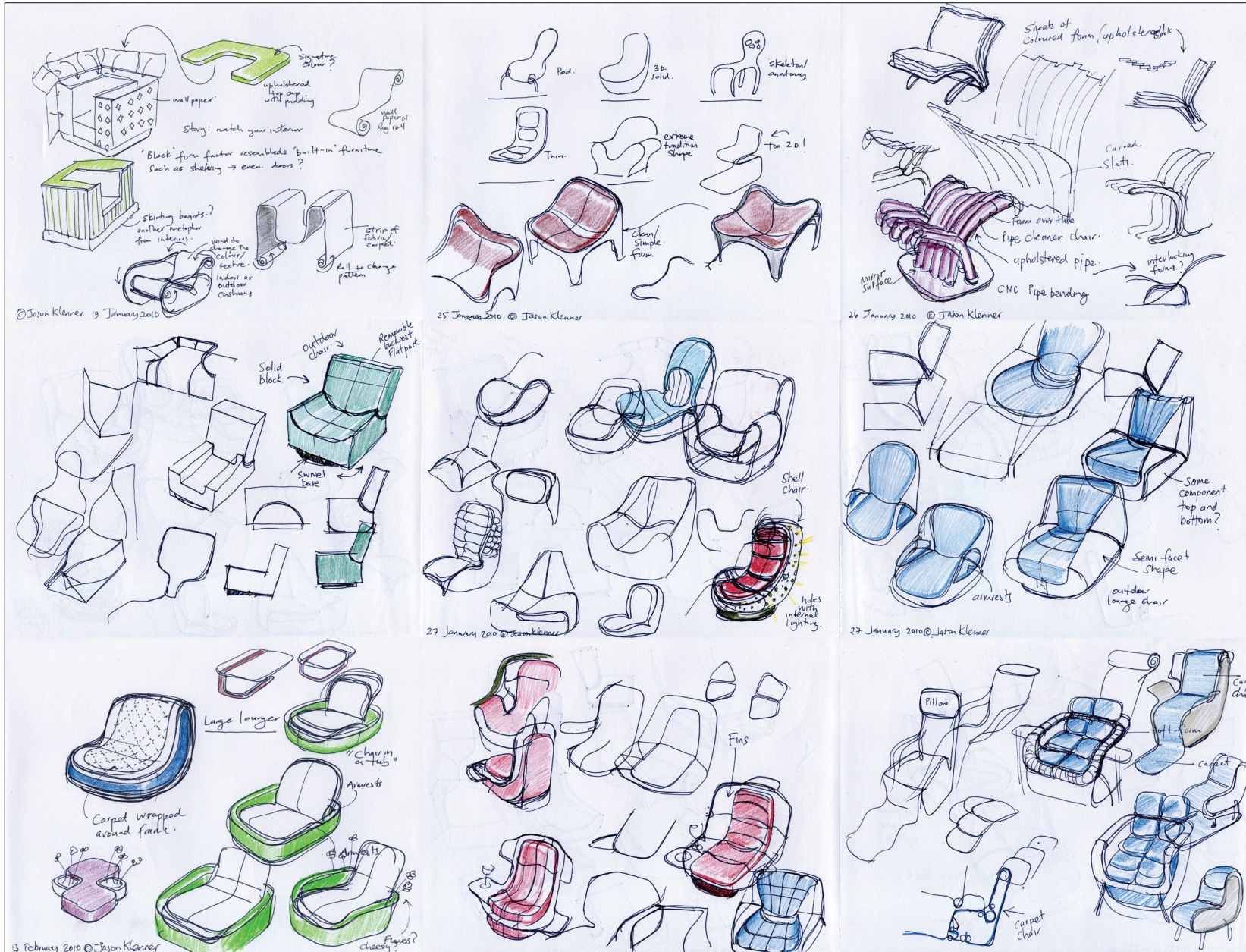
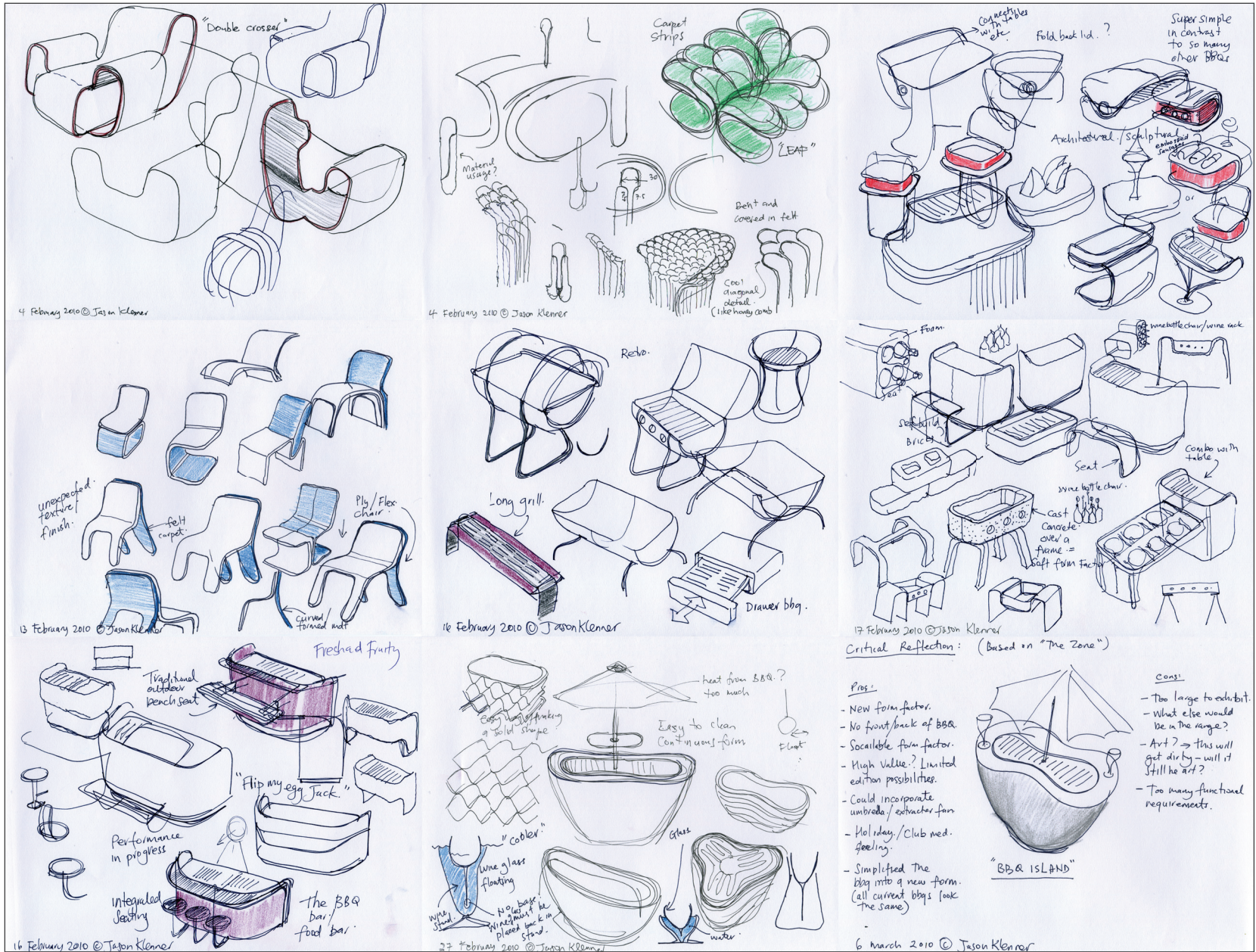
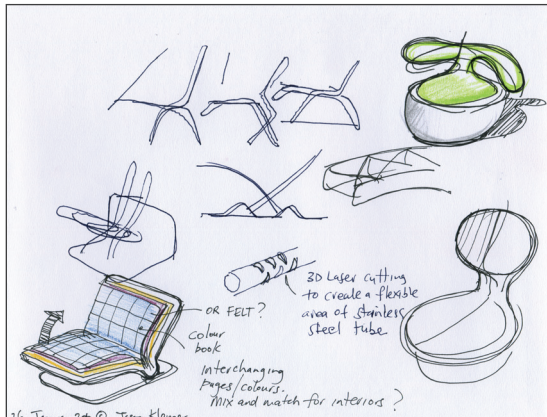


Figure 76
 A selection of sketches illustrating my initial ideas. On reflection, the ideas so far are form driven rather than material driven.

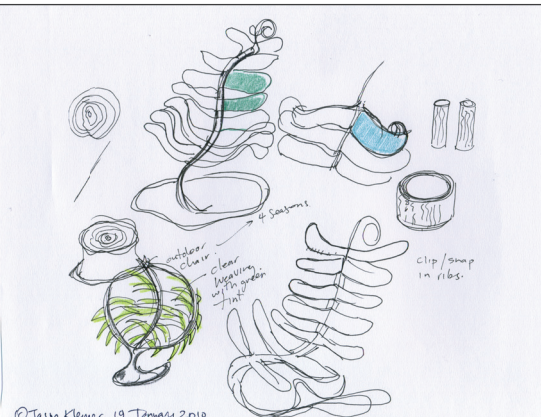
Figure 77

A selection of sketches illustrating my initial ideas. Note that the BBQ ideas are based around food and eating in a social context.

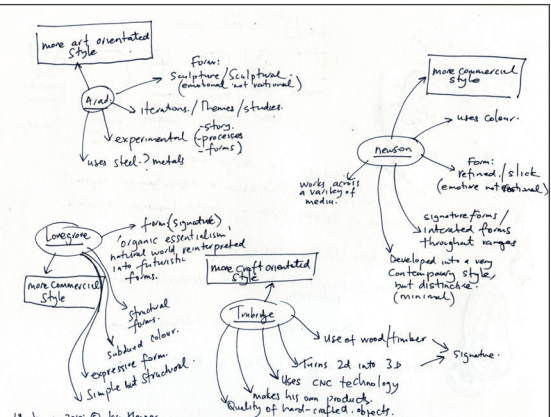




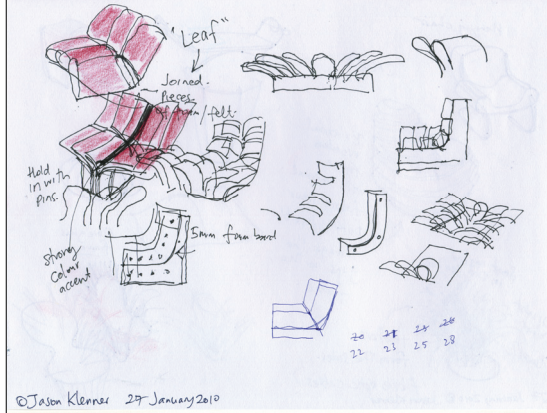
16 January 2010 © Jason Klenner



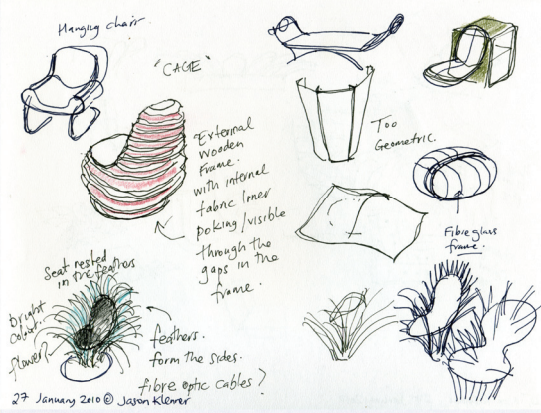
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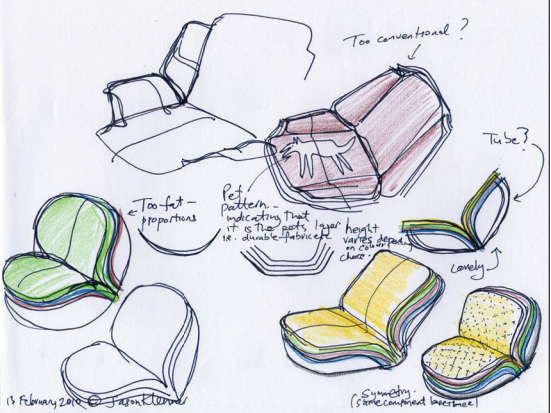
13 January 2010 © Jason Klenner



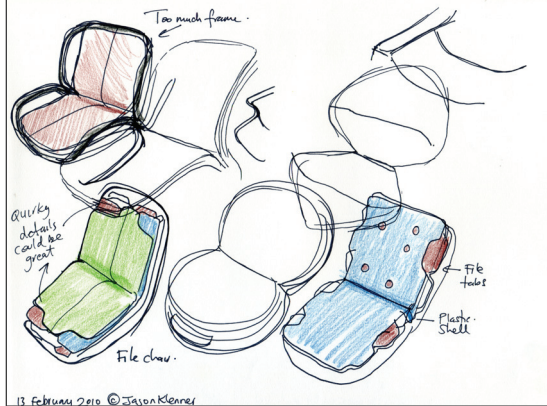
© Jason Klenner 27 January 2010



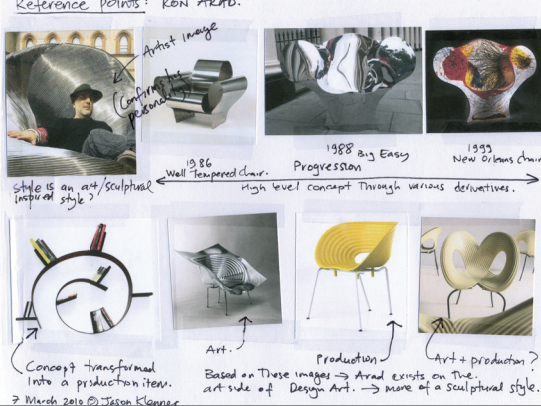
27 January 2010 © Jason Klenner



15 February 2010 © Jason Klenner



13 February 2010 © Jason Klenner



7 March 2010 © Jason Klenner



8 March 2010 © Jason Klenner

Figure 78 Further idea generation involved understanding who I am as a designer. During this process repeated informal analysis of Arad, Lovegrove, Newson and Trubridge was used for guidance and benchmarking purposes.

Figure 79
Reflection on the ideas
generated to date.

"SHELVING" for wine.

Book storage
Screen table?
wine storage
Subtle wobble
Glass storage
Floating feeling suspended.

Note: Too heavy for wall?

14 February 2010 © Jason Klenner
Critical Reflection: (Based on "The Zone")

Critical Reflection: (Based on "The Zone")

Pros:
- Idea has good limited edition possibilities
- Can be personalised.
- Idea can be taken to new areas:
g. Summer/summer skins.

Cons:
- Idea has been used before - but not exactly in this way. (Kear, ICFR, Jane Afford)
- Where is the social aspect?
- Current model = big and chunky
- Indoors or outdoors? Ambiguous.
- Not linked with New Zealand.
- Not easily linked with a range of products?
- Too much like a regular upholstered piece of furniture.
- IT is a chair/seat
- Too mass market?

6 March 2010 © Jason Klenner
Critical Reflection: (Based on "The Zone")

Critical Reflection: (Based on "The Zone")

Pros:
- Unique/distinctive.
- Easy to develop a range.
- Indoors and outdoors.
- good limited edition possibilities.
- Good, high-value niche possibilities.

Cons:
- (model) is too rigid.
- Not linked with New Zealand.
- Appears 1980s
- Contact??
- Indoors or outdoors? not-obvious
- It is a chair seat.
- Where is the social aspect?

note: The chair needs to be combined with something else to create the "social" aspect.

6 March 2010 © Jason Klenner
Critical Reflection: (Based on "The Zone")

Pros:
- Interesting ideas of combining wine-related items: bottles and glasses.
- Wine → good topic.
- Good size to display/to have a range.

Wine Racks:

Cons:
- Not light hearted?
- Too functional?
- Too small → not high value enough? → where is the art context?
- Object needs presence → cannot be guaranteed.
- Looks like IKEA or Habitat (at best)
- Limited personality
- Too rigid.
- No New Zealand outdoors styling in the form factor.
- Too static → More interaction is required about how many racks are used.
- Indoors only?

6 March 2010 © Jason Klenner
Possible model range/collection range:

Pros:
- Captures NZ bbq personality.
- Could be a larger/modular system
- Could incorporate under table heating
- Modules could include:
- Coal pit
- Gas pit
- Flame pit
- Lazy Suzy pit
- Heater pit
- Hot rock.

"Tabletop BBQ" (Iceland Galbi influenced).

Cons:
- Too large to exhibit/show
- Only one item - one large item
- Too many functional requirements.
- Do people really want to buy at their table - especially if it starts to rain.
- A serious purchase.
- Limited edition/art?
- Does this go against the traditional kiwi bbq culture? (man cooking with mates)
- Where is the NZ style.
- Gas = Low value?
- Coal = High maintenance.

6 March 2010 © Jason Klenner
Possible model range/collection range:

Pros:
- Unique/distinctive.
- Strong personality - good for a NZ based piece.
- Good for limited edition possibilities
- Fun - light hearted.

"The Birds"

Cons:
- What would the rest of range be like?
- New Zealand perspective/angle - does this have one?
- Dangerous - hanging glass?
- Would people install this?
- Requires a lot of space.
- Indoors only.
- Display more than functional?
- Ergonomics/Usability?

6 March 2010 © Jason Klenner
Direction Defining

Inspiration: "indoor skins" OR 4-Seasons of furniture.
- Mobile.
- Light weight
- Movable.

Wine racks + chillybin

Glass holder too.

7 March 2010 © Jason Klenner

Inspiration: "The kiwi BBQ" → BBQ/chimney/Tambaks/chair/foetal

Setup and eat? Portable wine table. Cool/back culture.

Becomes a breeze → summer funs
could become table mounted?
when carrying

Quality materials laid-back relaxed simplifying the new over-the-top outdoor experience.
Is there a market for this? who are the potential manufacturers that may be of interest?
Too low rent

"Outdoor Socialising" (not eating)

7 March 2010 © Jason Klenner

Rocking chair
outdoor tea set? N2 ceramics?
outdoor picnic tray
inside to port

outdoor living? Pots and pans for indoor/outdoor life.

New process of folding a chair.

Outdoor lantern
safety flags around bbq

Also - Salt and pepper outdoors

BBQ in the Park Project
Dotty Public

BBQ at the beach Project
plates/sit storage?

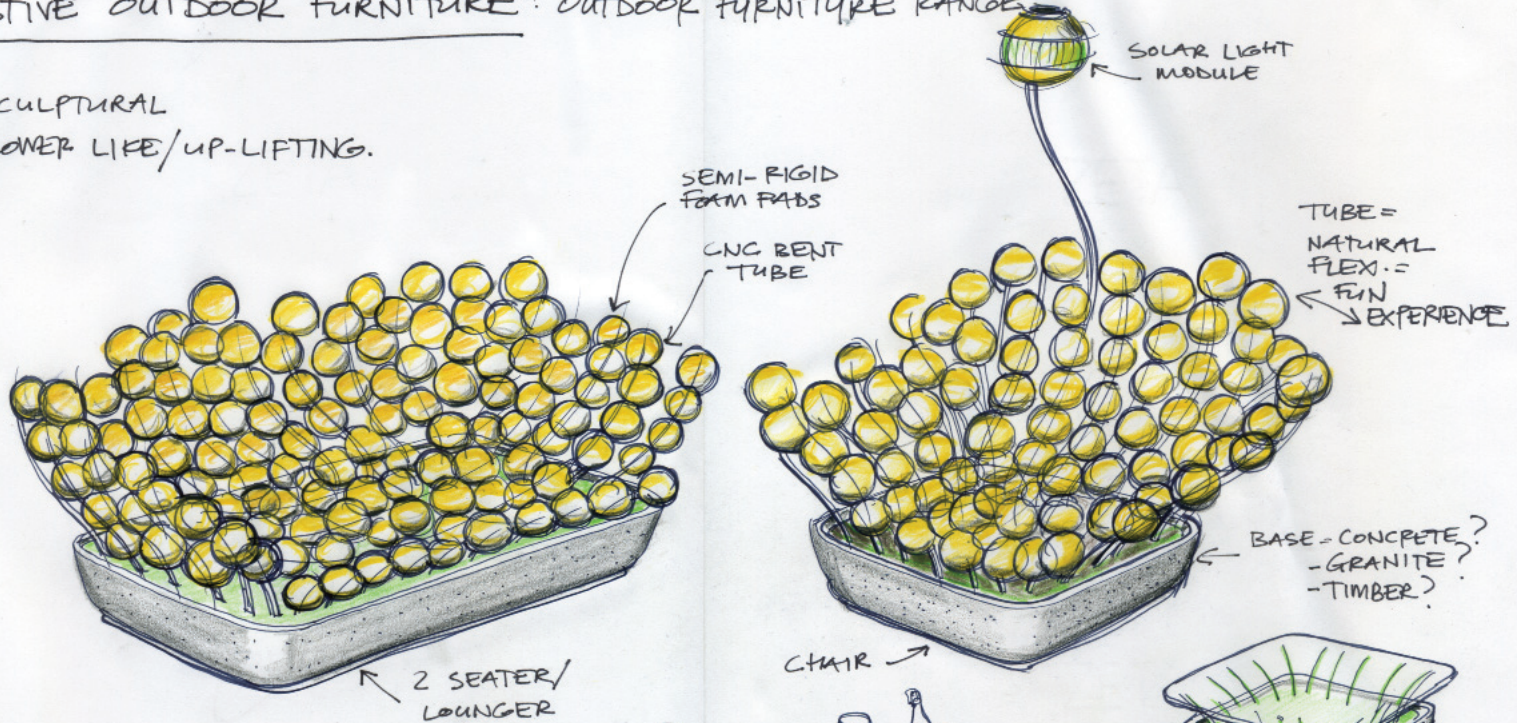
Plates!! in the garden

POSSIBLE PROJECTS
POSSIBLE THEMES
OUTDOOR TABLE

8 March 2010 © Jason Klenner

FESTIVE OUTDOOR FURNITURE: OUTDOOR FURNITURE RANGE

- > SCULPTURAL
- > FLOWER LIKE/UP-LIFTING.



VISUAL REFERENCES:

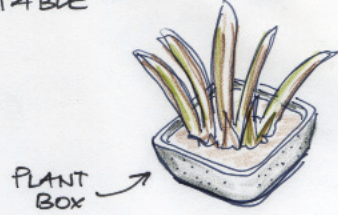
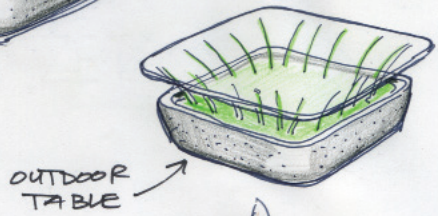
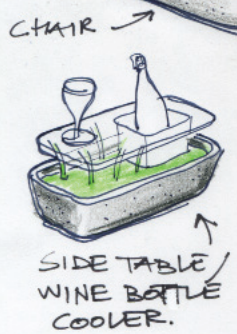
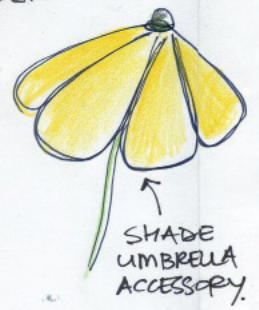
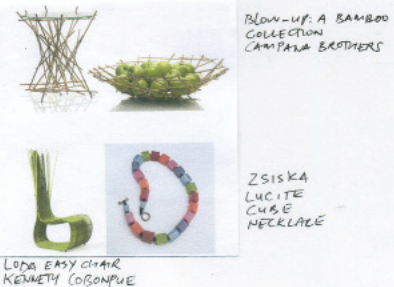


Figure 80
 'Festive Outdoor Furniture' incorporates a number of padded spheres that are attached to rods to form a seat platform that offers an interesting and dynamic seating experience.

© Jason Klenner 14.03.2010

Figure 81

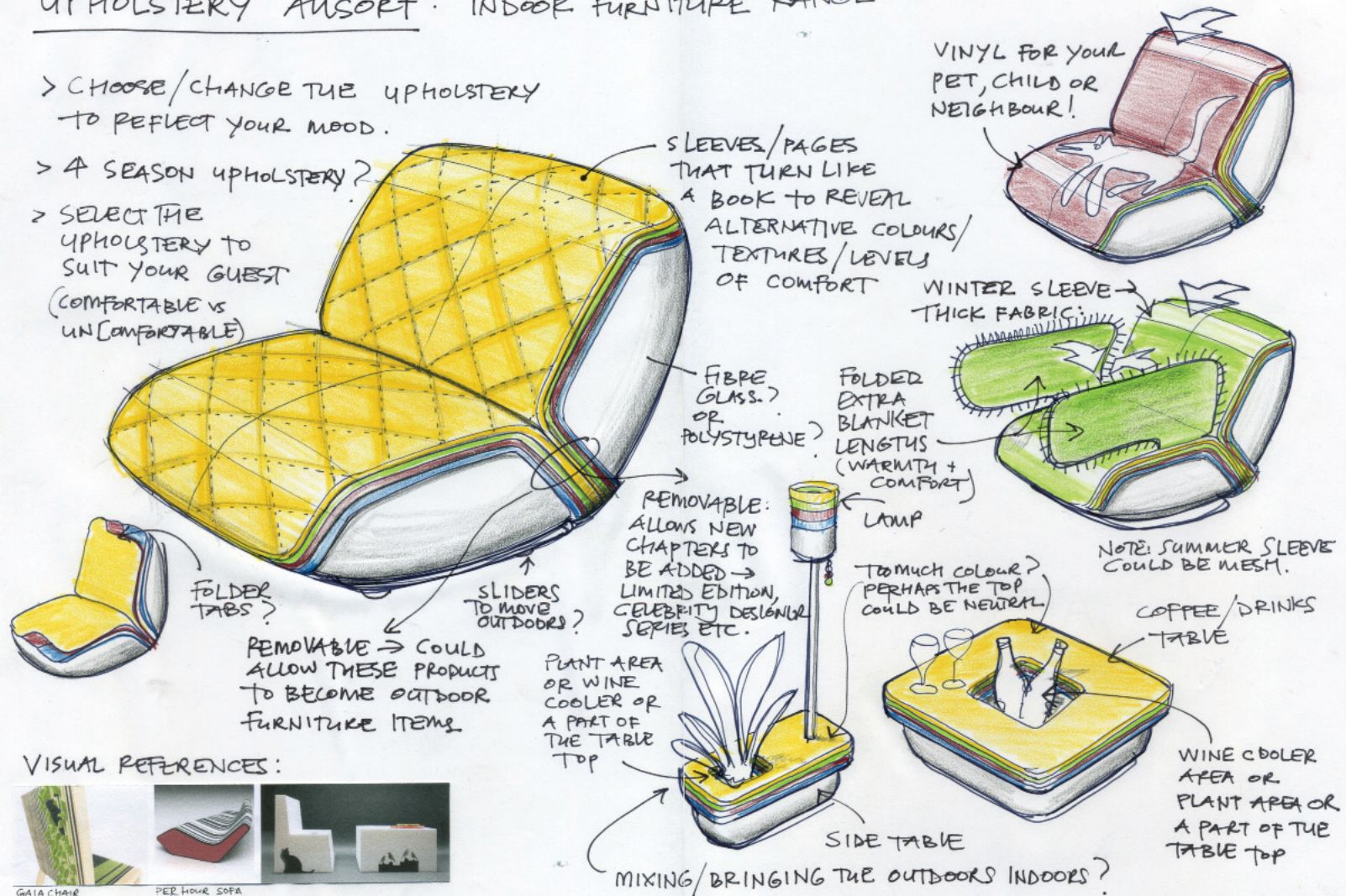
'Upholstery Allsort' binds a number of layers of upholstery like leaves in a book. The user can select the desired upholstery type based on their mood or house guest.

UPHOLSTERY ALLSORT: INDOOR FURNITURE RANGE

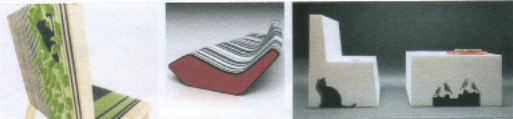
> CHOOSE/CHANGE THE UPHOLSTERY TO REFLECT YOUR MOOD.

> A SEASON UPHOLSTERY?

> SELECT THE UPHOLSTERY TO SUIT YOUR GUEST (COMFORTABLE VS UNCOMFORTABLE)



VISUAL REFERENCES:



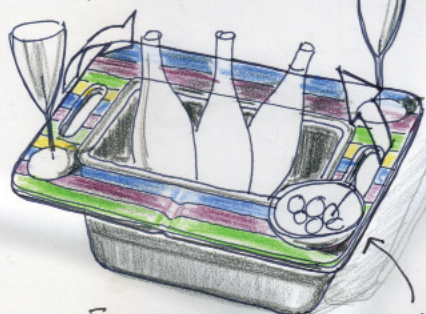
GAIA CHAIR
TUYO DESIGN

PER HOUR SOFA
FABIO NOVEMBRE

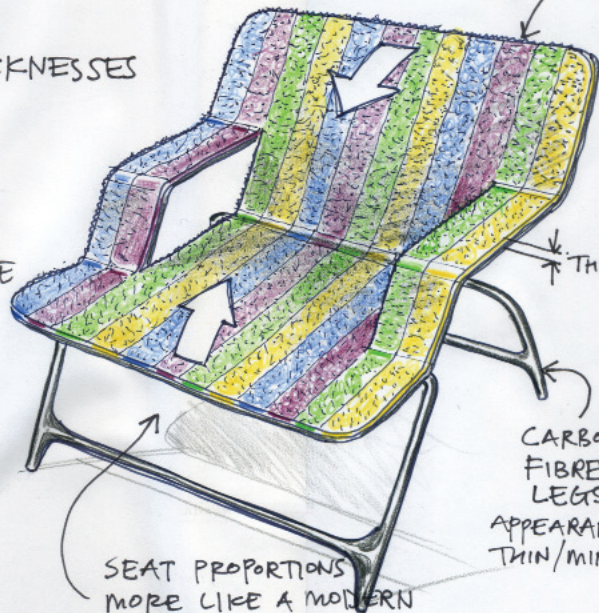
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PICNIC FURNITURE: HIGH QUALITY PICNIC FURNITURE RANGE

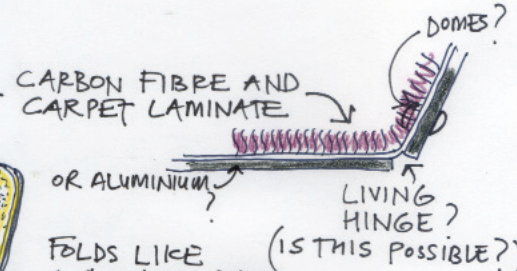
- > HIGH PERFORMANCE AND HIGH QUALITY MATERIALS
- > SUPER THIN MATERIAL THICKNESSES
- > COMPOSITE MATERIALS
- > GREAT FOR PARK OUTINGS/ CONCEPTS ETC.
- > SIMPLE, REFINED NOSTALGIC STYLE



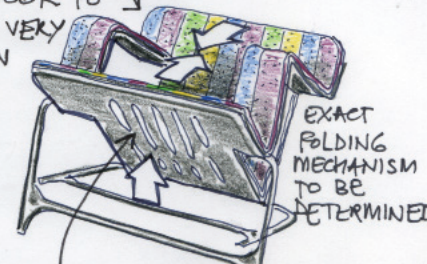
FOLDING TABLE/BASKET/CHIU BIN



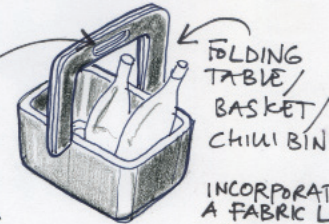
SEAT PROPORTIONS MORE LIKE A MODERN LOUNGE CHAIR. (WIDE, DEEP AND LOW TO THE GROUND)



CARBON FIBRE LEGS. APPEARANCE = THIN/MINIMAL



BASE AND BACK-REST FLEX/COMFORT SLOTS

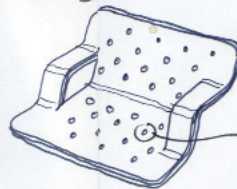


FOLDING TABLE/BASKET/CHIU BIN. INCORPORATES A FABRIC LID?

VISUAL REFERENCES:

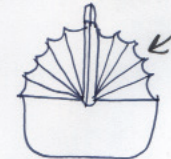


ANTITHESIS:



COULD COMPLEMENT THE TABLE TOP/ PICNIC BBER PRODUCT?

DOMES SANDWICH CARPET (OR FABRIC) WITH CARBON FIBRE SHEET → DOMES = INDOOR FURNITURE AESTHETIC = COMFORT = 😊



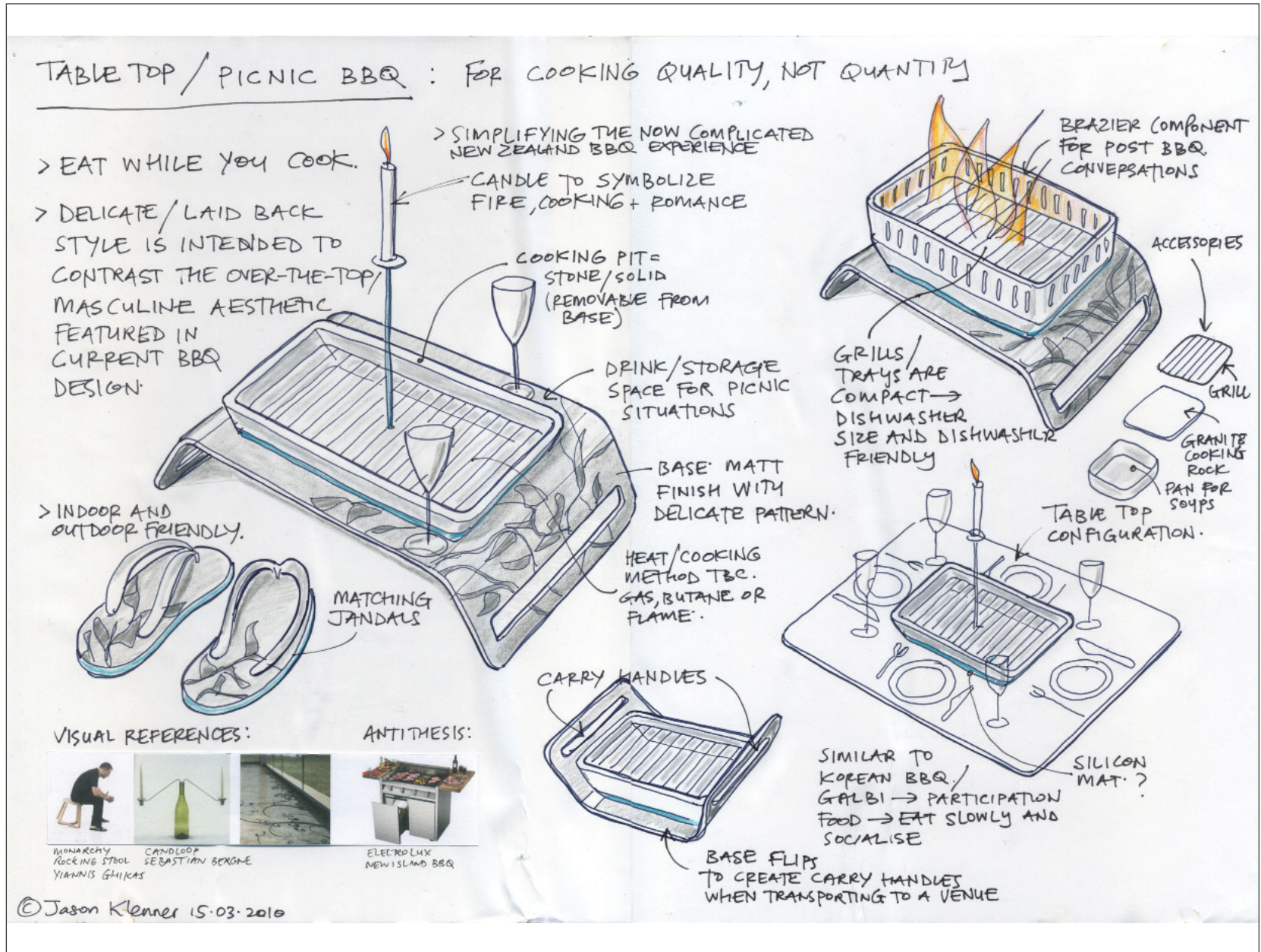
© Jason Klenner 16.03.2010

Figure 82

'Picnic Furniture' incorporates new and unconventional materials to portable picnic furniture. Materials include carbon fibre and hand tufted woollen rugs.

Figure 83

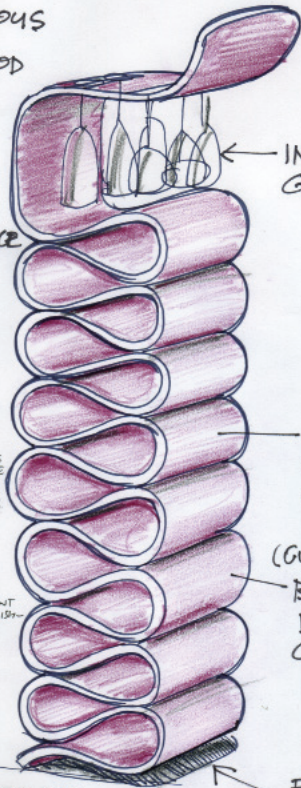
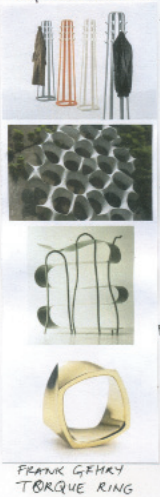
'Tabletop BBQ' is a result of exploring the relationship we have between cooking and socialising. This delicately styled table mounted BBQ allows people to cook, eat and socialise.



WINE STORAGE : A FAMILY OF PRODUCTS. (MODULAR?)

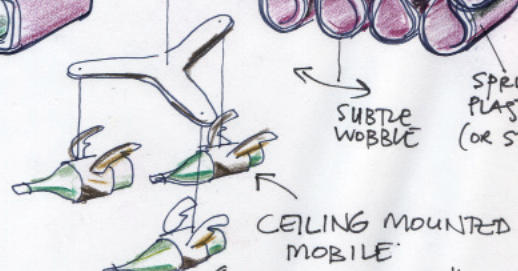
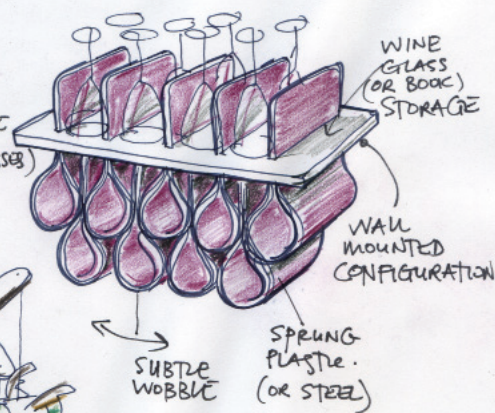
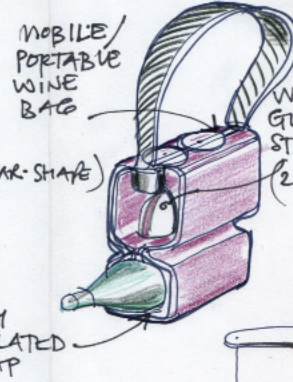
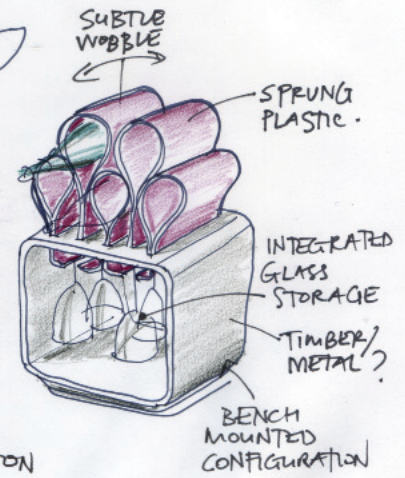
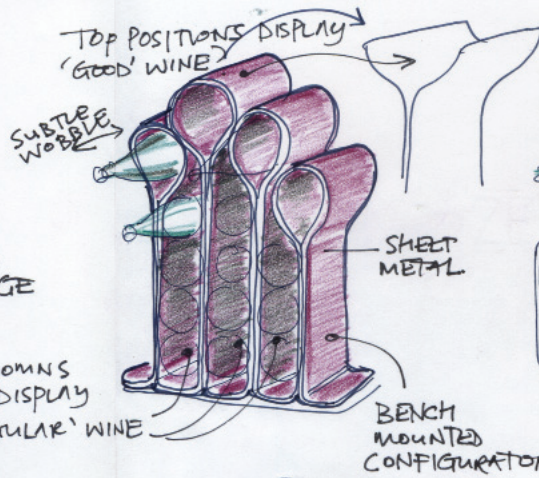
- > SCULPTURAL
- > NOT SERIOUS
- > LOOKS GOOD FULL AND EMPTY
- > EXPLORES THE EXPERIENCE ASSOCIATED WITH WINE DRINKING

VISUAL REFERENCES:



SHEET METAL
CNC FORMED/
BENT
(CURRENTLY TOO REGULAR SHAPE)
BRIGHT COLOUR.
DIFFERENT COLOUR INSIDE?
FLOOR MOUNTED.
(BUT IT COULD BE HUNG AND HAVE A SPRING LIKE EFFECT - KINETIC)

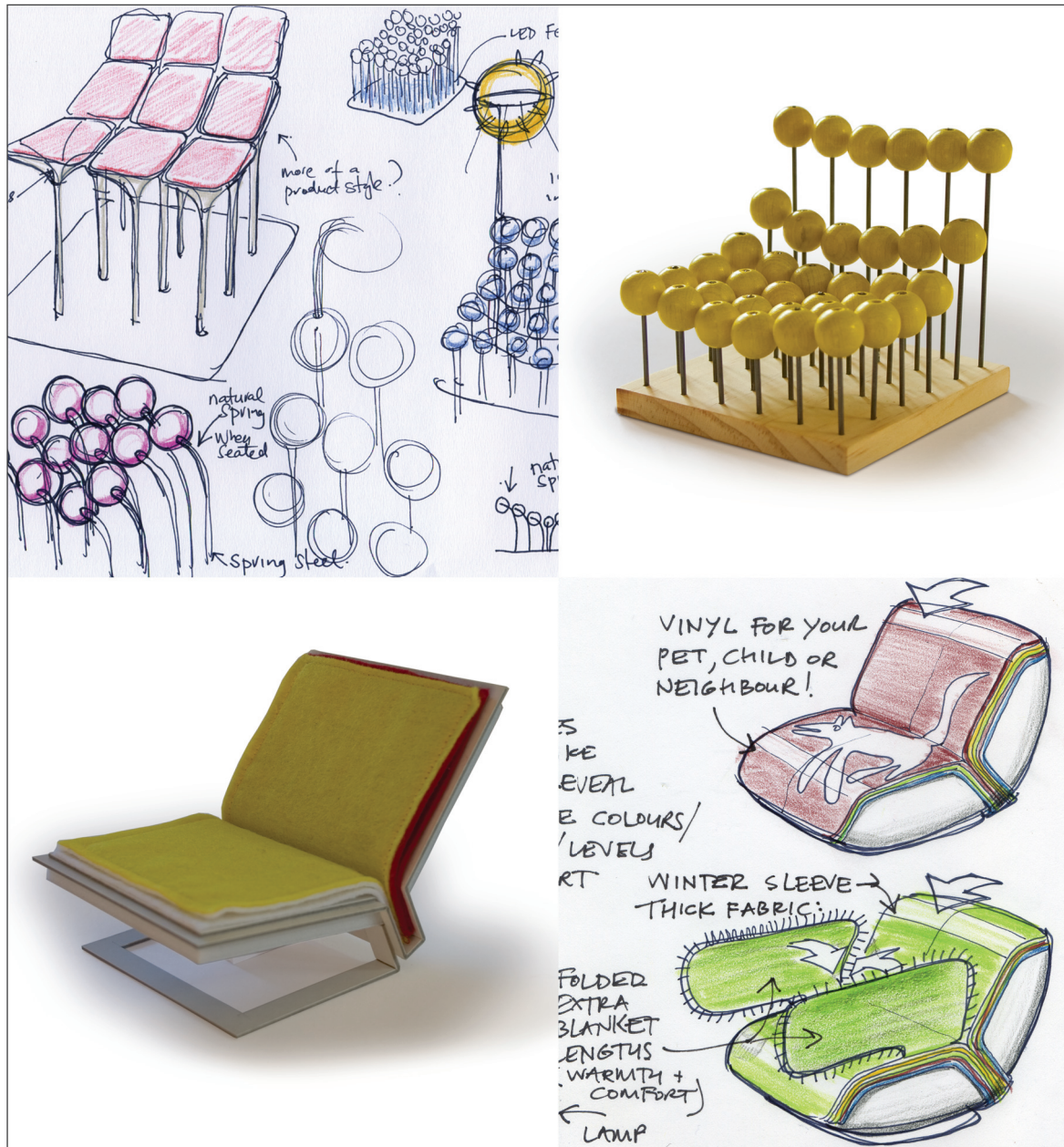
NOTE: WINE COOLING NEEDS TO BE INCORPORATED → ALONG WITH AN UNDERSTANDING OF HOW THE WINE STORAGE INTERACTS WITH THE WINE DRINKING/WHOLE EXPERIENCE



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Figure 84

'Wine Storage' is a sculptural object that explores a point of view that wine racks should look aesthetically pleasing and 'complete' even if they are not storing wine bottles.



Looking back over these ideas it occurred to me that I had been sketching and making scale models of 'forms' in order to create a 'design signature'. Using the examples, 'Outdoor Festive Furniture' and 'Upholstery Allsort', as ideas they were interesting but arrived at by accident and they did not necessarily reflect the theoretical understanding of who I am as a design individual that was identified earlier.

I realised that I was essentially sketching in the dark - creating shapes that did not necessarily have any substance. This was because I was struggling to transform my theoretical understanding of who I am as a designer into actual ideas that I liked and felt comfortable with.

Given this realisation, I decided to identify and analyse two objects in the field of design art that I particularly admired in order to gain an understanding of the qualities I was drawn too. These objects and their analysis were then used as points of reference for my own subsequent design experimentation.

Interestingly and unintentionally, both objects selected were chairs, Ron Arad's 'Well Tempered Chair' and Marcel Wanders' 'Crochet Chair'.

A summary of my analysis follows:

Figure 85 Initial sketches of the 'Festive Outdoor Furniture' approach.
Figure 86 Scale model of the 'Festive Outdoor Furniture' approach that was used as an attempt to understand the realities associated with this concept. On reflection, 'quick and dirty' full sized models should have been created instead. This would have taught me more about the idea and indicated whether this approach should have been pursued or dismissed earlier.
Figure 87 Initial sketches of the 'Upholstery Allsort' approach.
Figure 88 Scale model of the 'Upholstery Allsort' approach. The same comment applies as figure 86.

Well Tempered Chair – Ron Arad

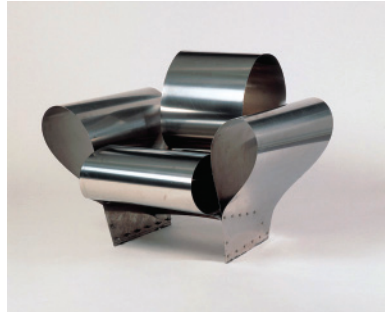


Figure 89 'Well Tempered Chair'.

Designed in 1986 the 'Well Tempered Chair' was designed at the invitation of Swiss Manufacturer, Vitra. The chair whose outline is suggestive of a stuffed armchair is made from tempered steel and is held in tension by bolts to provide softness and 'give' (*"Ron Arad: Celebrating 25 years of design," 2009*).

This object has been selected as a reference point for its innovative and unconventional use of material, which creates a distinctive and unique object.

The way hard 2-dimensional material has been used to create a 3-dimensional form that is both flexible and rigid enough to support the human body has excited me for a number of years. I find this 'play' on materials personally appealing as it challenges the conventions surrounding comfort and structure.

Of particular interest is the relatively low-tech use of materials that do not necessarily require any specialist equipment, meaning that this object can potentially be made in low volumes by the designer in their studio. This approach to materials and processes will be an important consideration for my study and the resulting object I design.

Crochet Chair – Marcel Wanders



Figure 90 'Crochet Chair'.

Designed by Marcel Wanders, the 'Crochet Chair' was launched at Design Miami in 2006. The chair is constructed from individual, hand-sewn crochet flowers that are formed over a mould and stiffened with resin in order to create a structure that is open and lightweight in appearance (*"Crochet Chair by Marcel Wanders," 2007*).

As with Arad's 'Well Tempered Chair', this object has been selected as a reference point for my study because of its innovative and unconventional use of materials to create a distinctive and unique object.

For me, the use of crochet flowers evokes fond memories of my childhood and visiting family; consequently I have an immediate emotional connection with the object.

Like Arad's 'Well Tempered Chair', of particular interest is Wanders' use of materials and crafted construction. Again specialist equipment is not necessarily required as the process is relatively low-tech. This allows the designer to make the chair in low volumes in their studio, offering a quality that is 'hand-made', rather than 'machine made'.

Festive Outdoor Furniture – Jason Klenner

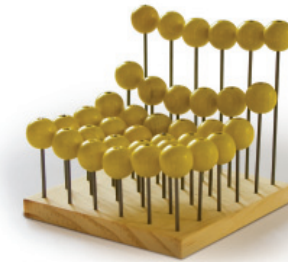


Figure 91 'Festive Outdoor Furniture' (scale model).

I am attracted to these two objects for their new and unconventional use of material and structure; and for their use of low-tech processes to achieve a 'hand-made' quality, rather than a 'machine made' quality.

When I compared these two objects with my ideas generated to date, it became evident that my work did not fully incorporate these qualities. I also came to the understanding that my ideas were very naïve. They lacked an element of realism and the beauty of simplicity. To overcome this naïvety and absence of realism, I decided to combine scale 1:1 experimentation with sketching during the next phases. In time this process allowed me to simplify my ideas, giving me greater confidence in the ideas generated.

I also realised that I needed to narrow my focus down to the design of a specific object within the field of design art. Consequently, I decided to focus on a chair as it is arguably the most accepted item that emerging designers use to gain exposure. Chairs / seating objects designed by Arad, Newson and Trubridge are all good examples of this.

Design experimentation 2

This stage focuses on the exploration of materials and structures through making at scale 1:1 in order to create, test and refine chair / seating related ideas.

The images on this page are the initial ideas behind the 'Spiral Chair' and 'Truncated Seat' concepts presented over the following pages. These initial ideas were created specifically to 'kick-start' the exploration through making process.

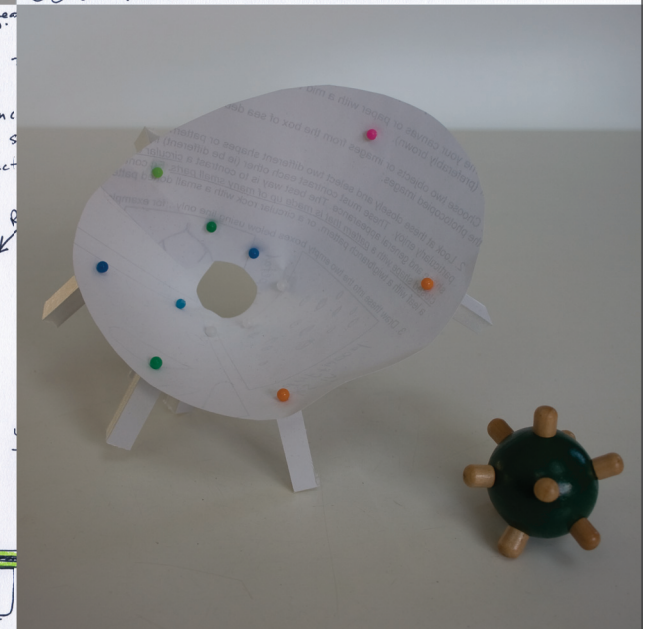
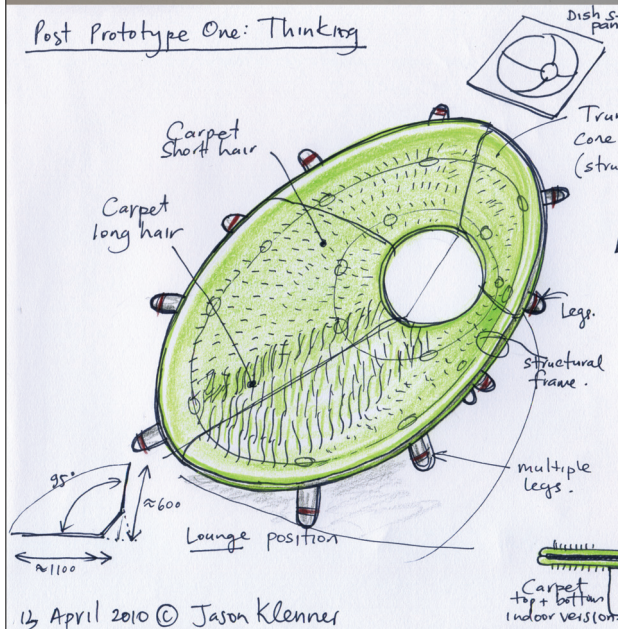
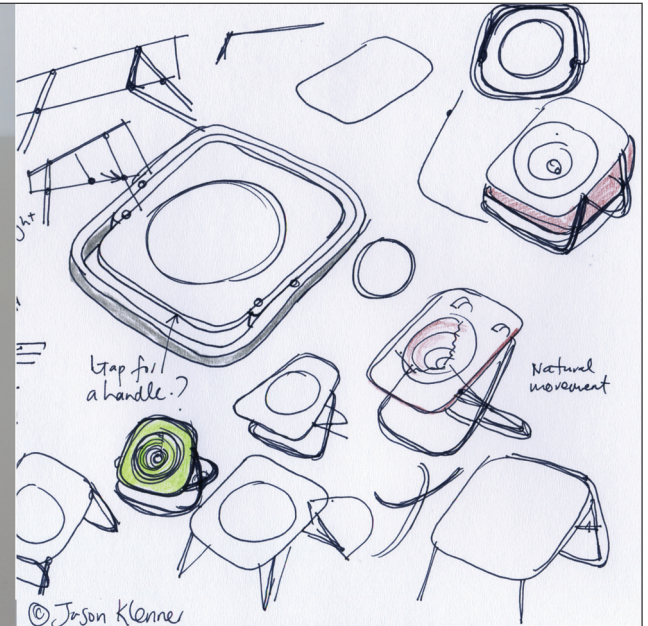
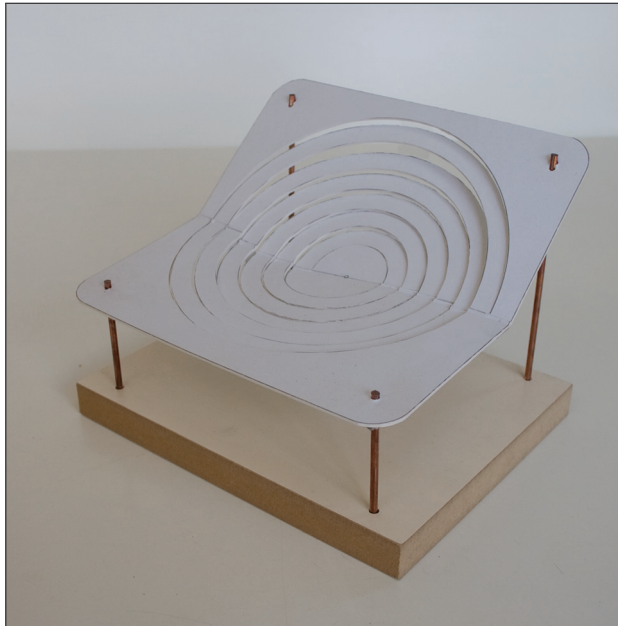


Figure 92 'Spiral Chair' scale model.

Figure 93 'Spiral Chair' initial sketches.

Figure 94 'Truncated Seat' scale model.

Figure 95 'Truncated Seat' initial sketches.

Full size experiment 1: 'Spiral Chair'

The first idea was named the 'Spiral Chair'. This chair uses two layers of spirally cut polypropylene sheet to sandwich four layers of spandex.

When sat in the 2-dimensional seat pan flexes into a 3-dimensional form. This provides the user with an element of surprise, delivering a subtle bouncing motion that results in a memorable and unexpectedly comfortable seating experience.



Figure 96 'Spiral Chair'.

The polypropylene and spandex construction of the 'Spiral Chair' provides the user with an element of surprise when first sitting in the chair due to the unexpected flex of the material. While seated the spring of the spandex offers a continuous and dynamic experience.

Interestingly this idea was developed by 'playing' with materials rather than through sketching, a change in my usual design method.

Full size experiment 2: 'Truncated Seat'

The second of the two ideas was the 'Truncated Seat'.

As with the 'Spiral Chair', the 'Truncated Seat' also explores the notion of providing the user with an unique experience. In this scenario the 'Truncated Seat' is both a chair and a chaise lounge – the rotating structure provides a variety of seating positions from formal upright through to laidback lounging. Unlike the proof of principle model shown here, the many legs attached to the truncated shell are intended to be both decorative and functional.



Figure 97 'Truncated Seat'.

The rotating structure allows the user to transform this object from an upright chair to a chaise lounge, thus providing a dynamic and interesting user experience.

As with the 'Spiral Chair', this idea was developed by 'playing' with materials rather than through sketching, a change in my usual design method.

Conclusion: Personal reflection and design experimentation

This process of experimentation has allowed me to ‘find my feet’ and understand at a high level what my personal design identity and statement is as a design individual.

This point of view builds upon my curiosity for material and structure to provide the user with a unique experience when using an object as demonstrated in both the ‘Spiral Chair’ and the ‘Truncated Seat’ concepts.

Further research into providing a unique experience revealed the concept of ‘experiential design’:

“The design needs to create a context for experience, rather than just a product. He offers the user a context in which he may enjoy a film, dinner, cleaning, playing and working... with all his senses. It is his task to make the product’s function accessible to the user whilst allowing for interaction with the product in a beautiful way. Aesthetics of interaction is the goal” (Overbeeke, Djajadiningrat, Hummels, & Wensveen, 2002).

Interfaces within ‘experiential design’ are then described as:

“The interfaces should be surprising, seductive, smart, rewarding, tempting, even moody, and thereby exhilarating to use. The interaction with the product should contribute to the overall pleasure found in the function of the product itself. The experiential is assumed to lead to joy of use” (Overbeeke, et al., 2002).

The concept of ‘experiential design’ was used as a basis to further develop my personal design identity and the resulting object to create rich user experiences as it complemented my desire to create ‘emotionally rich’ objects that are not overly serious and have the potential to make people smile or be happy.

After informal research and personal reflection the ‘Spiral Chair’ was identified as the concept that offered the most rich user experience potential and was selected for further development in the following stage.



Figure 98 The ‘Spiral Chair’ concept was selected for further development as informal research and reflection identified it to have the most potential for achieving a rich user experience.

Personal identity and
design development:

Introduction: Personal identity and design development

This section utilises the practice of design to develop the 'Spiral Chair' concept, and to build the notion of 'experiential design' into my personal design identity. This process has involved many cycles of design development and reflection.

A summary of this process is documented over the following pages:

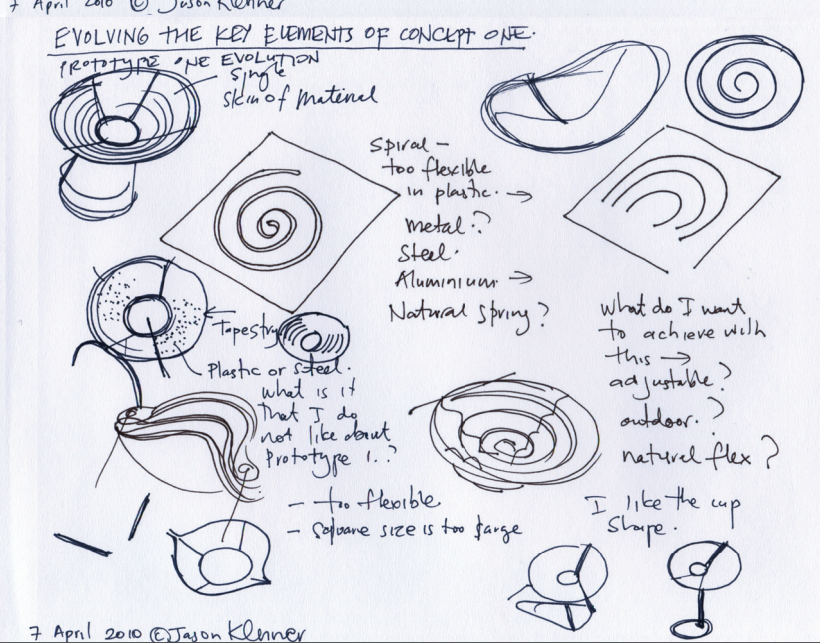
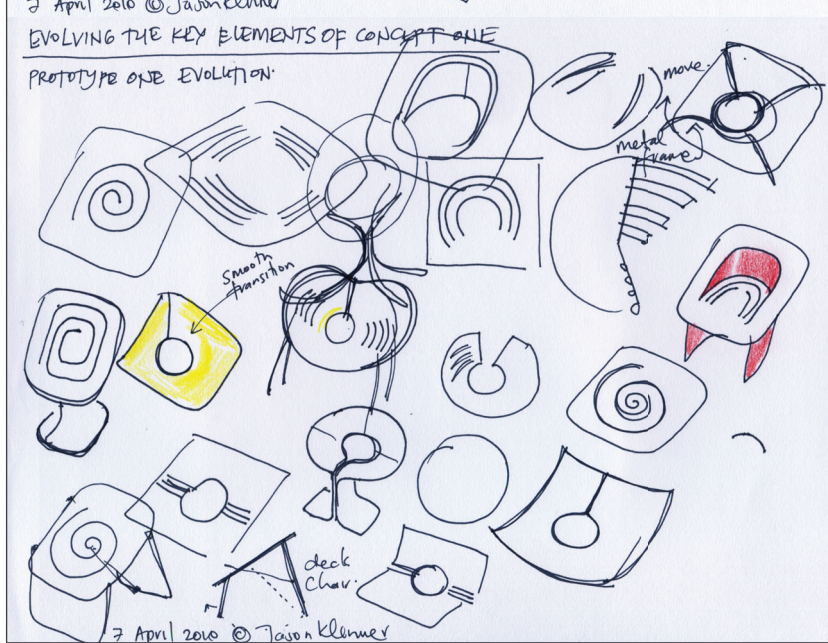
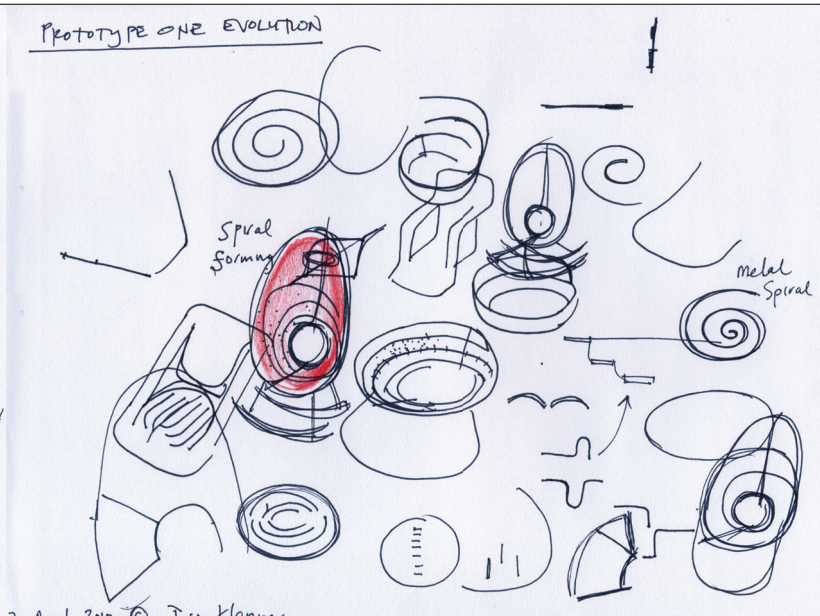
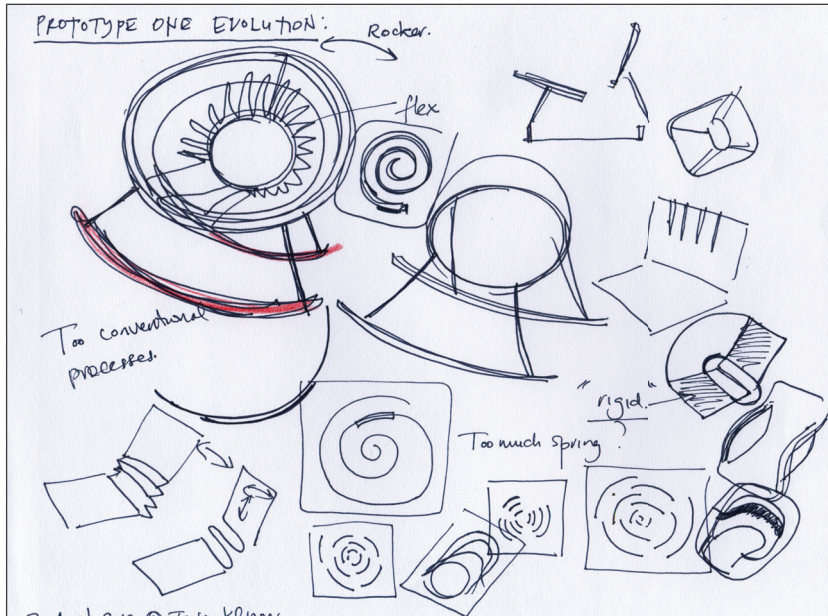
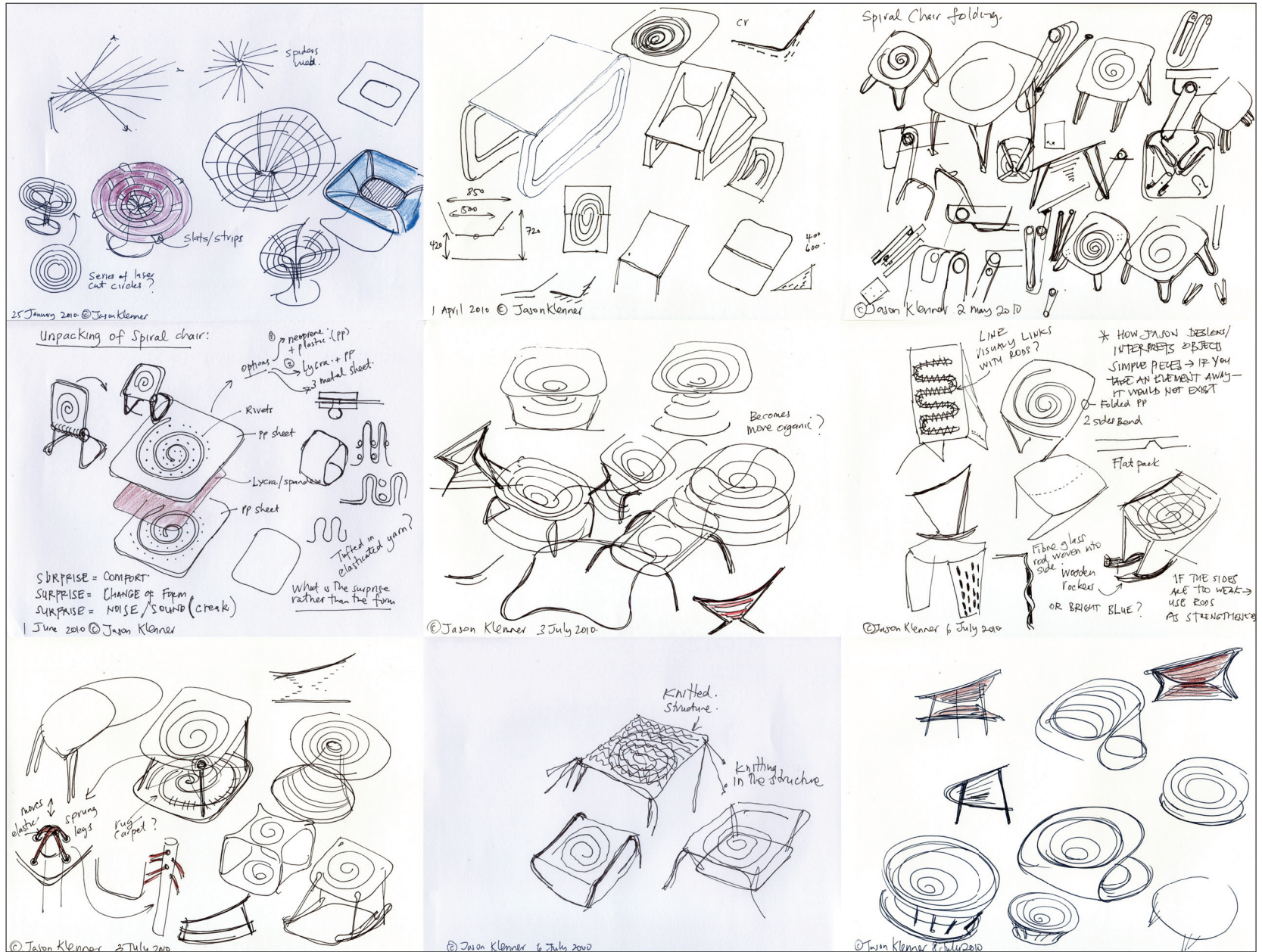


Figure 100
A selection of images illustrating the process taken to evolve the key elements of the 'Spiral Chair' into an object that better captures my theoretical personal design identity.

Figure 101

A selection of images illustrating the process taken to evolve the key elements of the 'Spiral Chair' into an object that better captures my theoretical personal design identity.



Eureka!

The moment of 'eureka' was arrived at while experimenting with lacing elastic cord and searching for a substitute for the Spandex.

I was immediately excited by the idea of lacing elastic cord into the spiral to achieve an element of spring; this also gave me a new level of confidence in the design of the chair as well as my ability as a designer.

In addition, I particularly liked the potential for the elastic cord to add an element of pattern or decoration. By lacing the cord into the chair by hand, for example, an element of personalisation between chairs can be achieved. Possibly this would also allow me to adopt an iterative approach to this object, similar to that of Ron Arad.

Since arriving at my moment of 'eureka', I am of the opinion that this approach has excellent potential as a design art object.

At a high level of detail, the elastic cord can also cover and cushion the hard edges of the polypropylene sheet, potentially solving the issue around comfort.

The next priority was to understand the natural characteristics and limitations of elastic cord and then create a proof of principle prototype as illustrated over the following pages:

Figure 102 (top) Sketches illustrating the 'eureka' moment.

Figure 103 (bottom left) Mock-up of the cord stitch in wool.

Figure 104 (bottom right) The Tuft-Gun image that provided inspiration during this 'eureka' moment.

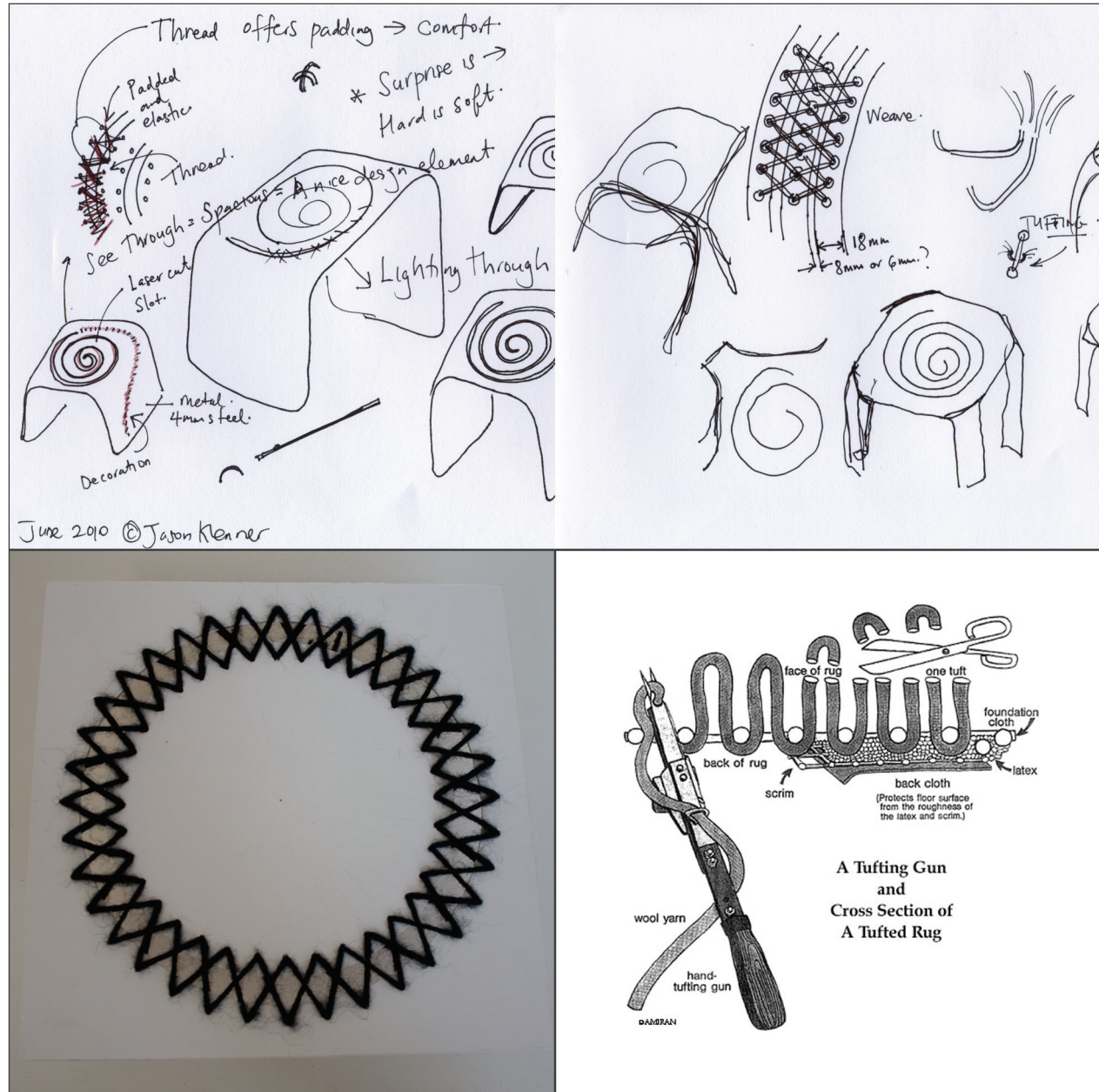


Figure 105

A selection of images investigating potential elastic cord stitch methods and elastic cord diameter to stretch ratios.

1 June 2010 © Jason Klenner

ELASTIC CORD 4 strands CALCULATIONS

100mm relaxed 180 stretched	100mm relaxed 187mm stretched	100mm relaxed 180mm stretched
2kg	1kg	0.5kg

For a single strand of Cord: 0.5 kg stretches 180%

- 0.0625 kg = 11% → Does this register?
- 0.125 kg = 120% → Registers but only at 110%
- 0.25 kg = 140% (This registers)
- 0.5 kg = 180%
- 1.0 kg =

NOTE: THE CORD LOADING IS NOT A DOWNWARD FORCE

There is flex/movement into a 3D shape before any stretch of the cord.

Point loading in chair

29 June 2010 © Jason Klenner

© Jason Klenner 3 July 2010

4 June 2010 © Jason Klenner

SPIRAL CHAIR: REFINEMENT.

ISSUES: - SPIRAL MATERIAL - WHAT?
- LEGS - WHAT?
- COMFORT - HOW CAN COMFORT BE IMPROVED? → (A)
- SHAPE OF SPIRAL → CAN THIS BE EVOLVED TO CREATE A MOPE UNIQUE + DISTINCTIVE OBJECT?
- STRETCH - HOW MUCH? DEPENDS WEAVE VERSUS SPRING RATIO.
(A) NEEDS MORE BACK SUPPORT
(B) NEEDS SEAT PAN MOVED FORWARD
- I NEED TO LOOSEN UP → TIP OUT OF MY BOAT.

© Jason Klenner 3 July 2010

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NUMBER OF ELASTIC LENGTHS- ANALYSIS

kg 120mm
JAE 130mm

NOTE: CALCULATION IS FOR 2mm ELASTIC CORD

FORMULA: FOR EVERY 6 HOLES, THERE ARE 6 LENGTHS

THE PROTOTYPE HAS 653 HOLES PER SIDE OF EACH SLOT = 1318 HOLES IN TOTAL

GIVEN THIS, THERE ARE 1318 CROSS LENGTHS OF ELASTICATED CORD.

SO, IF A FORCE / WEIGHT OF 100kg IS APPLIED EVENLY TO 1318 LENGTHS OF 2mm ELASTIC CORD, HOW MUCH WILL IT STRETCH?

WE KNOW THAT 0.5kg OF FORCE STRETCHES CORD BY 40%
WHAT IS THE FORCE ON EACH INDIVIDUAL LENGTH?

1 gram = 0.001 kg
75 gram = 0.075 kg
500 gram = 0.5 kg

$$\frac{F}{C_n} = \frac{100kg}{1318} = 0.075873kg$$

29 June 2010 © JASON KLENNER

© Jason Klenner 3 July 2010

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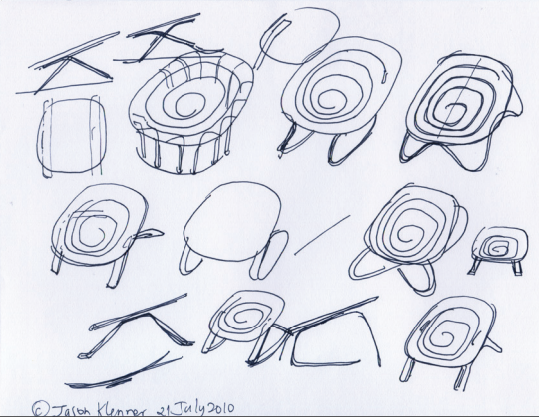
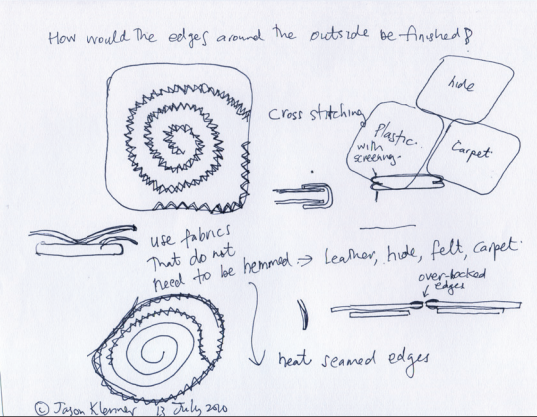
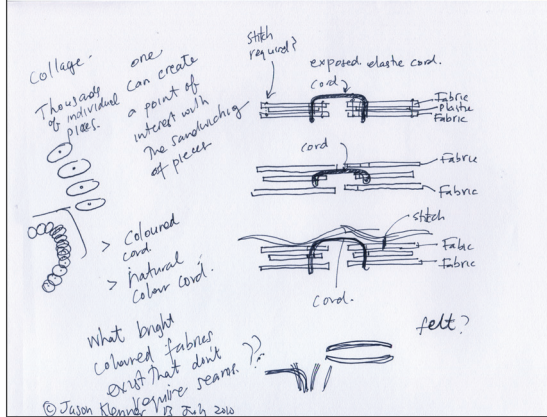
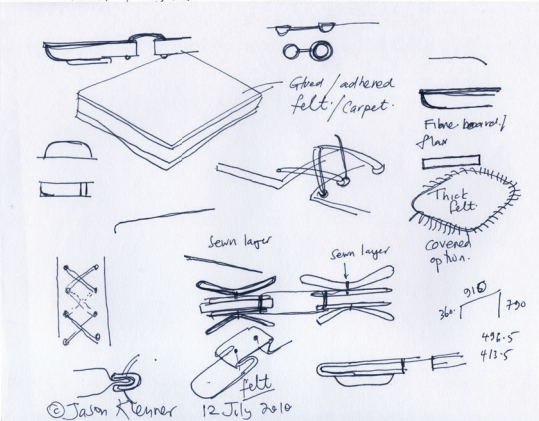
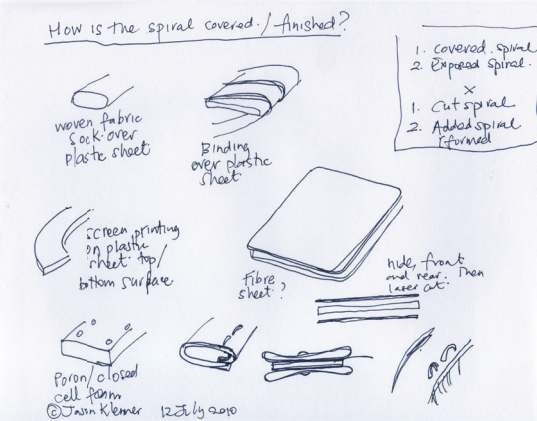
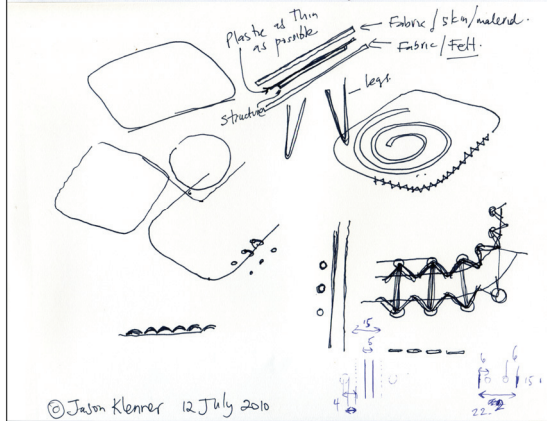
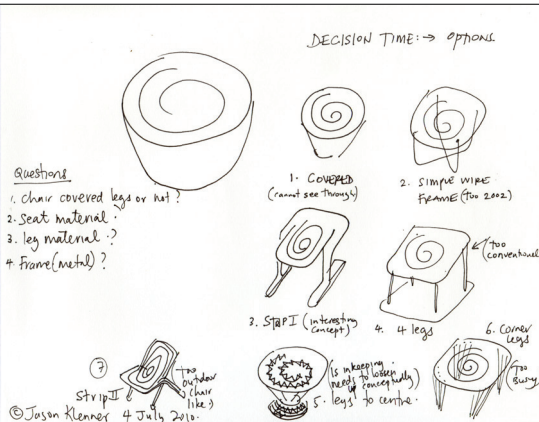
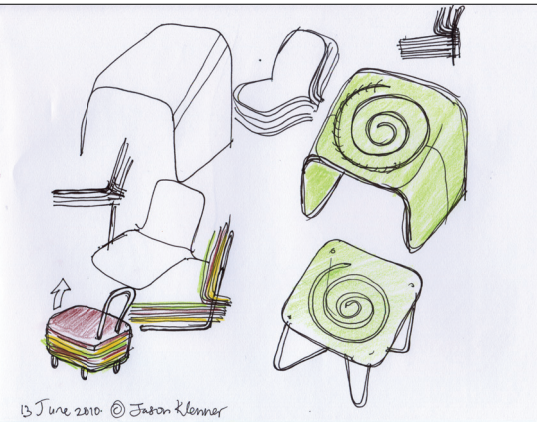
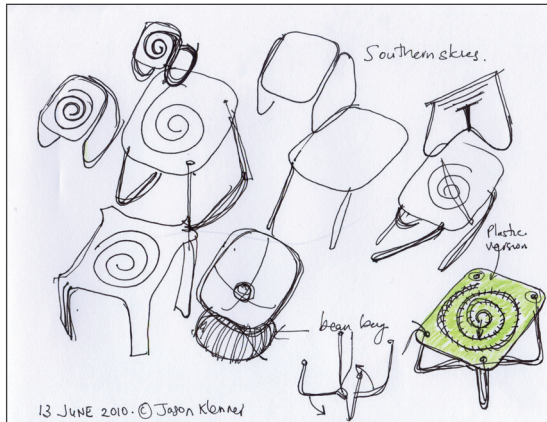
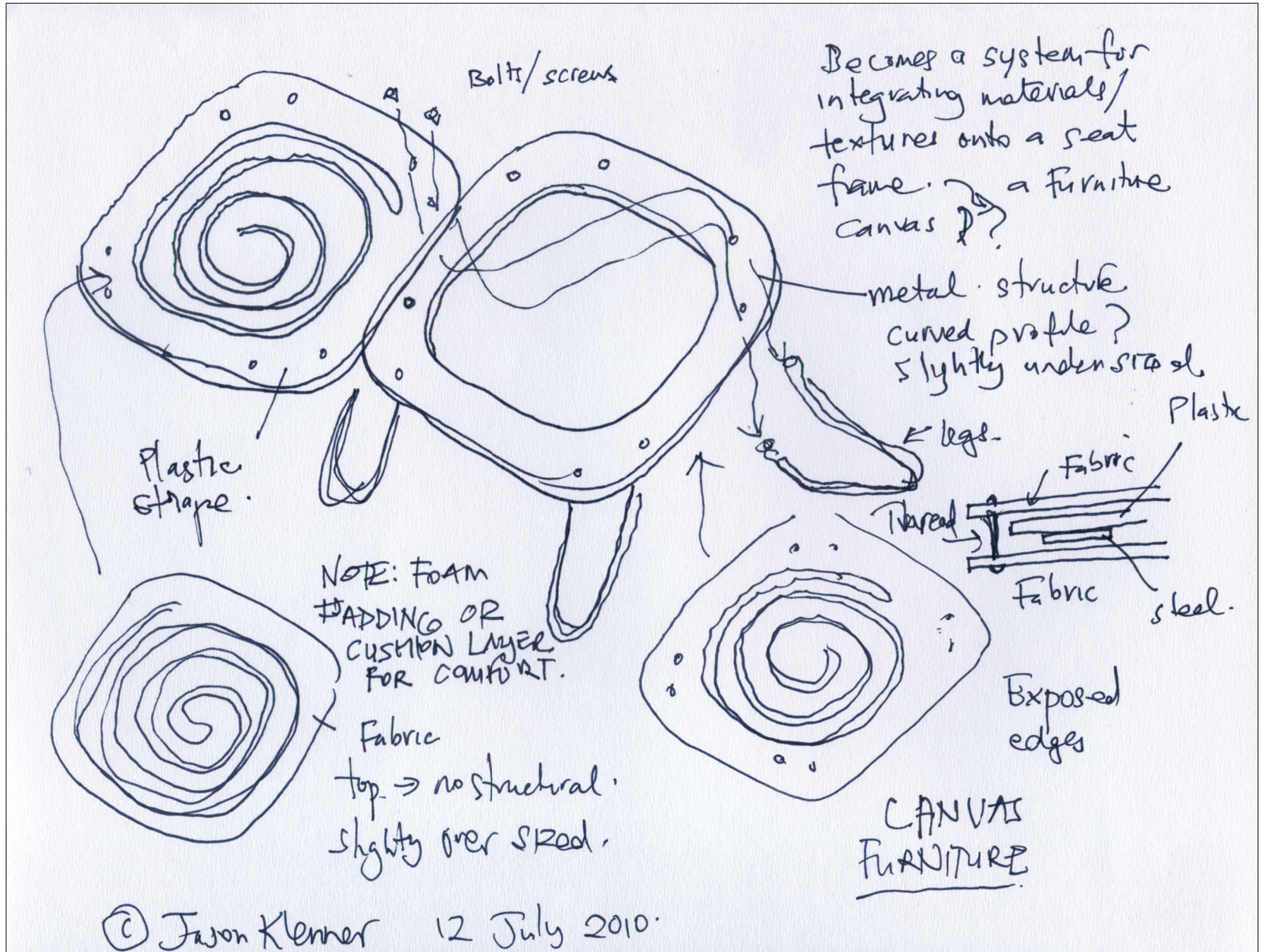


Figure 106
Pre-proof of principle prototype sketch development.

Figure 107

Sketch illustrating the construction of the proof of principle prototype.



Proof of principle prototype

This prototype proves the principle that elastic cord combined with cut 3mm polypropylene sheet can create a flexible and comfortable seat pan structure.

Sixty metres of single-stitched elastic cord was incorporated to achieve a comfortable amount of flex for a variety of body weights. This amount of flex was arrived at through trial and error; initially over eighty metres was cross-stitched into the spiral and was too taut. The stitching process took between 30 to 40 hours on both occasions.

The frame and spiral shape was intentionally kept simple for ease and speed of prototyping. Once this prototype was completed and evaluated, the frame was modified to incorporate adjustable leg heights in order to experiment with different seat heights and seat angles.



Figure 108

Proof of principle prototype incorporating one 3mm polypropylene sheet and 60 metres of 2mm diameter elastic cord.

Figure 109

Images illustrating the flex of the elastic seat when sat in. These images are of the prototype with the initial cross-stitching that was later changed to a single stitch due to tautness. Note also, these images are prior to the adjustable legs being fitted.



Reflection and design development 2

This prototype was informally evaluated by a sample group consisting of users of varying size and weight. Of this sample, all followed a similar pattern of interaction with the chair. They approached and sat in the chair with caution in order to gauge how it supported their body and weight. Once they realised that the chair not only supported them but was relatively comfortable and 'bouncy', they all playfully 'bobbed' up and down in the chair, enjoying what would normally have been a static seating experience.

This prototype successfully illustrates that fundamentally the elastic and spiral sheet concept supports people in a seated situation and is comfortable.

Seeing people interact with the prototype further increased my confidence in the uniqueness of this idea. I was also gaining more confidence in my maturing personal design identity, which included combining materials in new ways to offer an interesting, enjoyable and 'different' user experience when compared with users' interaction with utilitarian, mass market equivalents.

However, the overall form and structure of the chair still needed a significant amount of development and refinement to fully express the uniqueness of the concept and my personal design identity.

Furthermore, informal feedback highlighted the need to increase the overall seat size and amount of flex within the seat pan to improve comfort.

The following pages illustrate ongoing development:

Figure 110

A selection of images illustrating the reflection process.

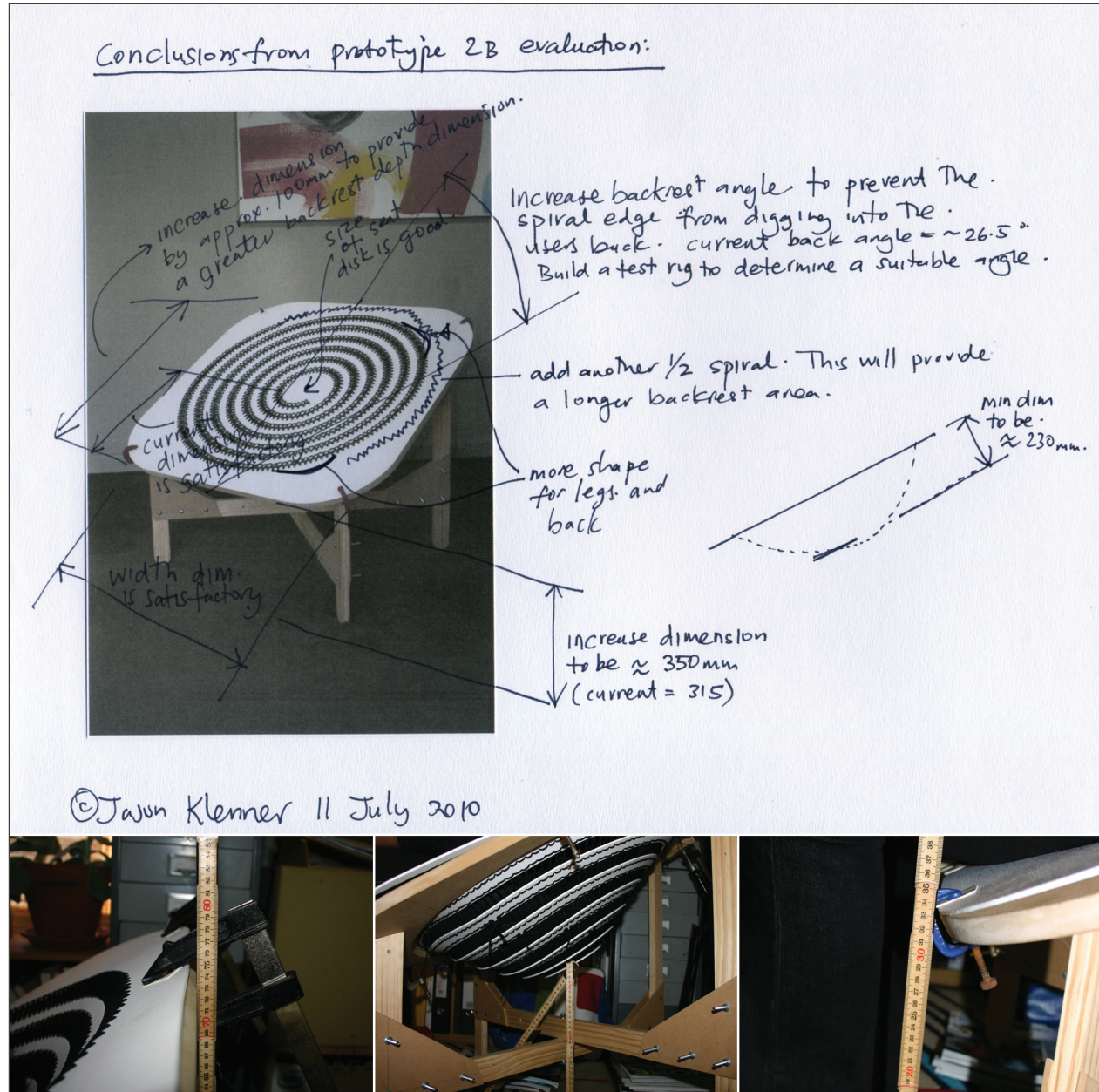


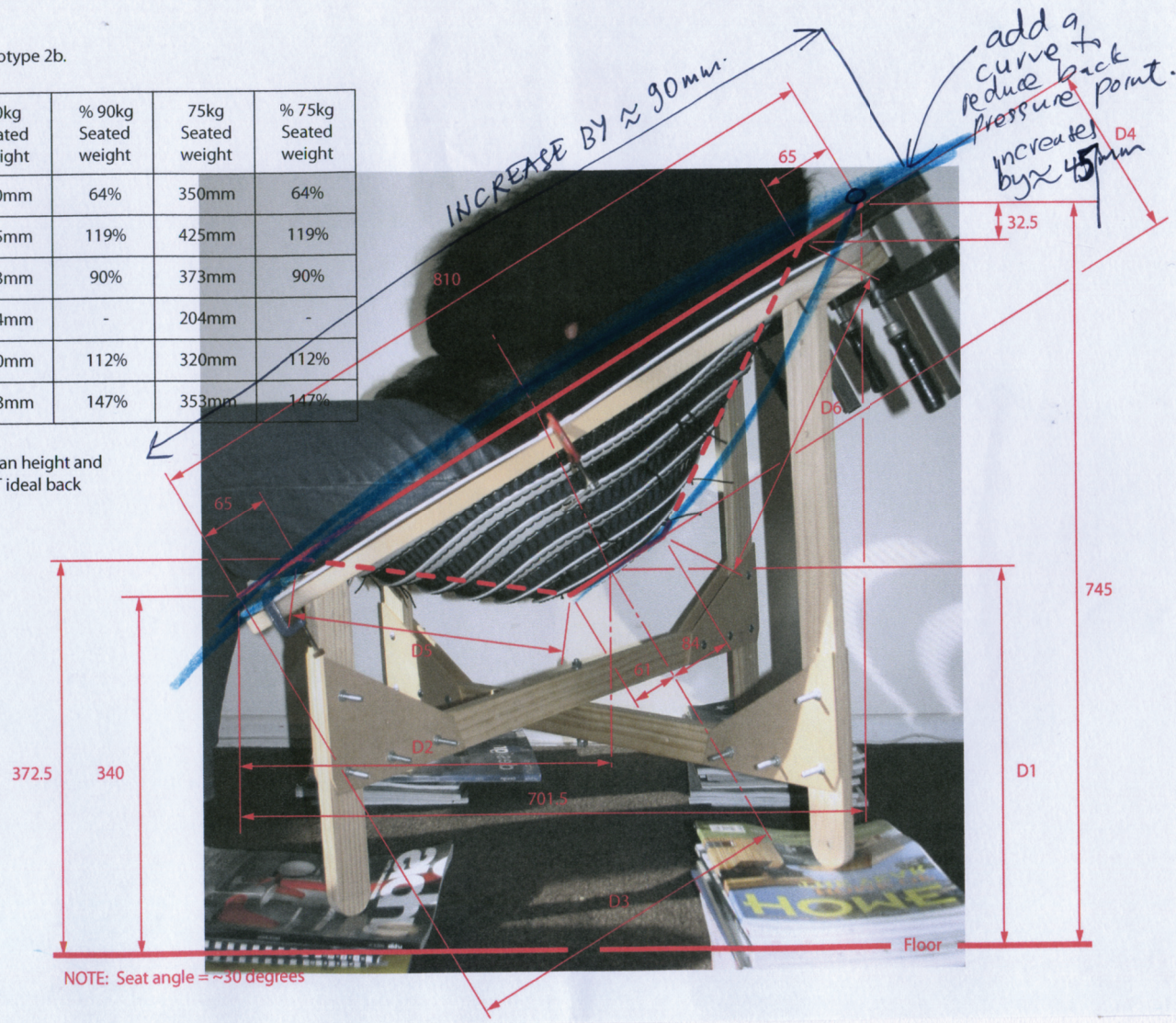
Figure 111
Ergonomic with elastic
cord stretch calculations.

Further ergonomic study of prototype 2b.

Dimension	Relaxed	90kg Seated weight	% 90kg Seated weight	75kg Seated weight	% 75kg Seated weight
D1	547mm	350mm	64%	350mm	64%
D2	358mm	425mm	119%	425mm	119%
D3	413.5mm	373mm	90%	373mm	90%
D4	0mm	204mm	-	204mm	-
D5	286mm	320mm	112%	320mm	112%
D6	240mm	353mm	147%	353mm	147%

This study illustrates ideal seat pan height and seat pan depth dimensions, NOT ideal back rest dimensions.

Note: D4 for Lycra prototype one is ≈ 300 mm and too much \rightarrow ideal dimension is $\approx 230-250$ mm with these angles.



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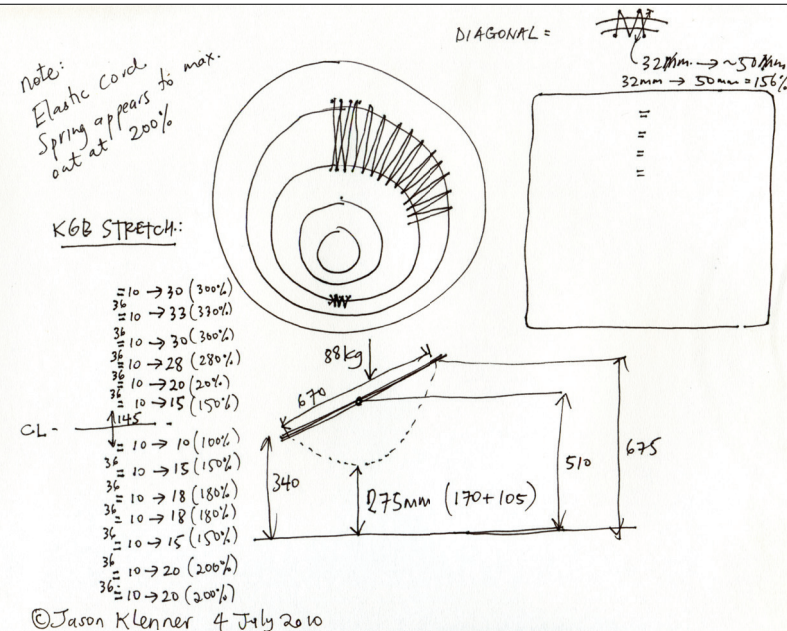
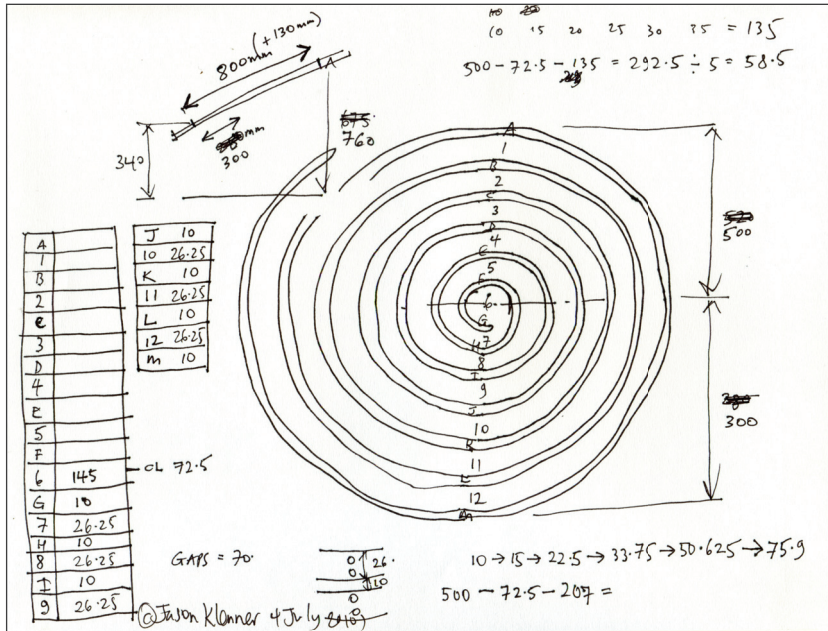


Figure 112
Further elastic cord stretch calculations with the goal of achieving more stretch in the back rest area and less in the seat pan area. More stretch in the backrest area provides greater comfort and less in the seat pan area reduces the amount of plastic edge being exposed to the user, also improving comfort.

PROTOTYPE 3: STRETCH ANALYSIS WITH 88kg FORCE

GAP #	RELAXED SLOT DIM.	STRETCHED SLOT DIM.	RELAXED CORD DIM.	STRETCHED CORD DIM.	% Delta.
1	10mm	30mm (300%)	31mm	46 (148%)	2.03
2	10mm	33mm (330%)	31mm	50 (161%)	2.05
3	10mm	30mm (300%)	31mm	46 (148%)	2.03
4	10mm	28mm (280%)	31mm	45mm (145%)	1.93
5	10mm	20mm (200%)	31mm	38mm (123%)	1.62
6	10mm	15mm (150%)	31mm	33mm (106%)	1.42
7	10mm	10mm (100%)	30mm	30mm (100%)	1.00
8	10mm	15mm (150%)	30mm	33mm (110%)	1.36
9	10mm	18mm (180%)	30mm	36mm (120%)	1.50
10	10mm	18mm (180%)	29mm	36mm (124%)	1.45
11	10mm	15mm (150%)	29mm	32mm (110%)	1.36
12	10mm	20mm (200%)	31mm	37mm (119%)	1.68
13	10mm	20mm (200%)	31mm	37mm (119%)	1.68

Back of chair
CL
Front of chair

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Ergonomic studies of prototype 2a and 2b.

Prototype number	Number of stitches	Seated weight (kg)	D1 (mm)	D2 (mm)	D3 (mm)	D4 (mm)
2a	1974	90kg	295mm	414mm	362mm	202mm
2a	1974	75kg	305mm	411mm	364mm	192mm
2b	1312	90kg	265mm	420mm	354mm	231mm
2b	1312	75kg	270mm	419mm	355mm	227mm
2b	1312	55kg	270mm	418mm	357mm	222mm

* Number of holes = 1316
pitch = 2 at CL = 13mm

Try higher seat height

NOTE: Seat angle ~26.5 degrees → increase the angle for better back support.

Too small, especially in the backrest area.
~ min. 230mm is feeling good.
increases slightly
increases for better back support.
increase the angle for better back support.

Prototype 2a: Top view
Prototype 2a: Bottom view
Prototype 2b: Top view
Prototype 2b: Bottom view

Prototype 2a:
Uses 77m of 2mm diameter elastic cord, 1974 stitches (987 crosses).
Each stitch length = approximately 30mm.
Stitching path follows 6.5 spiral turns.
Maximum spiral radius = 324mm, minimum spiral radius = 61mm.

Prototype 2b:
Uses 65m of 2mm diameter elastic cord, 1312 stitches (656 crosses).
Each stitch length = approximately 30mm.
Stitching path follows 6.5 spiral turns.
Maximum spiral radius = 324mm, minimum spiral radius = 61mm.

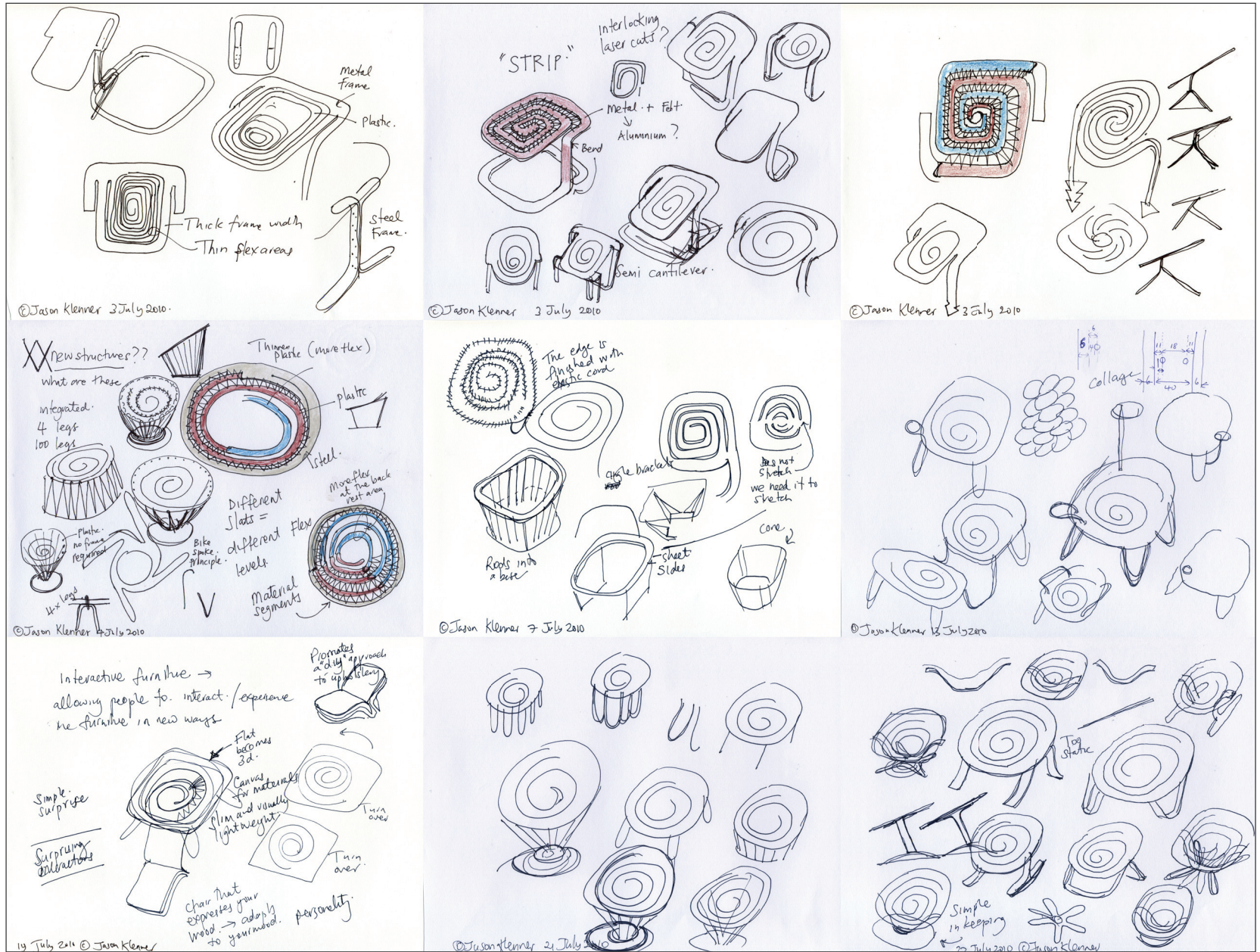
Average elastic cord loading = weight / number of stitches, such that:
90kg / 1974 = 0.0456kg (45.6g) per stitch.
75kg / 1974 = 0.0380kg (38.0g) per stitch.

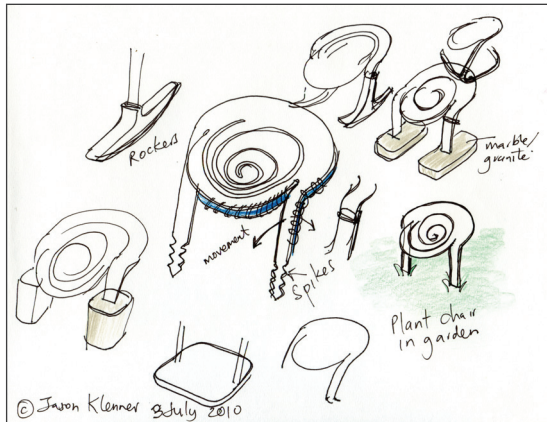
Average elastic cord loading = weight / number of stitches, such that:
90kg / 1312 = 0.0685kg (68.5g) per stitch.
75kg / 1312 = 0.0571kg (57.1g) per stitch.

Too firm requires less stitches.
Still too firm - try 915 elastic.

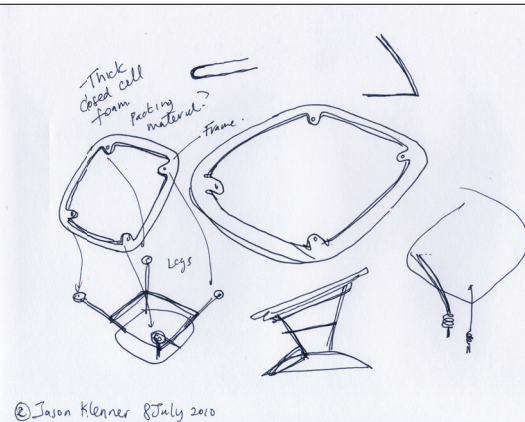
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Figure 113
Structure and aesthetic exploration.

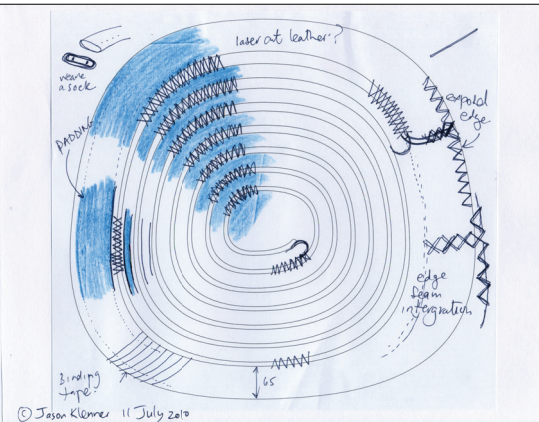




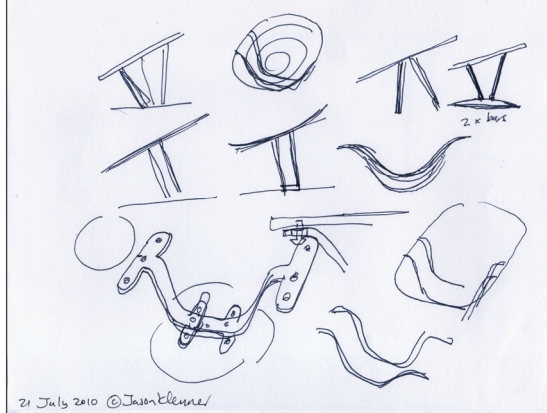
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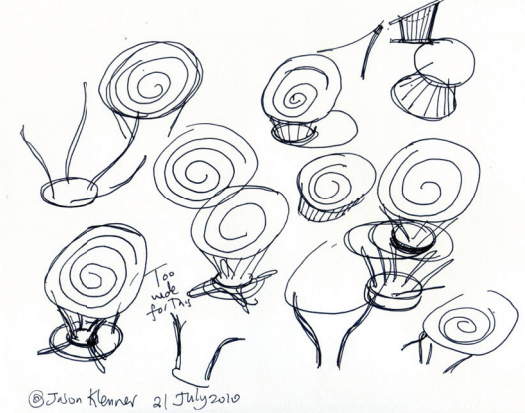
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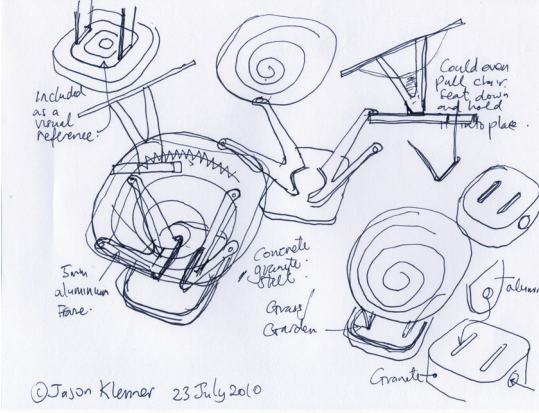
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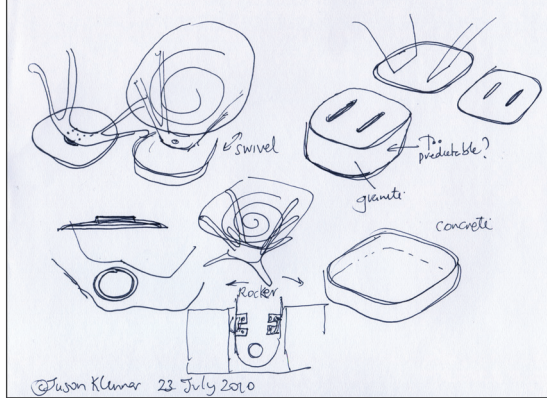
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Work starting 2 August

Makes - Email, cross-bring
 Tuesday - Complete drawings of better parts
 Wednesday - Complete drawings of metal parts
 Thursday - Check plastic dies & offsets prior to cutting plate that → sewing drums etc.

Fabric spiral

Note: Polypropylene is the most flexible out the most PC and PP → However, it is not the strongest for flexural applications as the yield point is the lowest.

STIFFNESS IS MEASURED BY:

- MODULUS OF ELASTICITY
- FLEXURAL MODULUS
- SHEAR MODULUS

PP-60 ENGINEERING MATERIALS - PROPERTIES AND SELECTION
 KENNETH G. BUDINSKI, MICHAEL K. BUDINSKI.

Such that → POLYPROPYLENE IS THE MOST FLEXIBLE MATERIAL FOR THE SPIRAL CHAIR APPLICATION.

	PP	ABS	PC
MODULUS OF ELASTICITY	212,500	240,000	245,000
FLEXURAL MODULUS	240,000	310,000	345,000

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Flexural strength Modulus is the ratio of stress to strain in flexural applications through the elastic region of a material. A higher flexural modulus means that the material is rigid, or that more stress is required to produce a given amount of strain.

ABS = 549,000 If have polypropylene 212,500 PC = 345,000

n/a. Compressive strength is the pressure required to yield or break a material when a compressive force is applied. The higher the value, the stronger the material is in compression applications.

ABS = 2300 PP homo = 5750 PC = 12,500

Compressive modulus is the ratio of stress to strain in compression through the elastic region of a material. A high compressive modulus means that a material is rigid, or that more stress is required to produce a given amount of strain.

ABS = — PP homo = 225,000 PC = 345,000

Flexural strength is the pressure required to yield or break a material when a flexural force is applied across a specified area. The higher the flexural strength, the stronger the material is in flexural applications.

ABS = 19,500 PP homo = 7250 PC = 13500

Figure 114 Structure and aesthetic exploration.

Eureka!

Finally... after frustratingly sketching the same predictable shapes for some time I arrived at another 'eureka' moment... a frame that incorporates the same level of uniqueness and fascination as the elastic cord seat.

Folded from a flat sheet of aluminium, the frame incorporates a similar visual thinness as the elastic cord seat. The concept being that the aluminium sheet is attached to a pole which allows for the chair to be easily picked up and moved from indoor environments to outdoor environments. Indoors, the pole would slot into a marble block and outdoors into a large garden peg.

As well as being able to use the chair in both indoor and outdoor situations I was further excited by this approach as the mounting pole effectively turns the chair into a swivel chair. This provides another level of user interaction and increases the potential for a rich user experience.

The following pages illustrate the subsequent development:

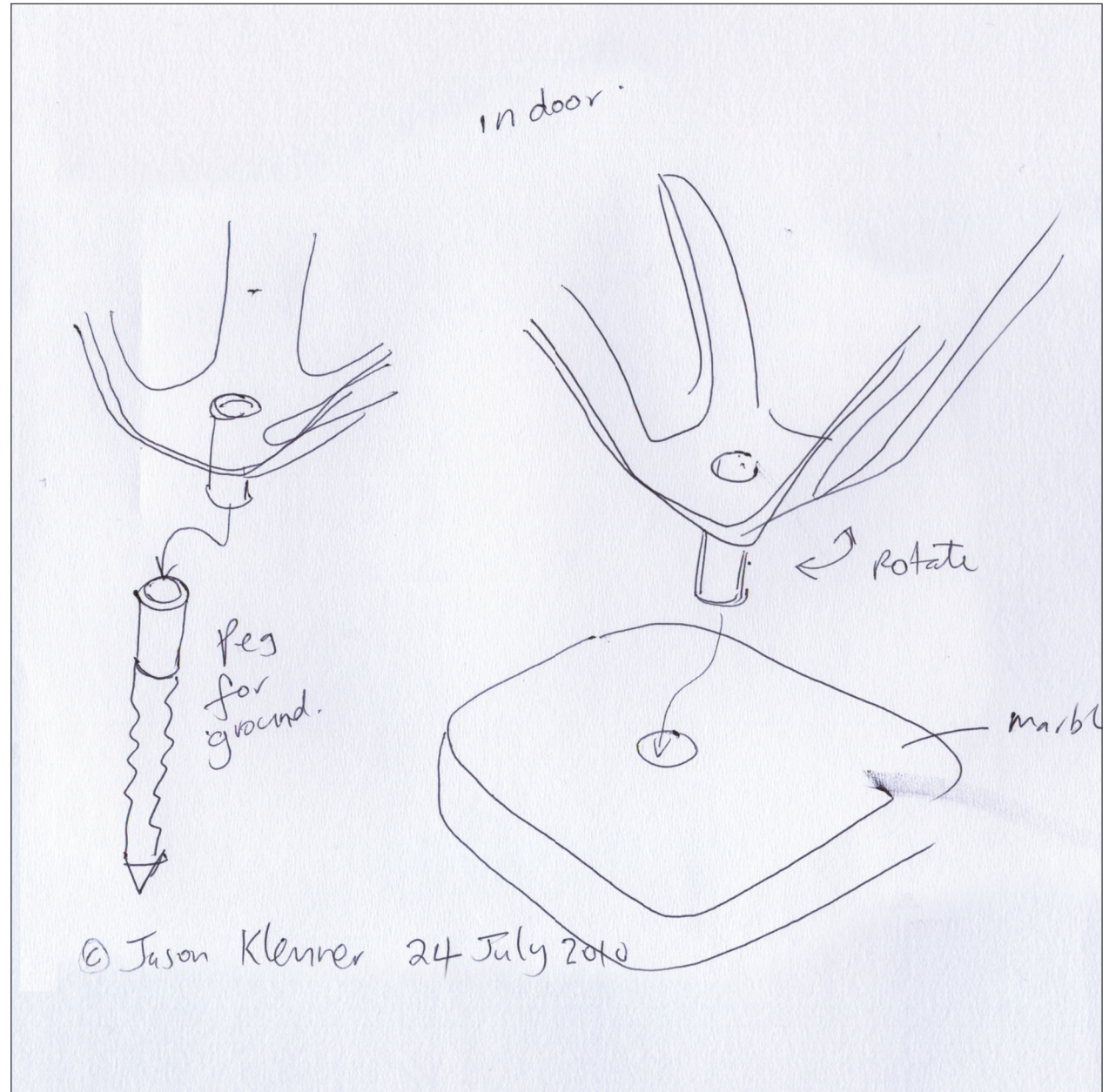


Figure 115

I was excited when I arrived at this folded sheet aluminium frame approach as it complements the thinness of the elastic cord seat.

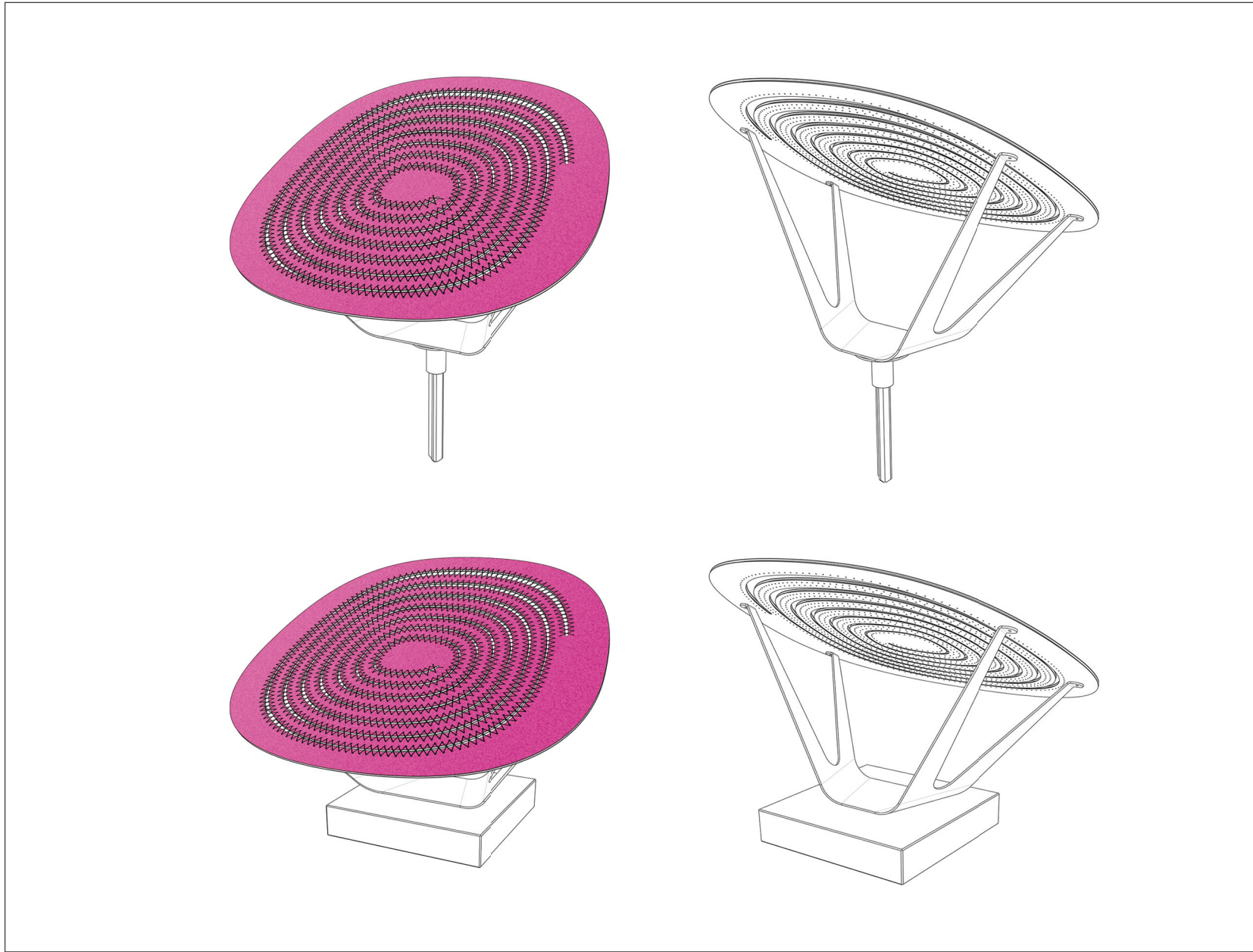
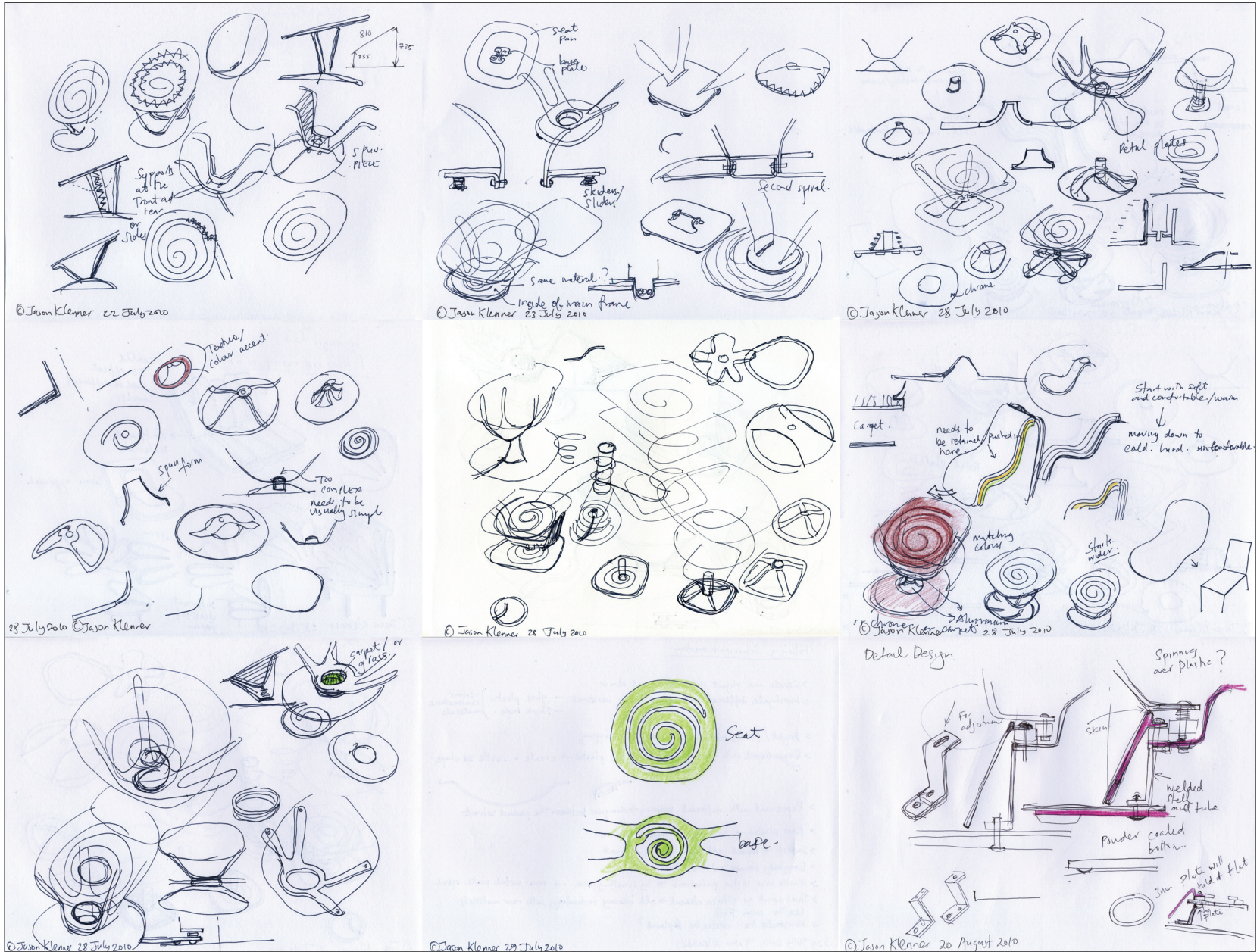


Figure 116
Images illustrating
Computer Aided Design
(CAD) development of the
concept, incorporating the
folded sheet aluminium
frame. The elastic cord
seat shape features a
flatter curve around the
seat water fall, to improve
comfort through reduced
pressure points to the
back of the thighs.

Figure 117
Further frame design
development.



Eureka!

Another break through... a swivel mechanism that is concealed and slim-line, providing an illusion that the chair is floating...

After deciding to simplify the chair concept, discarding the indoor and outdoor mounting brackets, I investigated how I could incorporate a swivel mechanism to complement the light weight and spacious appearance of the frame and elastic cord seat.

By accident, I stumbled upon the 'Lazy Susan' bearing - the bearings that are predominately used on restaurant tables. Their characteristics include being slim-line and able to be concealed from view. They can also withstand high weight loadings as well as forces from comparatively larger table top diameters.

These characteristics make it a good solution for a chair swivel and led to one being trialled in the subsequent prototype.

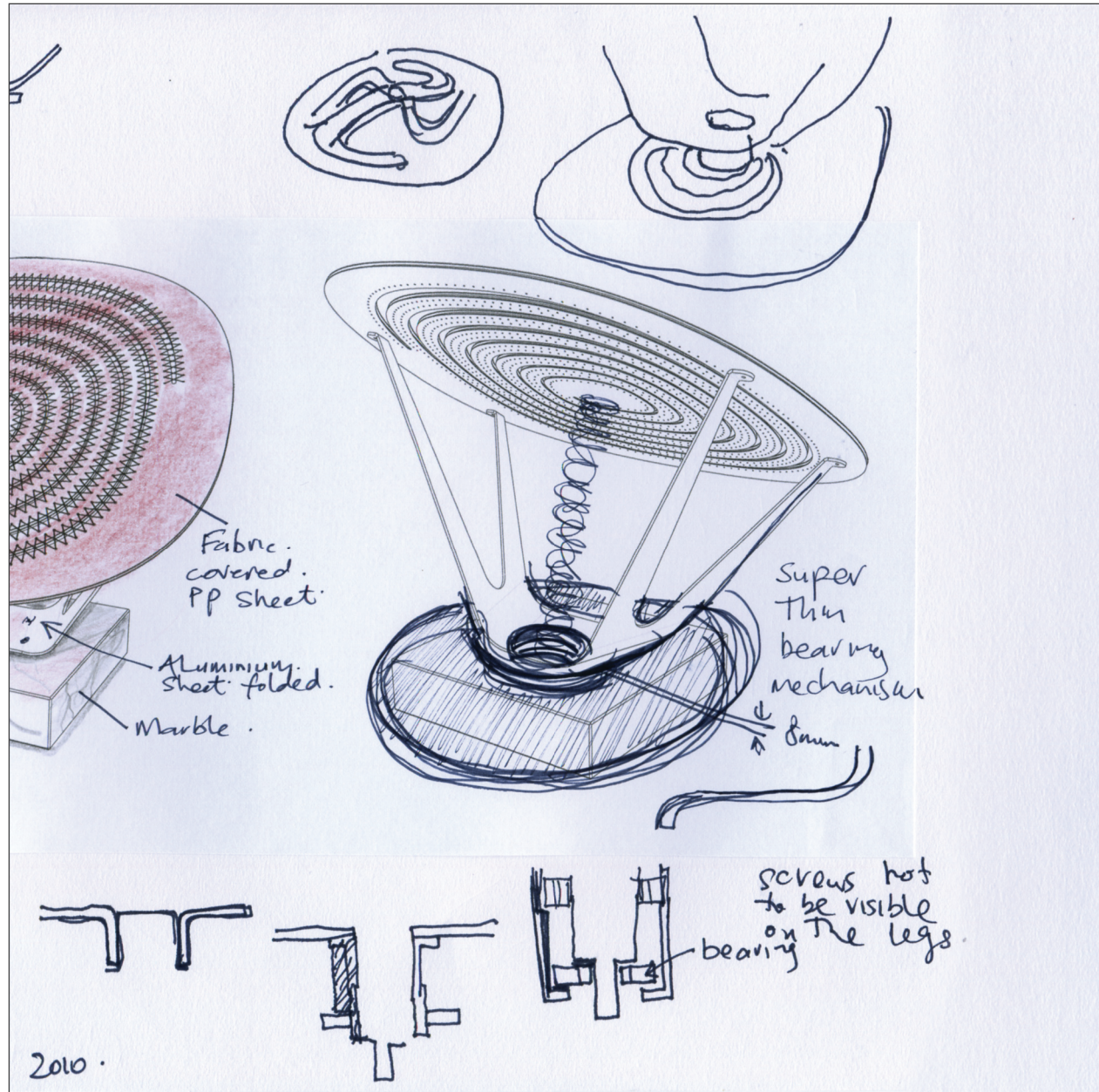
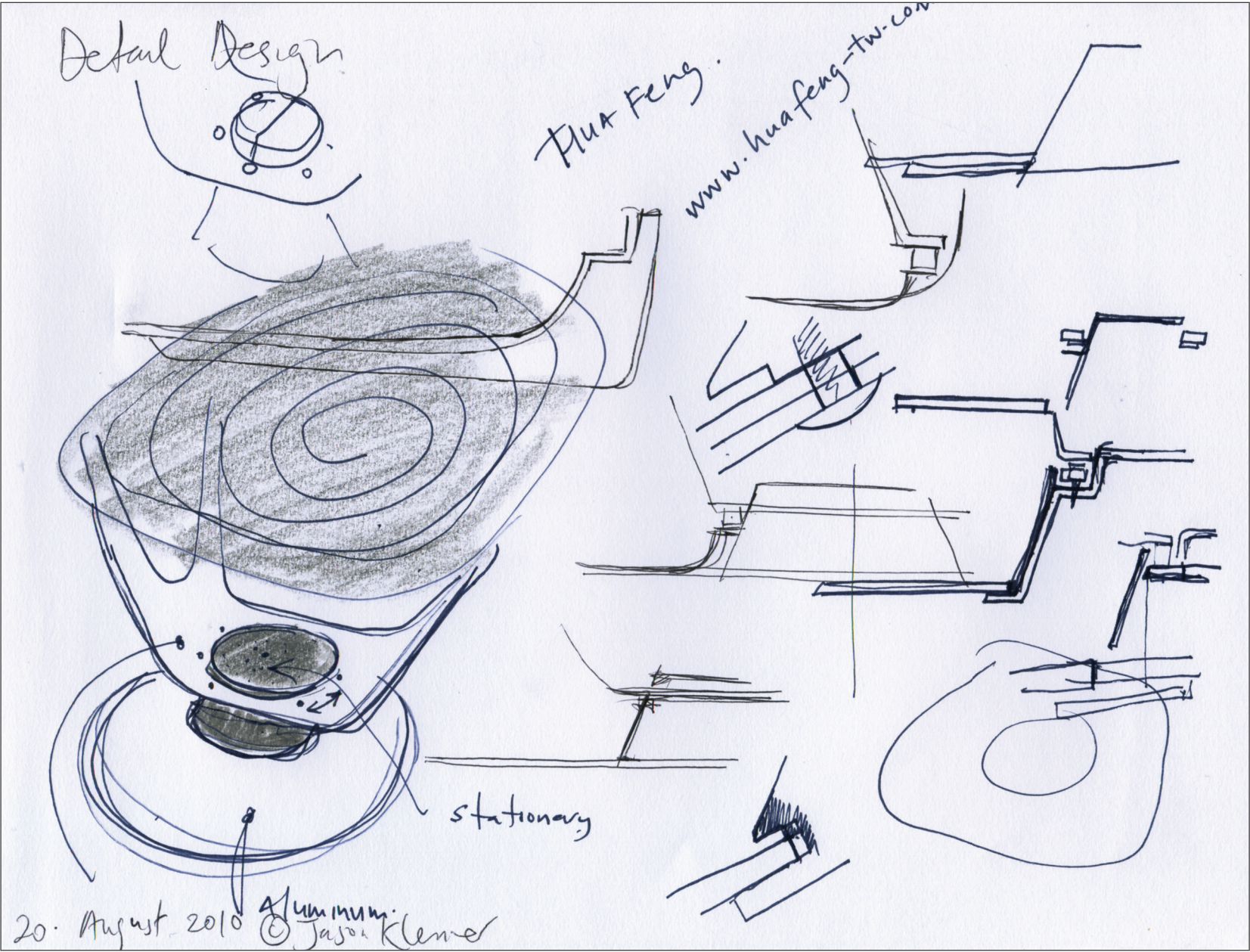


Figure 118

Sketch illustrating the desired visual thinness of the frame. A 'Lazy Susan' bearing was specified to achieve this appearance.

Figure 119
Further frame design
development.



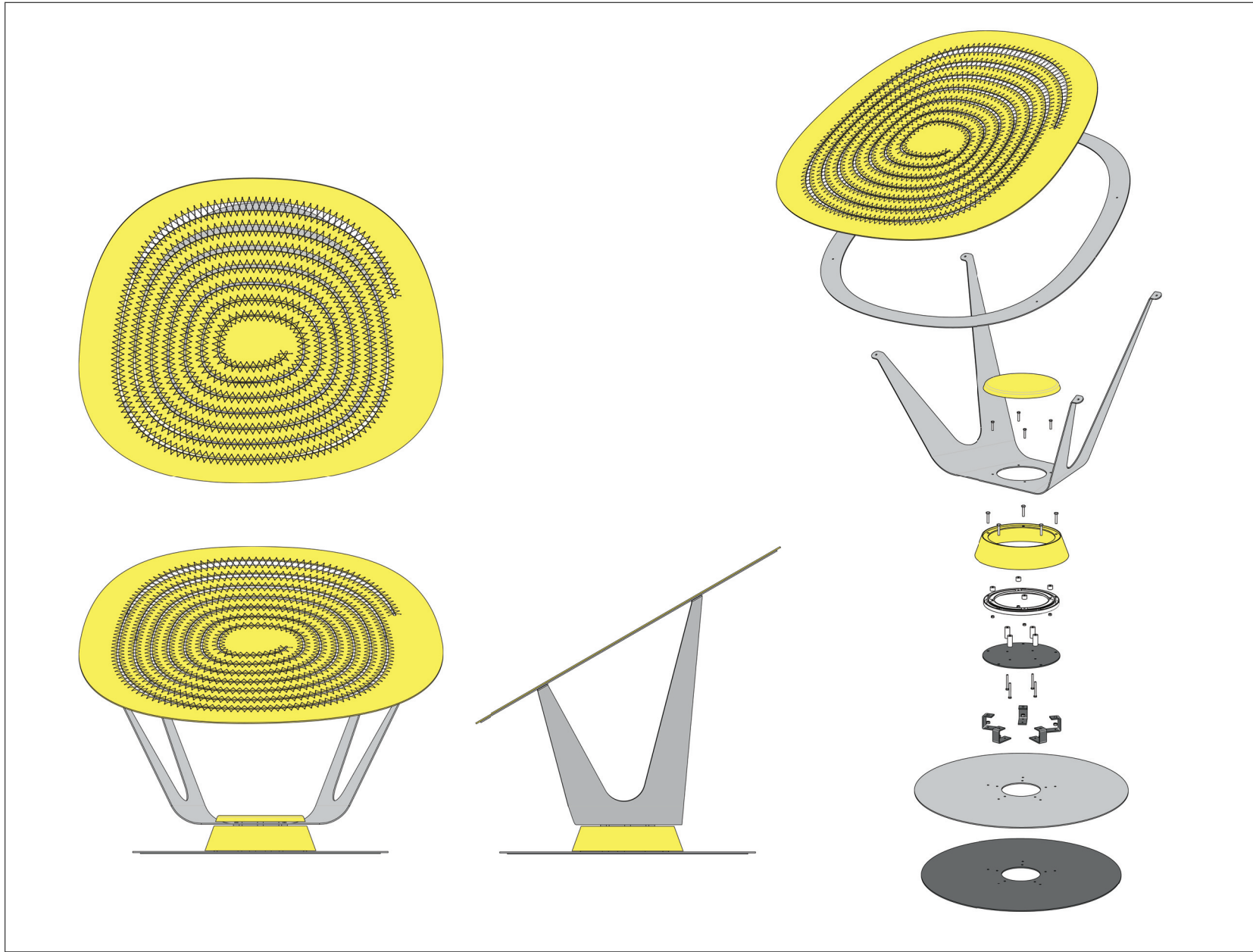


Figure 120
CAD development.

Introducing... 'Sprung'

Named 'Sprung' for two reasons, the first refers to the elastic 'flex' that the chair provides, and the second expresses how I would like to use the chair to be 'Sprung' onto the design art stage.

Key visual elements of 'Sprung' are its thin appearance and a light-weight feeling. The thinness of the seat pan, in particular, was intentional. I wanted it to appear like a floating sheet, amplifying the 2-dimensional sheet to 3-dimensional shape transformation when sat in.

In addition to the seat pan transforming from a 2-dimensional sheet to a 3-dimensional shape, the seat pan rotates above the base, offering another level of interaction and user experience. The seat legs that connect the base and the seat pan have also been designed to offer a certain amount of 'controlled wobble', again to deliver a richer user experience.

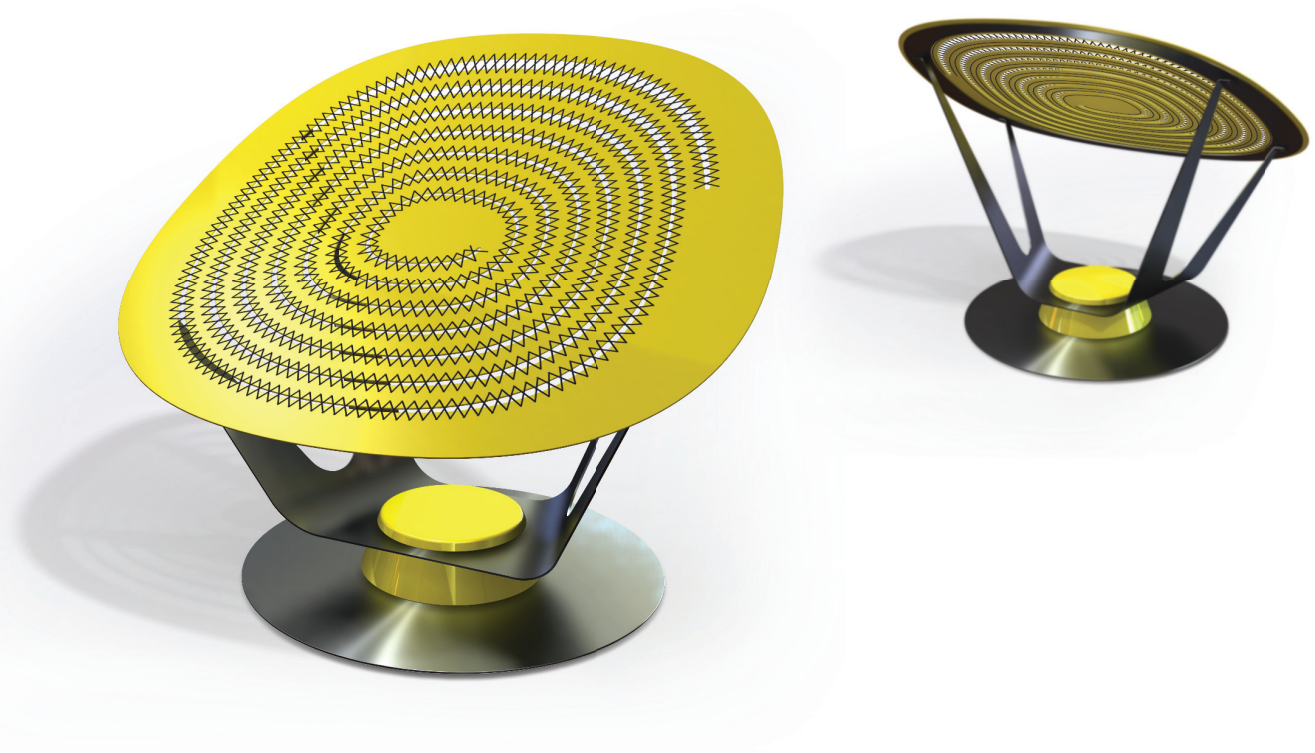


Figure 121 'Sprung' (rendition one).

'Sprung' prototype 1

This prototype proves that the 3mm aluminium sheet frame, bent along two edges is not rigid enough to support the weight of a seated body.

The images of the prototype shown incorporate the elastic cord seat from the previous prototype. Due to the weakness of the aluminium sheet frame the intended and more curvaceous elastic cord seat was not assembled with this prototype.

However, this prototype does successfully prove that the 'Lazy Susan' bearing specified is rigid and can be used as a swivel for this chair. It also proves that the size and footprint of the chair is acceptable and that the speed and quality of the fabricators selected to build the individual components are also acceptable.

Although somewhat disappointing, the lessons learnt from building this prototype have been extremely valuable.



Figure 122

'Sprung' prototype 1. Unfortunately the 3mm folded sheet aluminium frame was not rigid enough to support the weight of a seated body. This issue was rectified through development.

Reflection and design development 3

The main issue this prototype demonstrated was the lack of frame rigidity. In essence, the 'controlled wobble' effect that I wanted to achieve created this issue. Subsequently, in order to reduce the risk associated with the frame being too weak, I decided to discard the 'controlled wobble' effect and change the frame material specification and thickness to 5mm mild steel instead of 3mm aluminium.

Ideally, I would have used 3mm mild steel for this component, but after consultation with the frame fabricator, there was still some rigidity risk associated with using 3mm mild steel.

In addition, the frame design was changed to include four bends, one for each leg instead of two. This design change improves the structural integrity and rigidity of the frame.

All of the other components assemble together easily with no interference.

Development in this phase explores alternative elastic cord stitching techniques to achieve a solution that is less labour intensive than the previous prototype, where the process could eventually be automated.

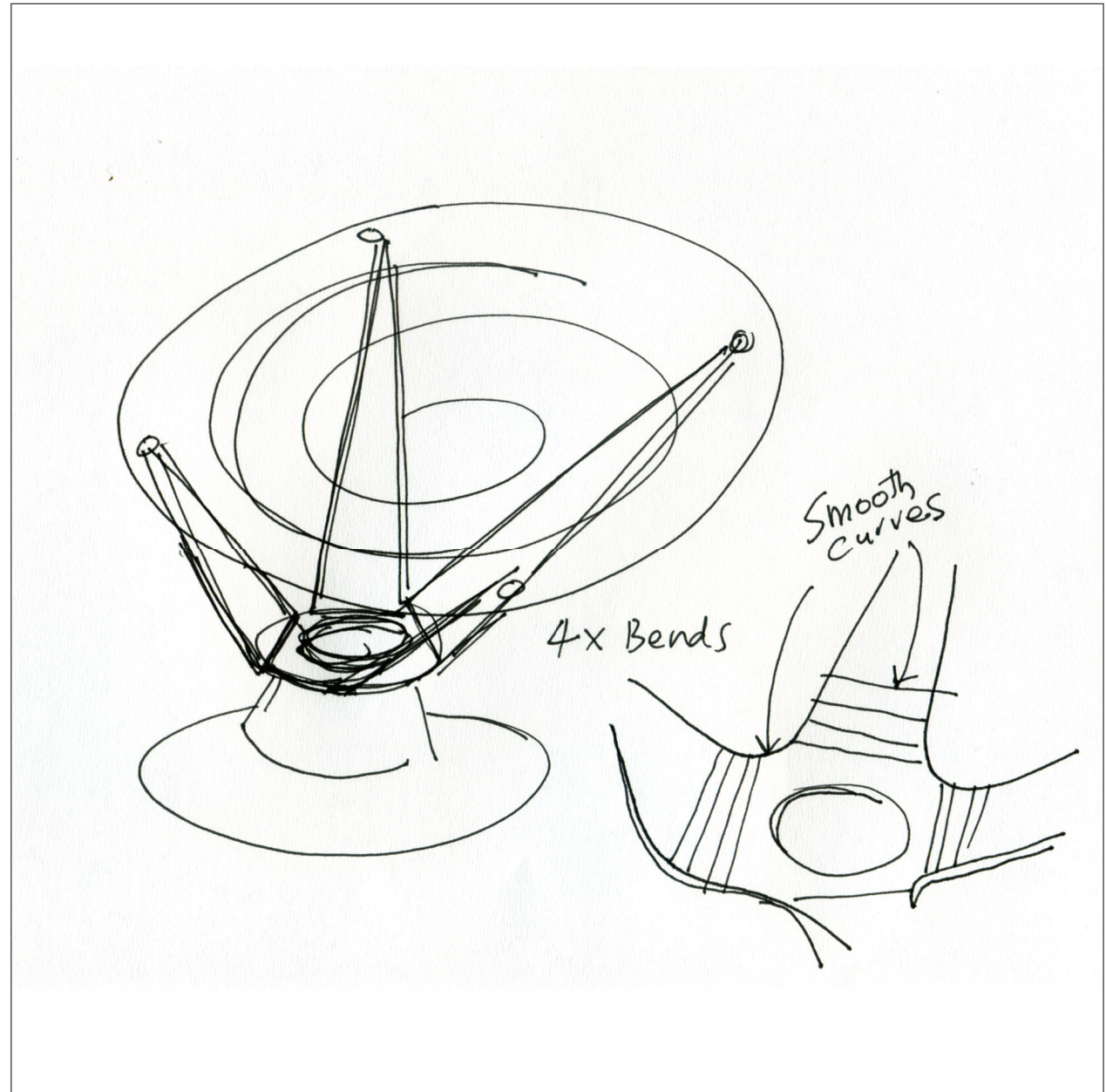


Figure 123

Sketch illustrating the improved frame design to be fabricated from 5mm mild steel.

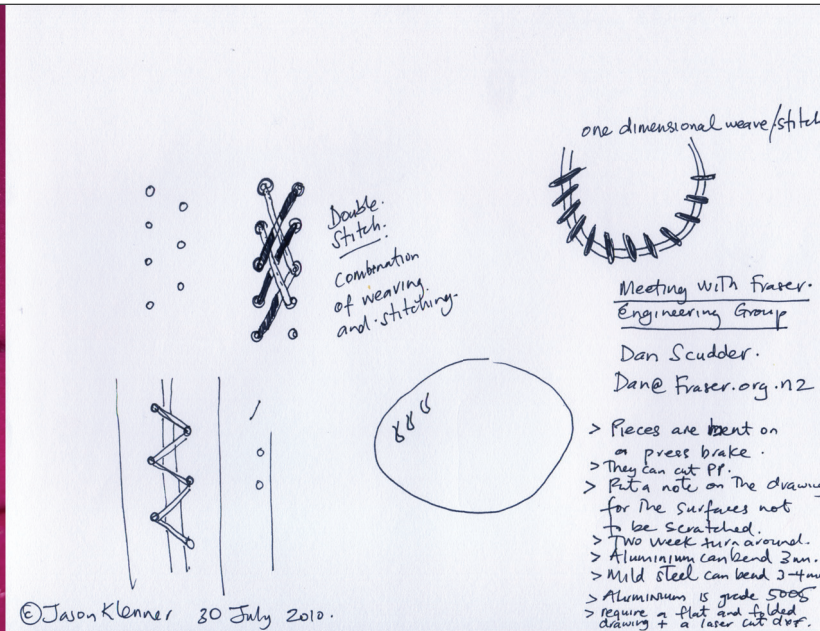
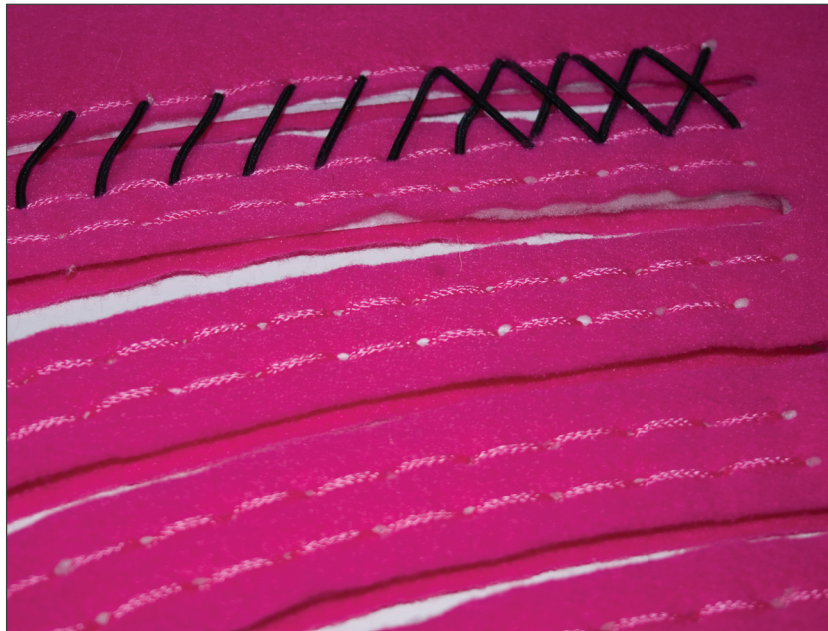
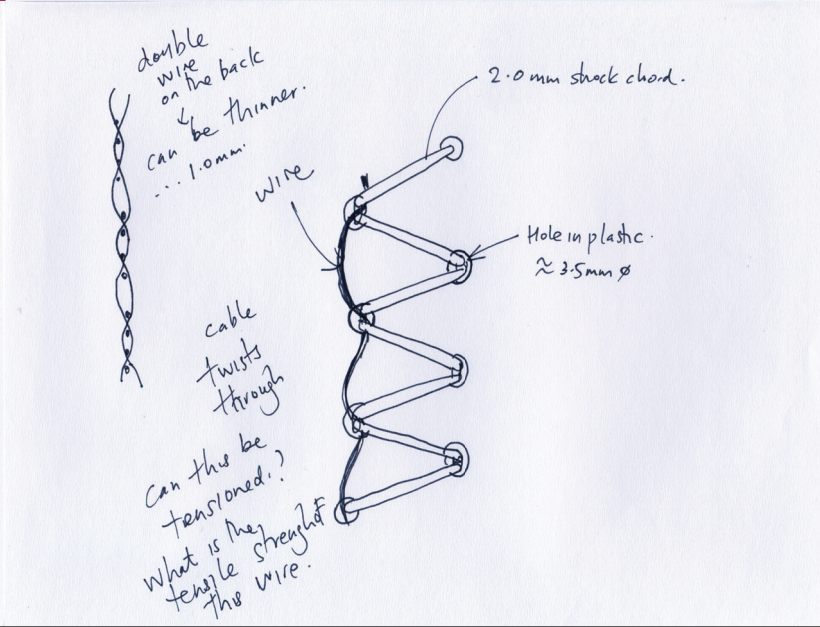
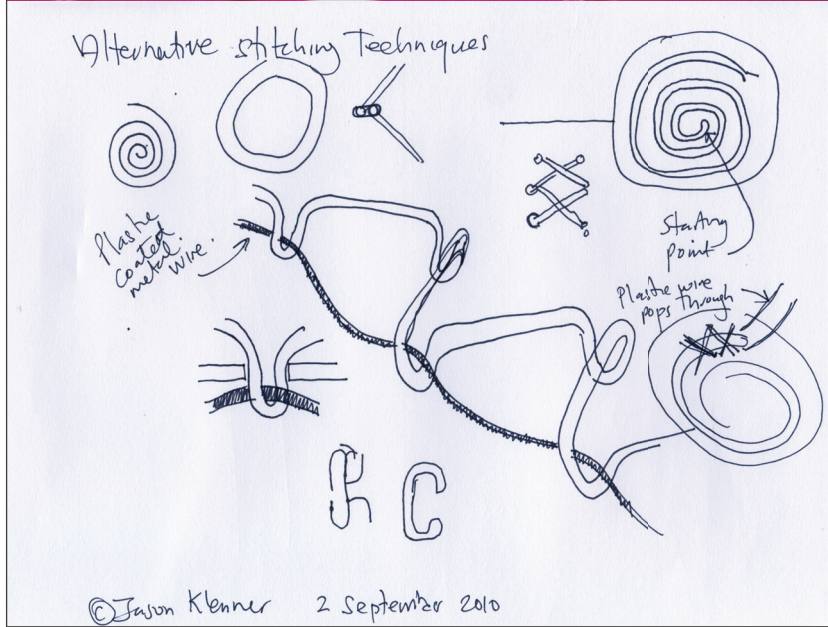


Figure 124
Images illustrating alternative elastic cord stitching technique development. From here a stitching technique similar to that of a sewing machine was adopted with the view that the process could later be automated.



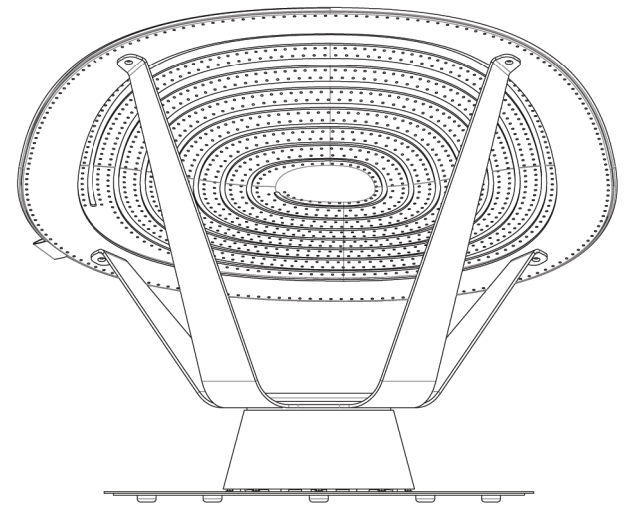
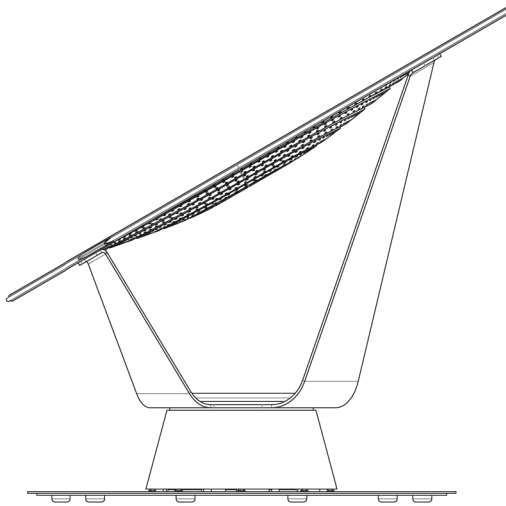
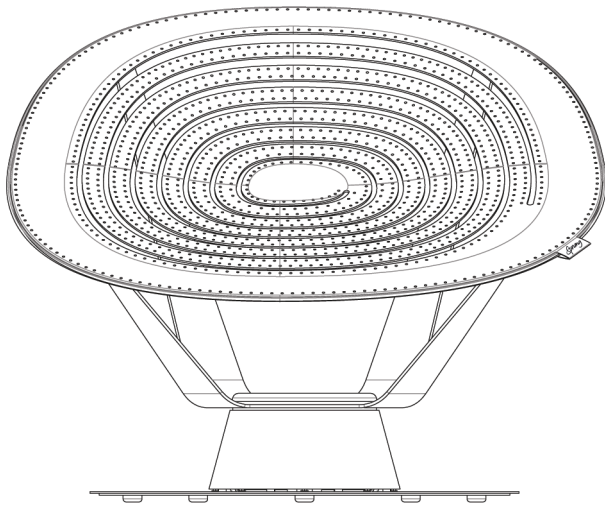
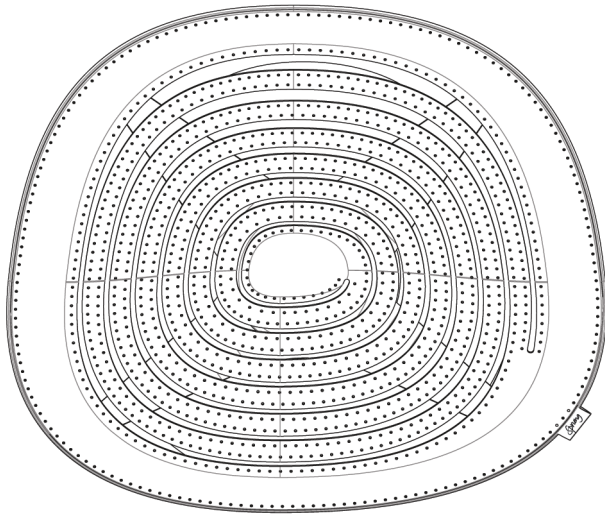


Figure 126 Final CAD detail design.

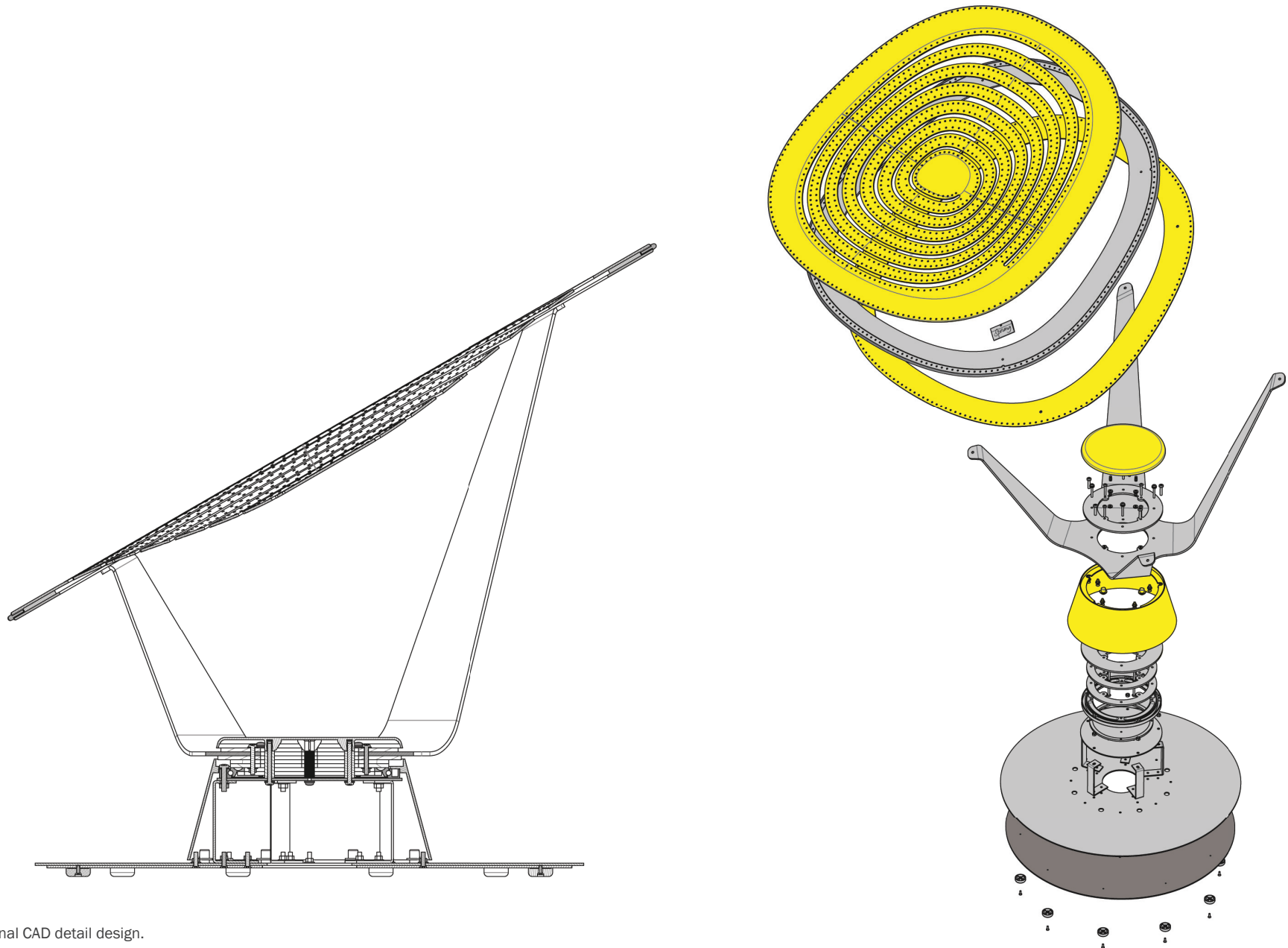


Figure 127 Final CAD detail design.

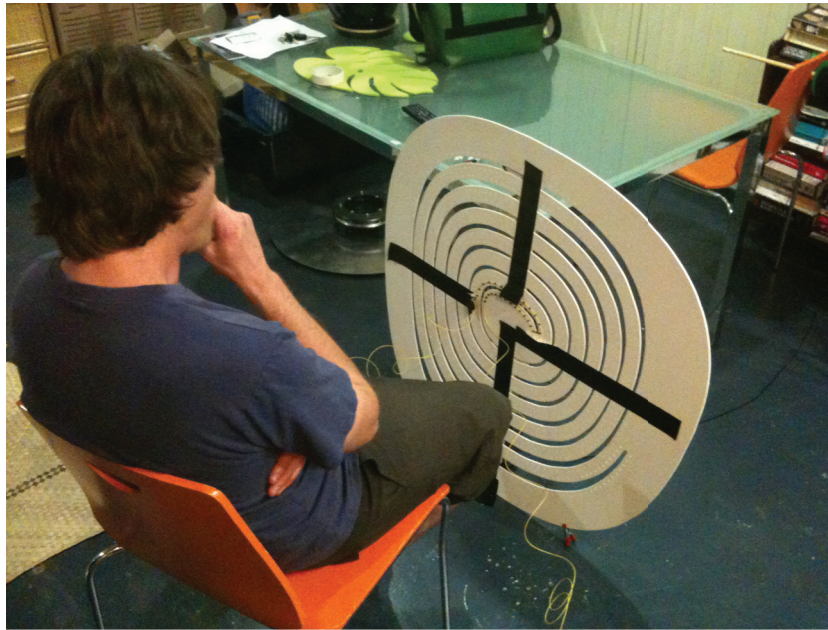


Figure 128
Images illustrating the elastic cord stitching and prototype assembly process.

'Sprung' prototype 2

This prototype successfully proves that the legs are rigid and support a variety of seated body sizes and weights.

The elastic cord seat feels spacious and supportive, and combined with its swivel base provides a dynamic and enjoyable seating experience.

This prototype validates my design and concludes my design development process. The focus is now on fabricating the final 'Sprung' object for exhibition.



Figure 129 'Sprung' prototype 2 validates my design and concludes the design development process. The focus is now on fabricating the final 'Sprung' object for exhibition.

Conclusion: Personal identity and design development

Included is a summary of the 'personal identity and design development' section.

Having a hands-on approach and creating ideas through experimentation, without the constraints associated with commercial projects, has been a refreshing and rewarding experience. It has allowed me to 'find myself' as a designer and define my personal design identity. This can be described as:

Incorporating a curiosity for experimentation with material and structure to create everyday objects that are not devoid of function, but not serious either.

The goal of this identity is to make users smile and to increase sentimental attachment and desirability towards these objects by offering experiences that can be described as surprising, memorable, enjoyable, light-hearted and even exhilarating when compared with utilitarian, mass market equivalents.

An example of this is:

A chair called 'Sprung' that integrates elastic cord with a 2-dimensional plastic sheet that flexes into a 3-dimensional springy form when sat in. This transformation appears and feels unexpected and the bounce experience fun, challenging how we view materials and structures and how chairs are perceived and used.

Sprung

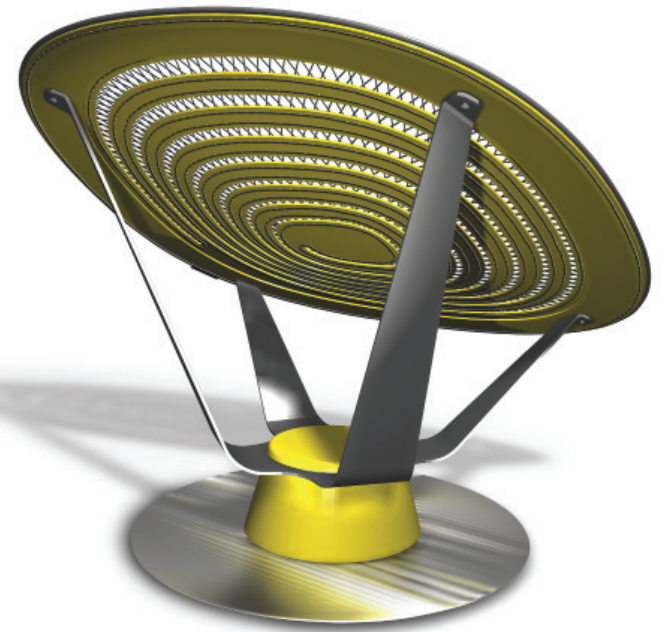
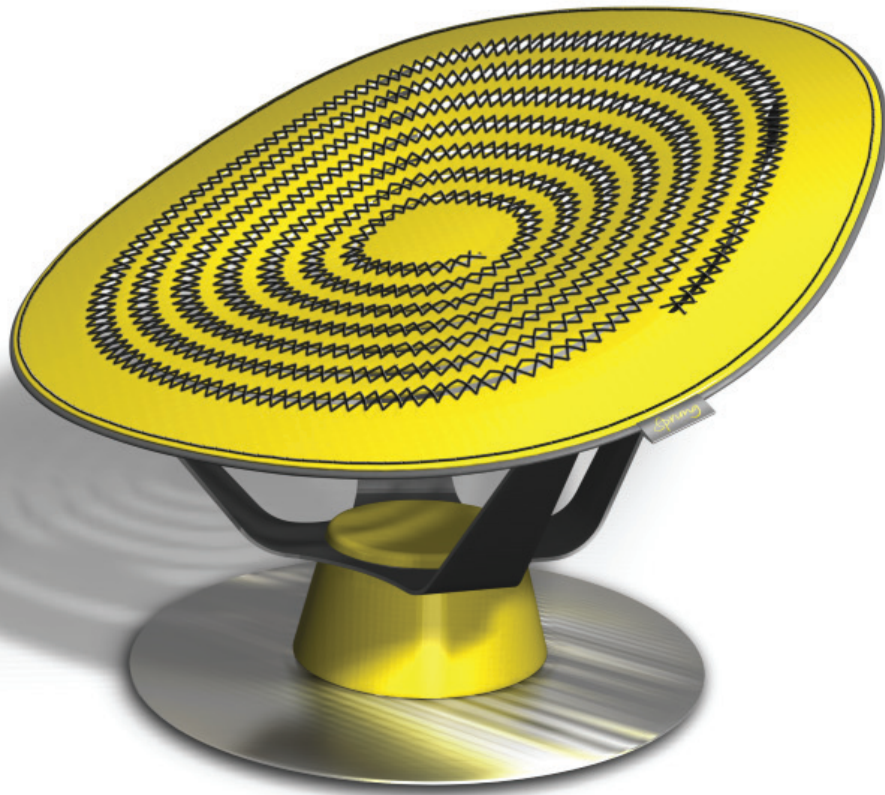


Figure 130 'Sprung' (final rendition).

Conclusion:

Conclusion

My Master of Design research project has involved the creation of a personal identity through design in order to reposition myself within the design industry at a time when the existence of New Zealand designers who work within the mass design services market is being threatened by New Zealand based manufacturing and industry moving offshore.

The aim of this study was to free myself from the constraints associated with commercial projects and ‘find myself’ as a design individual by establishing a personal point of view and design identity, as expressed through the creation of a limited edition, design art object in order to establish a track record and reputation in this field. The insights and information gained form a toolbox of knowledge that will aid the future development of my career as a designer.

The design-led research has involved the observation and analysis of designers that are positioned within the high profile and high value area of the design industry including Ron Arad, Ross Lovegrove, Marc Newson and David Trubridge in order to understand the key elements that underpin their success and to gain insights and inspiration for developing my own personal design identity.

Observation and analysis also included that of established New Zealand designers such as Peter Haythornthwaite and Simon James in order to understand how they have achieved acknowledgement in their fields; the ideology behind the limited edition, design art field along with the national and international channels that support and promote this niche; and finally the opportunities that direct manufacturing and rapid prototyping processes can provide to this study.

Following my analysis, particularly of Arad, Lovegrove, Newson and Trubridge and the limited edition, design art field I realised that there are many alternative design career paths that can be explored as a New Zealand based designer. Of the various paths available, I decided to pursue the establishment of a personal design identity to be expressed through the creation of a limited edition, design art object with the aim of establishing a profile in this field and to ultimately be less reliant on the provision of a design service for mass market design.

This approach was selected as my research confirmed that the personal design identities of Arad, Lovegrove, Newson and Trubridge have been fundamental to their success and position within the high profile and high value area of the design

industry; in addition research indicates that the limited edition, design art field is an accessible platform to gain exposure as a design individual.

Common to the personal design identities of Arad, Lovegrove, Newson and Trubridge is experimentation with materials and processes. This experimentation has allowed these designers to create distinctive and iconic objects as statements that reveal their attitudes and personality as design individuals. It should also be noted that this experimentation with materials and processes does not necessarily need to involve leading edge technologies and can utilise hand-made techniques as demonstrated with Newson’s ‘Lockheed Lounge’ and Bertjan Pot’s ‘Random Light’.

Furthermore, the limited edition and design art field provides a canvas for many of the experimental objects created by these designers. These are showcased through curator and dealer galleries that are viewed as ‘the new patrons’ of experimental and contemporary design objects rather than the Italian furniture manufacturers, such as Cappellini, Magis and Moroso, of the past.

When reflecting on my point of view, values and approach when creating objects for myself, I realised that I had become increasingly dissatisfied with my day-to-day role as a commercial designer. Some factors that contributed to this dissatisfaction include the serious and primarily ‘rationally rich’ products that I have worked on throughout my career. There has been a lack of light-hearted, ‘emotionally rich’ objects that make people happy or smile while still serving a functional purpose. In addition, little creative freedom or autonomy exists to satisfy my curiosity and enthusiasm for experimentation using materials in new and alternative ways. Finally, I have been unable to create bold, quirky and colourful objects that aesthetically please me in my professional life.

The process of continual personal reflection and design experimentation has allowed me to achieve my research aim of ‘finding myself’ as a design individual by creating a personal design identity that is expressed through the creation of a limited edition, design art object. This process has been extremely challenging as I initially felt vulnerable as I started to expose my personality to others, a personality that had been safely camouflaged behind the brands that I had designed for over the past nineteen years as a commercial designer. Over time this has become easier as I gained confidence in my ideas and ability as a design individual.

The process of design experimentation and design refinement identified that experimentation with materials and processes needed to be hands-on in order to test principles and ideas rather than experimentation through sketching. Although this sounds obvious, this was quite a shift from my approach as a commercial designer when sometimes months would go by without the use of a workshop. It should be noted that I now have my own workshop at home for this type of experimentation.

The goal of my personal design identity is to incorporate a curiosity for experimentation with material and structure when creating everyday objects that are not devoid of function, but not serious either. As well as to make users smile and to increase sentimental attachment and desirability towards the objects I create by offering experiences that can be described as surprising, memorable, enjoyable, light-hearted and even exhilarating.

This personal design identity has allowed me to arrive at an object called 'Sprung' that incorporates the concept of 'experiential design' to create rich user experiences. The 'experiential design' concept complements my desire to create 'emotionally rich' objects that are not overly serious and have the potential to make people smile and be happy when using everyday objects, especially when compared with utilitarian, mass market equivalents.

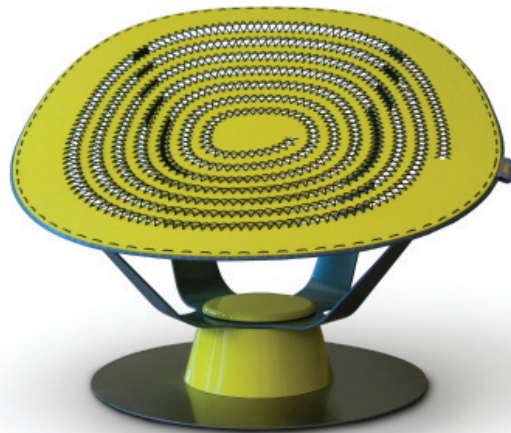


Figure 131 'Sprung' (final prototype).

In particular, the statement that I wanted 'Sprung', the first object to be created with this personal design identity, to make was that things do not always have to be so serious. Objects can fulfil a function without necessarily being serious and that enjoyment can come from even the simplest activities performed on a day-to-day basis, in this case sitting.

In addition, the hand stitched construction featured in the seat pan is a reaction to the movement offshore of mass manufacture design services and industry. It explores techniques that can be processed in a studio workshop environment without being dependent on leading edge and specialist industry.

Hand stitching was selected as a technique that could be processed within a studio workshop environment, with the view that it could later be automated as a process for future editions.



Figure 132 Hand stitching construction of 'Sprung'.

It is intended that 'Sprung' be the first of a series of objects that utilise this personal design identity for the limited edition, design art field. These objects will be used to gain exposure as a design individual, with the aim that these objects be showcased in curator or dealer galleries that exhibit experimental objects.

Observing people interacting with and discussing 'Sprung' at the Master of Design exhibition finale on Friday February 11 2011 provided the following feedback:

The thin bold yellow seat pan with its floating position above the stainless steel base provides a striking and playful appearance that is attention capturing. The unusually flat appearance, which interestingly still looks like a chair, reinforces the idea that it is not serious or rational.

Following this initial reaction to the chair, typically focus shifts to the spiral shape within the seat pan, the contrasting black elastic cord and the pattern this creates. Combined these provide a level of fascination with the object and a curiosity to trial it. Questions typically included: "How is it made?", "What is it made from?", "How does it work?", "Will it support me and can I try it?".

When sat in for the first time users would approach and cautiously perch on the chair in order to gauge how it supported their body and weight. A typical reaction, at this stage, was a large smile and an expression of pleasant surprise at how comfortable and supportive they found it. Upon realising that their body weight was supported a new level of interaction with the object was entered through a subtle bouncing and pivoting motion.

During the exhibition finale, at times, a queue of people formed to trial the chair. This sparked another level of interaction – between the person sitting in the chair and those queuing. This consisted of energetic bouncing so those queuing could see how the appearance of the chair changed during this motion.

The metal frame, stainless steel base and yellow cylindrical base fascia was intentionally kept visually as simple as possible to reinforce the striking, playful and floating appearance of the bold yellow seat pan. The integration between these components was also kept to a minimum for this reason.

Following the Master of Design exhibition, I believe that 'Sprung' expresses the statement that objects do not have to be serious to fulfil physical or visual functions. I believe that 'Sprung' also reflects my personal design identity and desire to create objects that provide 'emotionally rich' experiences. The feedback on 'Sprung' also indicated that the interaction the user has with 'Sprung' was surprising, enjoyable and entertaining and as a result, it was viewed a desirable object – being more than a seat.

Finally, my Master of Design study has provided me with a renewed enthusiasm for design. It has also given me a new sense of self confidence in my ability and future as a designer along with a toolbox of knowledge to continue developing my career.

I am excited about continuing the journey of developing my personal design identity in the future and believe that it has the potential to secure my future as a designer...



Figure 133 'Sprung' (final prototype).

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- Figure 3: Big Easy chair (1988). Retrieved June 28, 2010, from <http://artblart.wordpress.com/2009/08/>
- Figure 4: Soft Big Easy chair (1990). Retrieved June 28, 2010, from <http://artblart.wordpress.com/2009/08/>
- Figure 5: New Orleans chair (1999). Retrieved June 28, 2010, from <http://artblart.wordpress.com/2009/08/>
- Figure 6: Big E chair (2003). Retrieved June 28, 2010, from <http://design-mi.blogspot.com/2008/08/ron-arad-big-easy-chair-at-abitare-il.html>
- Figure 7: Ross Lovegrove. Retrieved November 28, 2010, from http://www.momedesign.com/26,0-ross_lovegrove.html
- Figure 8: Cosmic Angel lamp (2009). Retrieved November 29, 2010, from <http://petersteinhauer.files.wordpress.com/2010/05/cosmic-angel-sospensione-by-r-lovegrove-02.jpg>
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- Figure 14: Zenith Chair for Galerie Kreo (1998). Retrieved November 29, 2010, from <http://www.marc-newson.com/ProjectImages.aspx?GroupSelected=0&ProjectName=Zenith+Chair%0D%0A1998+-+Galerie+Kreo++Pod&Category=Unique%20Pieces>
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- Figure 136: Interlace Chair. Retrieved February 20, 2011, from <http://www.matthewplumstead.com/2010/06/interlace-chair/>
- Figure 137: Kolo Armchair. Retrieved February 20, 2011, from <http://missdelite.blogspot.com/2009/07/design-blogs.html>
- Figure 138: Stretch Chairs. Retrieved February 20, 2011, from <http://www.digsdigs.com/bright-colored-vivid-chairs-stretch-by-jessica-carnevale/>

- Figure 139: Silk Chair. Retrieved February 20, 2011, from <http://www.contemporist.com/2011/02/07/the-silk-chair-by-alvi-design/#more-26275>
- Figure 140: Elastic Chair. Retrieved February 20, 2011, from <http://andrewreedstudio.com/work/2010/2/20/elastic-chair.html>
- Figure 141: Flex Chair. Retrieved February 20, 2011, from <http://blog.ponoko.com/2008/11/07/steve-watson/>
- Figure 142: Linka Chair. Retrieved February 20, 2011, from <http://thedesigmatrix.wordpress.com/2010/02/21/naughty-and-nice/>
- Figure 143: STRETCHout. Retrieved February 20, 2011, from <http://blog.ponoko.com/2007/05/07/transforming-2d-into-fluid-3d/>
- Figure 144: Uncut Chair. Retrieved June 28, 2010, from <http://artblart.wordpress.com/2009/08/>
- Figure 145: Spring Wood Collection. Retrieved February 20, 2011, from http://www.contemporist.com/wp-content/uploads/2011/01/sw_100111_03.jpg


Bibliography

- Bearman, N. (2006, September 13). Super Natural. *D*Hub*. Retrieved January 7, 2010, from <http://www.dhub.org/articles/153>
- Biography: Ross Lovegrove (2008, July 24). *CNN*. Retrieved January 7, 2010, from <http://edition.cnn.com/2007/TECH/09/27/lovegrove.biog/>
- Brant, P. M. (2009, April 28). Marc Newson. *Interview Magazine*. Retrieved November 6, 2009, from <http://www.interviewmagazine.com/art/marc-newson/>
- Commentz, S. (2008). *Fragiles: Porcelain, Glass and ceramics*. Berlin, Germany: Gestalten.
- Cook, J. (2005). *Crafted by design: Inside New Zealand craft artists' studios*. Auckland, New Zealand: Godwit.
- Crochet Chair by Marcel Wanders (2007). *The Style Files*. Retrieved May 1, 2010, from <http://style-files.com/2007/01/27/crochet-chair-by-marcel-wanders/>
- David Trubridge: Designing his own success (2008, October 31). *Market New Zealand*. Retrieved April 1, 2009, from <http://www.marketnewzealand.com/MNZ/Stories/SuccessContent.aspx?SectionID=14385&ContentID=19892>
- Dormer, P. (1991). *The illustrated dictionary of twentieth century designers*. London: Headline Book Publishing PLC.
- Downton, P. (2003). *Design research*. Melbourne: RMIT University Press.
- Fairs, M. (2007). Burning down the divide. *Crafts*(205), p.38-43.
- Fiell, C., & Fiell, P. (2000). *1000 chairs*. Cologne, Germany: Benedikt Taschen Verlag GmbH.
- Fiell, C., & Fiell, P. (2002). *Designing the 21st Century*. Cologne, Germany: Taschen GmgH.
- Fiell, C., & Fiell, P. (2007). *Design now*. Cologne, Germany: Taschen GmgH.
- Fitoussi, B. (1998). *Memphis*. London, Great Britain: Thames and Hudson Ltd.
- Greenwood, H. (2009). Ron Arad: Morphing art and design. *Art & Australia*, 46(4), p.586-587.
- Haden-Guest, A. (2009, April 28). Ron Arad. *Interview Magazine*. Retrieved November 6, 2009, from <http://www.interviewmagazine.com/art/ron-arad/>
- Initiative launched to take on China (2007, May). *EMA Business*, p.5.
- Interview mit Ross Lovegrove (2008). *Red Dot*. Retrieved January 7, 2010, from <http://en.red-dot.org/2747.html>
- Jana, R. (2006, December 15). Marc Newson and the art of design. *Businessweek*. Retrieved January 5, 2010, from http://www.businessweek.com/innovate/content/dec2006/id20061214_268221.htm
- Jenkins, D. L. (2006). *40 legends of New Zealand design*. Glenfield, New Zealand: Godwit.
- Lovell, S. (2008). Design Ltd. *Wallpaper**(116), S.10-13.
- Lovell, S. (2009). *Limited edition: Prototypes, one-offs and design art furniture*. Basel, Switzerland: Birkhäuser.
- Manalo, E., & Trafford, J. (2004). *Thinking to thesis*. Albany, New Zealand: Pearson Education.
- Marc Newson (2007). Gagosian Gallery. Retrieved December 1, 2010, from <http://i1.exhibit-e.com/gagosian/580205fe.pdf>
- Marc Newson interview (2003, April 9). *Designboom*. Retrieved November 6, 2009, from <http://www.designboom.com/eng/interview/newson.html>
- Marc Newson: Designing modern Britain (2006). *British Design Museum*. Retrieved November 6, 2009, from <http://designmuseum.org/design/marc-newson>
- Modern design dictionary: Marc Newson (2007). *Answers Corporation*. Retrieved January 5, 2010, from <http://www.answers.com/topic/marc-newson>
- Modern design dictionary: Ron Arad (2009). *Answers Corporation*. Retrieved January 5, 2010, from <http://www.answers.com/topic/ron-arad-industrial-designer>
- O'Shea, J. (2009). Marc Newson's Lockheed Lounge chair bumps fine art sales decline, setting \$1.6 million auction record. *Supertouch Art*. Retrieved January 4, 2010, from <http://www.supertouchart.com/2009/05/04/news-marc-newsons-lockheed-lounge-chair-bumps-fine-art-sales-decline-setting-16-million-auction-record/>
- O'Toole, S. (2004). Love Grove. *Design Indaba Magazine*. Retrieved January 7, 2010, from <http://www.designindabamag.com/2004/1st/grove.htm>
- One of a kind (2009, April / May). *Prodesign*, p.21.
- Overbeeke, K., Djajadiningrat, T., Hummels, C., & Wensveen, S. (2002). *Pleasure with products*. London and New York: Taylor & Francis.
- Rawsthorn, A. (1999). *Marc Newson*. London: Booth-Clibbon Editions.

- Robson, C. (1993). *Real world research* (2 ed.). Malden, MA: Blackwell Publishing.
- Ron Arad: Biography (2009). *Ron Arad Associates*. Retrieved January 5, 2010, from <http://www.ronarad.com/biography.htm>
- Ron Arad: Celebrating 25 years of design (2009). *British Design Museum*. Retrieved November 6, 2009, from <http://designmuseum.org/design/ron-arad>
- Ron Arad: No Discipline (2008). *Centre Pompidou*. Retrieved January 5, 2010, from <http://www.centrepompidou.fr/education/ressources/ENS-ronarad-EN/ENS-ronarad-EN.html>
- Ross Lovegrove interview (2006, November 30). *Designboom*. Retrieved January 7, 2010, from <http://www.designboom.com/eng/interview/lovegrove.html>
- Ross Lovegrove interview (2007, September 27). *Wallpaper*. Retrieved January 7, 2010, from <http://www.wallpaper.com/interiors/ross-lovegrove-interview/1770>
- Ross Lovegrove: Biography (n.d.). *Ketterer Kunst*. Retrieved January 7, 2010, from <http://www.kettererkunst.com/bio/ross-lovegrove-1958.shtml>
- Ross Lovegrove: Design Museum Collection (2007). *British Design Museum*. Retrieved January 7, 2010, from <http://designmuseum.org/design/ross-lovegrove>
- Schamroth, H. (1998). *100 New Zealand craft artists*. Auckland, New Zealand: Godwit.
- Scherer, K. (2009, March 9). The dinosaurs vs the dynamos. *New Zealand Herald*. Retrieved March 9, 2009, from http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10560300
- Tambini, M. (1996). *The look of the century*. London, United Kingdom: Dorling Kindersley.
- Thoreau, M. (2006). *Write on track: A guide to academic writing*. Albany, New Zealand: Pearson Education.
- Trubridge, D. (2009). On wood... and up wood. *Object*(58), p.38-39.
- Williams, G. (2009a). Tales of the unexpected. *Crafts*(219), p.48-55.
- Williams, G. (2009b). *Telling tales: Fantasy and fear in contemporary design*. London: V&A Publishing.
- Wolf, G. (2009, Fall). Creative minds: Ross Lovegrove. *Whitewall*, p.54-55.
- Zehentbauer, M. (2008). Grauzone Design Art./Neither art nor design? *Form* (Germany)(220), p.90-93.

Appendix:

Ethics Low Risk Notification Application: Page 1



Massey University
Te Kunenga ki Pūrehuroa

**NOTIFICATION OF LOW RISK RESEARCH/EVALUATION
INVOLVING HUMAN PARTICIPANTS**

*(All notifications are to be typed)
(Do not modify the content or formatting of this document in any way)*

SECTION A:

1. **Project Title** (MDes) Fusing craft with design: An investigation into creating a high-value and desirable product for a global market.
Projected start date for data collection 6 July 2009 **Projected end date** 30 September 2009

2. **Applicant Details** *(Select the appropriate box and complete details)*

ACADEMIC STAFF NOTIFICATION

Full Name of Staff Applicant/s _____
School/Department/Institute _____
Region *(mark one only)* Albany Palmerston North Wellington
Telephone _____ **Email Address** _____

STUDENT NOTIFICATION

Full Name of Student Applicant Jason Allan Klenner
Postal Address 119 Rocking Horse Road, Southshore, Christchurch
Telephone 021-783-935 **Email Address** Jason@jak.co.nz
Employer *(if applicable)* n/a
Full Name of Supervisor(s) Prof. Tony Parker, Dr. Mark Goellner
School/Department/Institute College of Creative Arts
Region *(mark one only)* Albany Palmerston North Wellington
Telephone (04) 8015799, ext 6991 **Email Address** M.Goellner@massey.ac.nz

GENERAL STAFF NOTIFICATION

Full Name of Applicant _____
Section _____
Region *(mark one only)* Albany Palmerston North Wellington
Telephone _____ **Email Address** _____
Full Name of Line Manager _____
Telephone _____ **Email Address** _____

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3. **Type of Project** *(mark one only)*

Staff Research/Evaluation:	Student Research:	If other, please specify:
Academic Staff <input type="checkbox"/>	Qualification <input type="checkbox"/>	
General Staff <input type="checkbox"/>	Credits Value of Research <input type="checkbox"/>	
Evaluation <input type="checkbox"/>		

4. **Describe the process that has been used to discuss and analyse the ethical issues present in this project.**
 The project has been discussed with the supervisors regarding the Massey University ethical code of conduct and no potential for emotional or physical harm to participants and the researcher could be identified.

5. **Summary of Project**
 Please outline the following (in no more than 200 words):

- The purpose of the research is to understand the area and the opportunities that exist between craft and design in order to create a unique high-value product from an industrial design perspective. Primarily I am interested in understanding the current trends that exist in the area between craft and design, and the key elements behind the success of leading industry figures.
- Two data collection methods have been selected, semi-structured interviews of industry experts and content analysis.

(Note: ALL the information provided in the notification is potentially available if a request is made under the Official Information Act. In the event that a request is made, the University, in the first instance, would endeavour to satisfy that request by providing this summary. Please ensure that the language used is comprehensible to all)

Please submit this Low Risk Notification (with the completed Screening Questionnaire) to:

The Ethics Administrator
Research Ethics Office
Old Main Building, PN221
Massey University
Private Bag 11 222
Palmerston North

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SECTION B: DECLARATION *(Complete appropriate box)*

ACADEMIC STAFF RESEARCH
Declaration for Academic Staff Applicant
 I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. My Head of Department/School/Institute knows that I am undertaking this research. The information contained in this notification is to the very best of my knowledge accurate and not misleading.

Staff Applicant's Signature _____ Date: _____

STUDENT RESEARCH
Declaration for Student Applicant
 I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and discussed the ethical analysis with my Supervisor. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. The information contained in this notification is to the very best of my knowledge accurate and not misleading.

Student Applicant's Signature _____ Date: _____

Declaration for Supervisor
 I have assisted the student in the ethical analysis of this project. As supervisor of this research I will ensure that the research is carried out according to the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants.

Supervisor's Signature _____ Date: _____
 Print Name _____

GENERAL STAFF RESEARCH/EVALUATIONS
Declaration for General Staff Applicant
 I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and discussed the ethical analysis with my Supervisor. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. The information contained in this notification is to the very best of my knowledge accurate and not misleading.


General Staff Applicant's Signature _____ Date: _____

Declaration for Line Manager
 I declare that to the best of my knowledge, this notification complies with the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and that I have approved its content and agreed that it can be submitted.

Line Manager's Signature _____ Date: _____
 Print Name _____

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Ethics Low Risk Notification Confirmation:



Massey University

OFFICE OF THE ASSISTANT TO THE VICE-CHANCELLOR (RESEARCH ETHICS)
 Private Bag 11 222
 Palmerston North 4442
 New Zealand
 T 64 6 350 5573
 F 64 6 350 5575
 F 64 6 350 5622
 humanethics@massey.ac.nz
 animalethics@massey.ac.nz
 gtc@massey.ac.nz
 www.massey.ac.nz

24 June 2009

Jason Klenner
 119 Rocking Horse Road
 Southshore
 CHRISTCHURCH

Dear Jason

Re: Fusing Craft with Design: An Investigation into Creating a High Value and Desirable Product for a Global Market

Thank you for your Low Risk Notification which was received on 24 June 2009.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

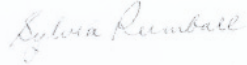
Please ensure that the following statement is included in all information provided to participants during recruitment (eg, information sheet, preamble to questionnaire, etc):

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone 06 350 5249, e-mail humanethics@massey.ac.nz".

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely




Sylvia V Rumball (Professor)
 Chair, Human Ethics Chairs' Committee and
 Assistant to the Vice-Chancellor (Research Ethics)

cc **Dr Mark Goellner**
 Institute of Design for Industry and
 Environment
 Wellington

Prof Tony Parker, HoI
 Institute of Design for Industry and
 Environment
 Wellington

Massey University Human Ethics Committee
 Accredited by the Health Research Council



Questionnaire: Page 1

Interview questionnaire



Thank you for agreeing to participate in my Master of Design research.

Background:

My name is Jason Klenner and I am studying Master of Design, part time over a 2 year period through Massey University, Wellington.

I have 18 years professional experience in the field of industrial design, during this time I have worked internationally for brands such as Samsung Electronics, Whirlpool, General Electric, Fisher and Paykel, Dymo, Navman, Humanware and Navico.

Since returning to New Zealand in 2005 I have witnessed many New Zealand companies such as Navman and Humanware being sold and moved offshore along with the manufacturing of other iconic companies such as Fisher and Paykel. As a result I am concerned that the opportunities for designers with my experience are becoming increasingly limited, consequently I am investigating alternative avenues within the creative sector that could utilize my creativity and skills as a designer. This concern has led me to my Master's research topic.

Master of Design research topic:

To research and understand the area that exists between crafted and designed objects in order to create a unique and marketable high-value niche product from an industrial design perspective with the aim of repositioning myself within the design industry.

Within the Master's program there is an initial research stage with the goal of gaining an in-depth understanding around the study topic. As part of this research phase I have identified that interviewing industry experts within the area of crafted and designed objects would provide rich insights for me to base my study on.

In addition to yourself, I have also contacted 7 further industry experts for interviewing within the areas of design, craft, retail / distribution, manufacturing and rapid prototyping.

Questionnaire: Page 2

Interview details:

This interview will be approximately 1 - 1.5 hours in duration. If convenient I would like to record the interview on audio tape for transcribing during later data analysis.

All information provided during this interview will be kept confidential between my supervisors and me, consequently I will endeavour to provide anonymity with any published findings as a result of this research.

If you have any questions regarding me and / or my research, please feel free to contact one of my supervisors.

Supervisor contact details:

Prof. Tony Parker: (04) 801 5799 ext. 6994, A.I.Parker@massey.ac.nz

Dr. Mark Goellner: (04) 8015799 ext. 6991, M.Goellner@massey.ac.nz

Independence comment:

I would like to note that as a part-time student I also work full-time for 4ormfunction, a Christchurch based design consultancy and that this study is independent from my employment with 4ormfunction.

Final statement:

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone 06 350 5249, e-mail humanethics@massey.ac.nz.

Questionnaire: Page 5

Q5. How did you establish an international presence?

- 5.1 What assistance and guidance have government agencies such as New Zealand Trade and Enterprise, Better by Design and Creative New Zealand provided?
- 5.2 What trade shows have played a significant role in creating an international presence?
- 5.3 What competitions have played a significant role in creating an international presence?
- 5.4 What blogs and / or other media have played a significant role in raising your national and international profile?
- 5.5 What is the typical process involved in being promoted by these government agencies, tradeshow and blogs?
- 5.6 How do you achieve the level of media exposure that you receive both nationally and internationally?
- 5.7 What are the main markets that you supply?

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Q6. What retail and distribution networks exist for promoting and selling high-value, low-volume, design and crafted products nationally and internationally?

- 6.1 What roles have these networks played in creating exposure for you both nationally and internationally?
- 6.2 What is the typical process involved in having a product promoted and sold through these retail and distribution networks?
- 6.3 What are typical minimum order quantities?
- 6.4 Typically, what mark-up do these retail and distribution networks place on a product?
- 6.5 Is there a particular product type or style that is favored by these networks?

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Questionnaire: Page 6

Q7. Since you have been in the industry, what changes have you seen?

- 7.1 How long have you been in the industry for?
- 7.2 What do you believe to be the main challenges that will affect you and your business in the future?
- 7.3 How is New Zealand acknowledged internationally in the field between craft and design and high-value, low-volume goods compared with previous years?

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Q8. What trends / factors do you see influencing the field between craft and design and high-value, low-volume goods in the future?

- 8.1 What trends are emerging between the fusion with craft and design both nationally and internationally?
- 8.2 What trends are emerging in the area of high-value, low-volume products both nationally and internationally?
- 8.3 What influence will product personalization and customization have on this industry in the future?
- 8.4 How do you see materials and processes influencing this industry in the future?

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Internet search results of chairs utilising material that flexes for effect when sat in:



Figure 134 'LCP Chaise Longue' by Maarten van Severen for Kartell.



Figure 135 'Icila Chair' by Cecile Planchais.



Figure 136 'Interlace Chair' by Matthew Plumstead.



Figure 137 'Kolo Armchair' by Jouko Järvisalo.



Figure 138 'Stretch Chairs' by Jessica Carnevale.



Figure 139 'Silk Chair' by Åsa Kärner.



Figure 140 'Elastic Chair' by Andrew Reed.



Figure 141 'Flex Chair' by Steve Watson.



Figure 142 'Linka Chair' by Helen Kontouris.



Figure 143 'STRETCHout' lounge seat by Tim Miller.



Figure 144 'Uncut Chair' by Ron Arad.



Figure 145 'Spring Wood Collection' by Carolien Laro.



Thesis DECLARATION

Author's Name (student):	Jason Klenner
Title of Thesis	My design identity... My future ...
Student number	99274336
Degree	Industrial Design
Year	2010

Except where specific reference is made in the main text of the thesis, this thesis contains no material extracted in whole or in part from a thesis, dissertation, or research paper presented by me for another degree or diploma and has not been submitted for the award of any other degree or diploma in any other tertiary institution.

No other person's work (published or unpublished) has been used without due acknowledgment in the main text of the thesis.

Availability of Thesis

I hereby consent to the above report being consulted, borrowed, copied or reproduced in form time to time in accordance with the provisions of the Library Regulations made by the Academic Board. (underline)	<u>YES</u> <u>NO</u>
The Assistant Vice-Chancellor (Research) has approved an embargo for this thesis. (underline) <small>Note: The period of the embargo will not exceed two years from the date on which the thesis is presented in its final format. During the period of the embargo the thesis will be treated as confidential and access restricted to supervisors, examiners and student. The Library will hold the completed thesis securely until the end of the agreed period; it may be released earlier with the approval of the Post Graduate Director or nominee.</small>	<u>YES</u> <u>NO</u>

Post Graduate Director name: Julieanna Preston

Date: 14 December 2010

Signature:

