The reconstruction of second-hand furniture and scrap metal: inspired by the architectural structures of deconstructivism

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Abstract

The purpose of this research is to explore and create an understanding of how architectural structures, that adhere to deconstructivist design principles, can inspire the reconstruction of second-hand school furniture and scrap metal. The planned pieces will continue to create an awareness of sustainability, by designing for reuse. These functional furniture pieces of low tables and chairs will be handcrafted, appealing to a niche market, or specific spaces and they will act as expressions of contradiction.

This research will act as an addition to a body of knowledge, where I will primarily focus on contradicting the traditional form and aesthetic of furniture design. I have decided to create these functional pieces to express a new possible direction of furniture design.

The study context is a potential confrontational experience in that I want to challenge the conventional form and aesthetics of furniture design. These pieces of furniture will be placed in a niche market where they will exist as one-offs that are not produced for mass-consumption, as they will be individually hand-crafted. These days more and more people are attempting to live in a more sustainable manner by practicing to reduce our consumption of products and resources; reuse that which we have disposed of and forgotten as consumers and to recycle waste products and transform them into a feasible afterlife (Martin, 2010).

The theory is focused on Sohail Inayatullah's theory of "Futures Thinking", and this theory is further supported by Victor Margolin's study of changing existing situations into preferred ones. The research further reflects on Jacques Derrida's theory of deconstruction, and this research is further supported by the theory of sustainability, by designing for reuse, with a focus on Ezio Manzini. Therefore, my research study is concerned with confronting and challenging the conformity that the form of furniture and its aesthetic adhere to.

I wish to thank my parents for their unconditional support and encouragement throughout this year and to my sister, for helping with my measurements.

Thank you to my lecturers who enabled me to look beyond the surface, to reveal the deeper significance that lay within my research.

Glossary

- Architectural structures: A constructed building consisting of an arrangement of parts to form a multifaceted entity (WordNet, 2003).

- Design principles: Has to do with the use of visual elements such as, balance, rhythm, scale, proportion, contrast and dominance that are organized into compositions (Scottish Women's Rural Institutes, 1998).

- Reconstruction: The process of changing or improving the condition of something or the way it works; the activity of building again something that has been damaged or destroyed (Hornby, 2005: 1217).

- Second-hand furniture: Furniture that is not new and was previously owned by somebody else (Hornby, 2005: 1319).

- Scrap metal: Rubbish or waste material, especially discarded metal that is useless or unwanted, but suitable for reprocessing (Hall, 2006: 556).

- Reuse: To use something again because it is still functioning (Martin, 2010).

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1. Introduction

1.1 Statement of research problem

The purpose of this research is to explore and create an understanding of how architectural structures, that adhere to deconstructivist design principles, can inspire the reconstruction of second-hand school furniture and scrap metal. The planned pieces will continue to create an awareness of sustainability, by designing for reuse. These functional furniture pieces of low tables and chairs will be handcrafted, appealing to a niche market, or specific spaces and they will act as expressions of contradiction supported by theories. The theory is focused on Sohail Inayatullah's theory of "Futures Thinking", a study to better understand the course of change in order to create wiser preferred futures (Inayatullah, 2001). This theory is further supported by Victor Margolin's study of changing existing situations into preferred ones (Margolin, 1989). The research further reflects on Jacques Derrida's theory of deconstruction, stating that written texts undermine their apparent meanings as there is no limit to their interpretation (The Studio Trust, 2010). My work will reflect the design principles that adhere to deconstructivism, namely the architectural structures of this style such as fragmented forms and distorted geometries that bring about an unsettling aesthetic (Horsley, 2009). This research is further supported by the theory of sustainability, by designing for reuse, with a focus on Ezio Manzini and his theory of designing for sustainability to regenerate our context of life (Doors of Perception, 2003). Therefore, my research study is concerned with confronting and challenging the conformity that the form of furniture and its aesthetic adhere to.

1.2 Background to research problem

Context

The study context is a potential confrontational experience in that I want to challenge the conventional form and aesthetics of furniture design. These pieces of furniture will be placed in a niche market where they will exist as one-offs that are not produced for mass-consumption, as they will be individually hand-crafted. These days more and more people are attempting to live in a more sustainable manner by practicing to reduce our consumption of products and resources; reuse that which we have disposed of and forgotten as consumers and to recycle waste products and transform them into a feasible afterlife (Martin, 2010).

Inspiration

I will be focusing on the architectural structures of deconstructivism namely the architecture of Frank Gehry and Daniel Libeskind, and the design principles that adhere to this style of architecture. I chose the architectural structures as they are the most visible symbols that have characterized and remained of the deconstructivist style (Murray, 2004: 98). The deconstructivist expression of architecture embraces complex geometric forms and shapes appearing as fragmented figures, broken-straight lines, angles and curves and clashing and distorted geometries. In this way these structures bring across an unsettling and incomplete façade (Horsley, 2009). These distinctive elements of the architectural structures will be noticeable in the furniture of low tables and chairs which I will be producing.

The connection between architecture and furniture is based on structure and form, as they are both set in their construction to bring out the best strength of materials (Siegel, 2010). These objects have to be resilient and robust to withstand that which they come into contact with over time. I was inspired by the manner in which deconstructivist architecture challenged and contradicted the traditional building form preceding postmodernism (Ayerbe, 2009), and in the

same manner these reconstructed furniture pieces aim to confront the traditional aesthetic of furniture design.

1.3 Significance to knowledge gap

This research will act as an addition to a body of knowledge, where I will primarily focus on contradicting the traditional form and aesthetic of furniture design. I have decided to create these functional pieces to express a new possible direction of furniture design.

1.4 Topic area

Sustainability by designing for reuse: The furniture that I will be producing will affect environmental sustainability as I will be minimizing the burdens that impact the natural environment (Fuad-Luke, 2004: 12). The production of these furniture pieces will not disturb the natural environment by the cutting down of a tree to provide new wood for its manufacture and iron ore will not have to be expensively processed to provide new steel. By designing for the reuse of wood and steel, I am diminishing the accumulation of 'waste wood' and scrap metal that has been disposed of. I am giving a new life to these furniture pieces and I am adding new value and interest to their aesthetic.

1.5 Clarifications of basic terms

- Architectural structures: A constructed building consisting of an arrangement of parts to form a multifaceted entity (WordNet, 2003).

- Design principles: Has to do with the use of visual elements such as, balance, rhythm, scale, proportion, contrast and dominance that are organized into compositions (Scottish Women's Rural Institutes, 1998).

- Reconstruction: The process of changing or improving the condition of something or the way it works; the activity of building again something that has been damaged or destroyed (Hornby, 2005: 1217).

- Second-hand furniture: Furniture that is not new and was previously owned by somebody else (Hornby, 2005: 1319).

- Scrap metal: Rubbish or waste material, especially discarded metal that is useless or unwanted, but suitable for reprocessing (Hall, 2006: 556).

- Reuse: To use something again because it is still functioning (Martin, 2010).

1.6 Objectives of the research

The intention of this research is to make people aware of a new furniture aesthetic and to demonstrate that such forms, as are evident in deconstructivist architecture (Schulman, 1998), can possibly be used in furniture design, whilst still creating the product to remain fully functional.

1.7 Research question and sub-questions

Research question

To what extent can designing for reuse, inspired by deconstructive architecture, promote sustainability, have appeal and be functional?

Sub-questions

1. What is deconstruction, how has this been applied to architecture, and can a design aesthetic be determined?

2. To what extent is a deconstructive aesthetic evident in sustainable design?

3. Does a deconstructive design aesthetic, applied to furniture, appeal to a niche market?

2. Literature Review

2.1 Previously existing research

The Campana Brothers are experts and practitioners in the field of sustainable design by designing for recycling and reuse (Fuad-Luke, 2004: 23). Their contribution towards environmental sustainability is in the form of developing furniture by recycling and reusing every day, ready-made materials of waste products and industrial goods (Blouin, 2010). Their inspiration is drawn from their Brazilian heritage, the Brazilian street life and the colourful carnival culture whereby they combine found objects and transform their chaos into beauty (Muniz, 2008). The materials that they work with are wood and fabric off-cuts, cardboard, rope, aluminium wire and furry toys; all objects that have been disposed of and forgotten by the consumer. They challenge themselves in using these existing materials to make something out of nothing, thus creating a world out of scarcity (Blouin, 2010).

2.2 Key concepts

- Futures Thinking: Sohail Inayatullah recognizes it as a study of the future whereby one can better understand the process of change so that a wiser, preferred future can be created (Inayatullah, 2001).

- Deconstruction: Jacques Derrida's objective that written texts undermine their evident meanings as they contain limitless interpretation and have no restrictions fixed in any meaning as there is no end to interpretation (The Studio Trust, 2010).

- Deconstructivism: An iconic style of architecture which focuses on the form and the shape of a building by liberating the geometry of traditional architecture (Siegel, 2010).

- Sustainability: Ezio Manzini stresses that we need to redevelop the context in which we currently exist by learning to consume less and so we will regenerate our context of life (Manzini, 2009).

2.3 Theoretical underpinning

Futures Thinking

Sohail Inayatullah defines Futures Thinking as the study of alternative futures whereby an individual can enhance their understanding of the course of change to create a world in which they aspire to live in (Inayatullah, 2001). He states that even as the future is disrupting, as a result of our destructive influence on the environment, we continue to practice our old patterns of behavior. We recognize that change is necessary but we seem to be unable to bring it about.

Inayatullah speaks about the basic concepts of Futures Thinking namely the disowned future. Here he reminds us that the undesirable future that we pushed away has a way of resurfacing which can be troubling. We are to confront these factors in order to integrate the identities that we have rejected (Inayatullah, 2001). In the same manner the second-hand school furniture and scrap metal have been disowned. These pieces were not utilizable by the owner any longer and therefore they were disposed of thus now existing in an unknown, disowned future. The purpose of using discarded materials is to reinstate them back into society; to end their abandonment and in this way, to bring with each piece a new identity. Through the reconstructed furniture pieces I depict the manner in which I confront the factors of traditional form and aesthetics that confine furniture design.

The concept of alternative futures is our belief that there is only one future. We make the same mistakes each time because we cannot see the alternatives, especially of a future that is better than our existing one. When we look for these alternatives, we are able to see something new (Inayatullah, 1992). Similarly the reconstructed furniture pieces will be given a new life and aesthetic, which will

add a new value and interest to these previously old pieces of wood and scrap metal (Hornby, 2005).

Our basic concepts of the worlds that we create are frequently challenged and then deconstructed. Inayatullah says that this is because without the proper tools and strategy with which to approach Futures Thinking, we tend to create an unsettling image of the world that we think we want (Inayatullah, 2001). In the same manner the reconstructed pieces challenge the traditional form that furniture adheres to by the method of deconstruction (Ayerbe, 2009). This method takes apart the components of the traditional elements of furniture and reconstructs them to bring forth an original, innovative aesthetic.

Deconstruction

The theory of deconstruction was derived from the theoretical writings of the French philosopher, Jacques Derrida, who states that all written texts undermine their evident meanings because they contain limitless interpretation. There are no restrictions fixed in any meaning as individuals possess their own account of interpretation and therefore there is no end to interpretation (The Studio Trust, 2010). Derrida argues against the belief of an inevitable centre, a structure that serves to organize the degree of difference of language, thought, traditions, societies, beliefs and practices. This belief has come to be interpreted as "anything goes" since nothing has any real meaning or truth (Siegel, 2010).

The shift from the formal language of deconstruction into its field of practical design work fundamentally impacted on architecture, whereby this method contradicted the traditional building form. Deconstructivist architecture is a style that opposed the ordered rationality of Modernism, which preceded it; with the Bauhaus movement, stating that 'form follows function' (Gittens, 2009).

The theory of deconstruction took a confrontational standpoint toward the architecture and architectural history, by disjoining and disassembling the architectural structure (Johnson & Wigley, 1988: 34). These architectural

constructions liberated the geometry of traditional architecture to create this opposing and dynamic new form of expression. This expression recognizes shapes and forms of unimaginable complexity; fragmented forms and clashing and distorted geometries; and the structure brings across an unsettling and incomplete façade. The geometries create this dramatic aesthetic, evident in deconstructivist architecture, which will directly influence the form and aesthetics of my furniture range.

Sustainability

The term "sustainability" is defined as "meeting the needs of the present without comprising the ability of future generations to meet their own needs" (Hassan, 2006). The needs of the present can be met through the development and practice of recycling waste products, reducing that which we consume and reusing that which we plan to dispose of (Martin, 2010). The planned furniture pieces are expressions of my environmental awareness of sustainability by which I will be designing for the reuse of wood and steel.

Ezio Manzini creates an environmental awareness by encouraging this concept of designing for sustainability. He urges that we learn to consume less in order to bring about a renewed context of life. He addresses the issue of the culture of consumption and requires that we think beyond 'the product' and see it as a tangible object that must be sustained and supported (Manzini, 2009). The reconstructed furniture, acting as the tangible object, will not disturb the natural environment, as I am reusing thrown away, second-hand school furniture and scrap metal. Instead this production will support the object by reducing the burdens that impact environmental sustainability (Manzini cited in Masuda, 2006).

3. Methodology

3.1 Approach

A handcrafted approach will be followed to produce these furniture pieces. Electrical hand-tools and heavy industrial machinery will be used to shape and configure the various components of the furniture such as the legs, seat, back, table top, etc. according to the design principles of the deconstructivist style of architecture (Siegel, 2010). The new forms that these furniture components will resemble are dramatic distorted geometries, clashing forms, broken lines and curves (Horsley, 2009). I have received second-hand school furniture, namely desks, tables and chairs, and disassembled their parts from each other to produce the wooden pieces and I purchased scrap metal for the construction of the steel pieces. The reason for creating furniture inspired by the deconstructivist style of architecture is because the form of these constructions left its viewers in awe by the force of what was possible for people to build (Murray, 2004: 66). The deconstructivist architectural structures were built as an acknowledgement of the imperfectability of our civilization and to stress of the chaos and instability of contemporary life (Ayerbe, 2009).

3.2 Data collection methods

This research can be classified as a qualitative approach. The manner in which I will conduct my research process is through conceptual research methods with the research largely based on secondary sources of information. I will engage in an understanding of the theories supporting my research, in the form of written texts, as well as creating an understanding of my inspiration that is deconstructivist architecture, with the aid of visual references. I aim to extend a body of knowledge and the understanding of the concepts that will be dealt with in the chapters to follow.

I will also collect data in the form of primary research methods where I will collect my own data by interacting with people about my products in order to establish the success of my various furniture pieces. This interaction with participants will take the form of informal interviews with two distinct groups of students namely, Commerce Faculty students and Design Faculty students at Cape Peninsula University of Technology. This dialogue will be conducted to establish if there is an interest among people for a new preference in design, in the form of my deconstructivist-inspired furniture pieces.

3.3 Data analysis

The aim of the informal interviews with students from the Commerce Faculty and from the Design Faculty is to gain an understanding of their preference in furniture design, and whether my deconstructivist-inspired furniture pieces will appeal to them.

With my qualitative approach of research that I will rely on in collecting my data I will set forth the two distinct styles. The style of Modernism, namely furniture pieces from the Bauhaus movement, and my contradictory deconstructivist-inspired furniture pieces, of low tables and chairs. I will photograph these two individual aesthetics and place them next to one another, asking the choice of the more preferred piece from the twenty individuals questioned. I have chosen to interview ten students of each of these two faculties as they are two contrasting groups of individuals.

4. Delineation of the research

This research will focus on challenging the conforming norms of the traditional form and aesthetics of furniture design by drawing inspiration from the architectural structures of deconstructivism (Murray, 2004). In the same manner that this architectural style contradicted the traditional building form (Ayerbe, 2009); the furniture pieces will challenge the traditional furniture aesthetic. I will not be focusing on contradicting conforming norms of furniture construction as this will defeat the functional purpose of the furniture pieces.

5. Summary

In conclusion, this research has been conducted to explore and create an understanding of how architectural structures, that adhere to deconstructivist design principles, can inspire the reconstruction of second-hand school furniture and scrap metal, whilst continuing to create an awareness of sustainability, by designing for reuse. These functional furniture pieces of low tables and chairs will be handcrafted, acting as expressions of contradiction supported by theories. The theory focuses on Sohail Inayatullah's theory of Futures Thinking, a study to better understand the course of change in order to create wiser preferred futures (Inayatullah, 2001). The research further reflects on Jacques Derrida's theory of deconstruction, stating that written texts undermine their apparent meanings as there is no limit to their interpretation (The Studio Trust, 2010). The design principles that adhere to deconstructivist architecture will be reflected in my furniture pieces; these principles are fragmented forms and distorted geometries that bring about an unsettling aesthetic (Horsley, 2009). The research is further supported by the theory of sustainability, by designing for reuse, with focus on Ezio Manzini's theory of designing for sustainability to regenerate our context of life (Doors of Perception, 2003). Therefore, my research study is concerned with challenging and confronting the conformity that the form of furniture and its aesthetic adhere to.

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CHAPTER ONE

Introduction

Functional deconstructivist-inspired furniture that aim to become sculptural entities through a change in context

The purpose of this research was to explore and create an understanding of how architectural structures that adhere to deconstructivist design principles can inspire the reconstruction of second-hand furniture and scrap metal into functional, innovative furniture pieces, appealing to a niche market, or specific spaces. These pieces will be constructed of wood and placed indoors, as well as in public spaces where they would be constructed of metal. The planned pieces were to adhere to sustainable design practices, by being designed for reuse. They were to be sculptural and also functional, comprising handcrafted low tables and chairs and they would act as expressions of contradiction.

A theoretical basis reflecting "Futures Thinking" provided a conceptual basis for this research and, as Sohail Inayatullah has stated it was a study to better understand the process of change so that a wiser, preferred future can be created (Inayatullah, 2001). Supporting this theory is Victor Margolin's study concerning changing existing situations into preferred ones (Margolin, 1989: 3). Essential to this research was Jacques Derrida's theory of deconstruction, which provided the conceptual framework for my research. This theory states that written texts undermine their apparent meanings as there is no limit to their interpretation (The Studio Trust, 2010). This research also reflects on the theory of sustainability, supported by Ezio Manzini, who advocates that this is vital in order to regenerate our context of life (Doors of Perception, 2003). Therefore this research is concerned with confronting and challenging the conformity to which the form of furniture and its aesthetic adhere.

My work reflects the design principles that adhere to deconstructivism (Horsley, 2009) and I have focused on the architectural structures of Frank Gehry and Daniel Libeskind. I chose architectural structures as they are the most visible symbols characterising the deconstructivist style (Murray, 2004: 98). The deconstructivist expression of architecture embraces complex geometric forms and shapes appearing as fragmented figures, broken straight lines, angles and curves and clashing and distorted geometries. In this way these structures create an unsettling and incomplete façade (Horsley, 2009). These distinctive elements evident in architecture were to be applied on a smaller scale and be directly accessible to humans, rather than being entered into and not becoming engaged with the structure. The connection between architecture and furniture is based on structure and form, as they are both set in their construction to bring out the best strength of materials (Siegel, 2010). These objects have to be resilient and robust to withstand the elements with which they come into contact over time. I was inspired by the manner in which deconstructivist architecture challenged and contradicted the traditional building forms that preceded postmodernism (Ayerbe, 2009) and these reconstructed pieces of furniture will confront the traditional aesthetic of furniture design in the same manner.

I primarily focused on contradicting the traditional form and aesthetic of furniture design with reference to Modernism, namely the Bauhaus, where the focus was 'form follows function'. I decided to create these functional pieces to express a new aesthetic in the field of furniture design that, while adhering to furniture design constraints, verges on the illogical – with reference to an aesthetic characteristic of deconstructivism. This reflects transferability of knowledge, and hence extends the practice from large-scale architectural to a scale with which humans can interact.

I planned to produce furniture that would simultaneously support environmental sustainability as I planned to minimise the burdens that impact the natural environment (Fuad-Luke, 2004: 12). The production of these pieces would not

disturb the natural environment by the cutting down of a tree for the manufacture of new wood and iron ore would not have to be processed to provide new steel. By designing for reuse, I made use of existing furniture and scrap metal as raw materials, thus diminishing the accumulation of 'waste wood' in the form of old or second-hand furniture and 'waste steel' found at steel scrap-yards. I planned to give new life to the wood and the steel by creating a new product and by adding new value and an innovative aesthetic.

In this manner, this research was intended to make people aware of a new furniture aesthetic to demonstrate that such forms as are evident in deconstructivist architecture (Schulman, 1998) can possibly be used in furniture design, whilst still allowing the product to remain fully functional, and follow principles of sustainability.

Research Question

To what extent can designing for reuse, inspired by deconstructivist architecture, promote sustainability, have appeal and be functional?

Sub-Questions

1. What is deconstruction, how has this been applied to architecture, and can a design aesthetic be determined?

2. To what extent is a deconstructive aesthetic evident in sustainable design?

3. Does a deconstructive design aesthetic, when applied to furniture, appeal to a niche market?

In Chapter Two, I discuss literature reflecting on two specific theories. The theories that I focus on are Sohail Inayatullah's theory of "Futures Thinking", supported by Victor Margolin and his study of changing existing situations into preferred ones, as well as Jacques Derrida's theory of deconstruction. In Chapter Three, I discuss the methodology with reference to my second sub-question, and introduce the link between the theory and my practice with reference to Ezio Manzini's theory of sustainability. This Chapter also reflects on the Campana Brothers, present practitioners of sustainable design. Chapter Four presents an explanation of the development and construction processes of my products and Chapter Five concludes what I have accomplished through this research.

WORK SCHEDULE 2010			
	WEEK BY WEEK	**THEORY**	**PRACTICAL**
1	March 01 - 07	Proposal	
2	March 08 - 14	Proposal	
3	March 15 - 21	MODERATION	
		Hand in Proposal	
4	March 22 - 28	TERM 1 ENDS	Building cardboard models
5	March 29 - April 04		Building cardboard models
6	April 05 - 11	TERM 2 STARTS	
		Chapters 1, 2, 3	
7	April 12 - 18	Chapters 1, 2, 3	Construction of piece #1: wooden chair, The Woodpecker
			Preparation of piece #2: steel table, Fabrinox
8	April 19 - 25	Chapters 1, 2, 3	Preparation of piece #2: steel table, Fabrinox
9	April 26 - May 02	Chapters 1, 2, 3	
10	May 03 - 09	Chapters 1, 2, 3	
11	May 10 - 16	Chapters 1, 2, 3	
12	May 17 - 23	Chapters 1, 2, 3	Assemble piece #2: steel table, Fabrinox
			Piece #1: wooden chair complete
13	May 24 - 30	MODERATION	
		Hand in Chapters 1, 2, 3	Completed products for moderation: piece #1: chair and #2: table
14	May 31 - June 06	TERM 2 ENDS	Work out measurements and angles of pieces #3, #4, #5, #6, #7, #8
15	June 07 - 13		Work out measurements and angles of pieces #3, #4, #5, #6, #7, #8
16	June 14 - 20		Work out measurements and angles of pieces #3, #4, #5, #6, #7, #8
17	June 21 - 27		Appointment with Ben Steenkamp, Fabrinox
			Work out measurements and angles of pieces #3, #4, #5, #6, #7, #8
18	June 28 - July 04		Work out measurements and angles of pieces #3, #4, #5, #6, #7, #8
19	July 05 -11		Construction of piece #3: steel table and #4: steel chair
20	July 12 - 18	TERM 3 STARTS	Construction of piece #5 and 6: wooden chairs and #7: outdoor seating
21	July 19 - 25	Chapters 4, 5, 6	Construction of piece #5 and 6: wooden chairs and #7: outdoor seating
22	July 26 - Aug 01	Chapters 4, 5, 6	Construction of piece #5 and 6: wooden chairs and #7: outdoor seating

			Assemble piece #3: steel table, Fabrinox
23	Aug 02 - 08	Chapters 4, 5, 6	Construction of piece #5 and 6: wooden chairs and #7: outdoor seating
24	Aug 09 - 15	Chapters 4, 5, 6	Completed products for moderation: #3, #4, #5, #6, #7
25	Aug 16 - 22	Chapters 4, 5, 6	Appointment with Chris Koegelenberg, Fabrinox
26	Aug 23 - 29	MODERATION	
		Hand in Chapters 4, 5, 6	
27	Aug 30 - Sept 05	TERM 3 ENDS	
28	Sept 06 - 12		Finishing products
29	Sept 13 - 19	TERM 4 STARTS	Finishing products
30	Sept 20 - 26		Finishing products
31	Sept 27 - Oct 03		Finishing products
32	Oct 04 - 10	Emailed dissertation to editor	Finishing products
33	Oct 11 - 17	Dissertation emailed back from editor	Finishing products
			Photographed courtyard of Freeworld Coatings for piece #5: wooden seating
			Photographed cardboard models
			Preparation of piece #8: steel chair
		Finalizing dissertation	Finishing products
		Print 5 copies of dissertation	Finishing products
34	Oct 18 - 24	Dissertation to Michaelis / UCT art dept for binding	Finishing products
35	Oct 25 - 31	Hand in dissertation and DVD	Finishing products
36	Nov 01 - 07	Hand in Business report	Finishing products
37	Nov 08 - 14		Finishing products
38	Nov 15 - 21	MODERATION	Eight finished products
39	Nov 22 - 28	EXHIBITION	Eight finished products

CHAPTER TWO

Literature Review

An investigation into whether the design principles of deconstructivist architecture and Futures Thinking, can challenge the traditional aesthetic of furniture design

The aim of this chapter is to investigate whether the theory of deconstruction and the design principles that adhere to the architectural structures of the deconstructivist style can challenge the traditional aesthetic of furniture design. I drew inspiration from the work of the deconstructivist architects Frank Gehry and Daniel Libeskind. I will reflect on Sohail Inayatullah's theory of "Futures Thinking", a study "to better understand the process of change so that a wiser, preferred future can be created" (Inayatullah, 2001). This theory is further supported by Victor Margolin's study concerning changing existing situations into preferred ones (Margolin, 1989). Furthermore I will be discussing Jacques Derrida's theory of deconstruction and how everyone has an individual interpretation when unravelling the meaning of text and anything else with which we come into contact (Siegel, 2010).

Relevant to this research is the study of Futures Thinking, recognized as a comprehensive study of the future whereby one becomes better able to understand the process of change so that a wiser, more preferred future might be created (Inayatullah, 2001). This is how Sohail Inayatullah has presented this study; stating that we, in spite of the results of our destructive influence on the environment and our knowledge of the disrupted future that we are creating, continue to practice our old patterns of behaviour. We do recognize that change is the necessary course of action, yet we seem to be unable to bring it about. He classifies Futures Thinking as the study of alternative futures whereby individuals can enhance their understanding of the course of change to create the world in which they aspire to live (Inayatullah, 2001).

Inayatullah speaks about the foundational concepts of Futures Thinking, namely the used future, where one must clearly define whether the image of the future is your own or whether it is someone else's image of what they want the future to be like. If you follow the latter pattern, you suffer in almost every way, because you have abandoned your own beliefs for another image (Inayatullah, 2008). Similarly this concept bears close relation to the theory of deconstruction, which states that each individual holds their own reasons for interpretation as there is no end to interpretation (The Studio Trust, 2010) and so each one is able to think for him- or herself. Through the influence of the media, the government, and all other information that we are fed, we are absorbing someone else's image of the future and accepting it as our own. These influences are so overpowering in making people believe that one single way of life is suitable for everyone, that one size fits all, with the result that an individual interpretation feels inadequate and invalid. I believe these feelings of inadequacy would not exist to such an extent if more was made known about the theory of deconstruction. The principles of this theory could bring about a renewed sense of self-confidence in one's own interpretative understanding and beliefs to sharpen self-authorship and leadership skills that form responsible individuals and to ultimately restore individualism.

Sohail also speaks about the disowned future, reminding us that the undesirable future that we push away will always manage to resurface and that it is our responsibility to integrate the lost identities that we have rejected (Inayatullah, 2001). In a similar manner the second-hand furniture and scrap metal that I decided to use have been disowned. These discarded objects could not be utilized by the owner any longer and therefore came to exist in an unknown, disowned future. The purpose in using such pieces of second-hand furniture pieces and the scrap metal was to reinstate it in society; to end their abandonment and, in this way, to bring, with each piece, a new identity, a new narrative and a new value. The reconstruction of these pieces depict the manner in which I confronted the aspects of the traditional form and aesthetics that confine furniture design.

To further support the theory of Futures Thinking, I look at Victor Margolin's study concerned with changing existing situations into preferred ones (Margolin cited in Clark & Brody, 2009: 37). A definition of design states that everyone who is able to devise a course of action that is aimed at altering an existing condition into one that is more preferred and therefore a better and more beneficial situation is involved with design (Simon cited in Margolin, 1996). Margolin, in his book, "Design Discourse: History, Theory, Criticism" (Margolin, 1989), writes of the period "After the Modernists" and speaks of a new aesthetic dimension that now complements the physical form of objects. He further goes on to say that the actual forms are no longer bound by the functions of mechanical shapes; instead they liberate the designer to create forms that communicate more symbolically and metaphorically (Morgantini cited in Margolin, 1989: 13). If flexible means of manufacturing could facilitate bringing about a change in the design process, this would give the consumer a greater range of product options and, ultimately, new power of choice. This is the realistic face of the multi-coded diversity that is characteristic of a post-modern culture and that the multiplicity of deconstruction represents. It is where people start selecting objects to adjust to the resulting changing patterns of life and for these objects to give meaning to their lives (Selle cited in Margolin, 1989: 14). Margolin has faith in the ability of ordinary people and their capacity to regulate their lives according to their own needs (Margolin, 1989: 14).

There is awareness that human action is mediated by an extensive system of objects, laws, procedures and techniques. Only when designers are truly concerned with making preferred social action possible, will it be necessary to take all these elements into account (Moles & Diani cited in Margolin, 1989:16). This awareness ties in with the theory of deconstruction and how this theory can effectively affect on our lives in the future. We are influenced by the extensive mediating system on a daily basis and it is made so necessary to us that we accept it as the preferred situation. Through this general system by which our lives are organised we are indoctrinated to believe that the objects, laws, procedures and techniques have fixed meanings which are the same for everyone (Margolin, 1989: 16). This is not true, but we will only be able to change this extensive situation into an individual preferred

one if we were to become more aware of our own interpretation and believe in the value that it holds.

Our basic concepts of the worlds that we create are frequently challenged and then deconstructed. Inayatullah says that this is because our approach is incorrect; as we tend to create an unsettling image of the world that we think we want (Inayatullah, 2001). The reconstructed furniture challenge the traditional form that furniture adheres to, because of the method of deconstruction. As has been discussed, this method will comprise taking apart the components of the traditional furniture and reconstructing the elements of it to create an original, innovative aesthetic. This method will result in an unsettling presentation of the form and aesthetics of furniture, as if the piece is incomplete or incorrect, whilst that would not be the case; it would simply be as it is meant to be.

Inayatullah addresses the concept of the model of social change in which the individual is presented with the possibility of many choices regarding how they expect the future to be (Inayatullah, 2008). As mentioned before, all that is around us influences our lives and the decisions that we make are frequently a projection of someone else's thoughts or opinions. I foresee that the way we live is our future and the choices that we make now will impact our future. Becoming aware of the theory of deconstruction, and developing it and eventually putting it into practice, will reinstate the need for self-interpretation and making known the importance of choice because Futures Thinking is not so much about predicting correctly, but rather about enhancing our confidence so that we will not fear to state our own opinions and have belief in these opinions for our desired futures to be created (Inayatullah, 2001).

When I was introduced to deconstructivist architecture, I became fascinated with the aesthetic and forms of the style. It has remained memorable for me, because it is different from any other architectural structures. These abstract designs with their unusual aesthetic contradict the standard form of construction and are distinctive and hence memorable, because of being unlike anything that has been seen before. The

apparent disarray in the construction of these forms has urged me to ask questions about the organization of our lives, and of our material lives. This disarray is literally a reflection of the disorder and chaos that we are surrounded with and that we allow into our lives. If we are able to understand the process by which values are transformed into material culture, then we will be able to consider alternative transformations which are better for our lives (Dilnot cited in Margolin, 1989: 26).

The theory of deconstruction was derived from the theoretical writings of the French philosopher, Jacques Derrida, who states that all written texts undermine their evident meanings because they contain limitless interpretation. There therefore are no fixed restrictions in any meaning, as individuals possess their own ability to interpret and therefore there is no end to interpretation (The Studio Trust, 2010). Derrida argues against the belief of an inevitable centre, a structure that serves to organize the degree of difference of language, thought, traditions, societies, beliefs and practices. This belief has come to be interpreted as "anything goes" since nothing has any real meaning or truth (Siegel, 2010).

The shift from the formal language of deconstruction into its field of practical design work had a fundamental impact on architecture, whereby this method contradicted the traditional building form. Deconstructivist architecture follows a style that opposes the ordered rationality of Modernism, which preceded it, with the Bauhaus movement, as seen in Figure 2.1 and Figure 2.2, stating that 'form follows function' (Gittens, 2009). Figure 2.1, Figure 2.2, Figure 2.3 and Figure 2.4 show the traditional form and aesthetic of architecture and furniture design from the Bauhaus movement, which I am contradicting with the deconstructivist design aesthetic.

Figure 2.1

Walter Gropius, Bauhaus School of Design, 1919. Germany.

Image from: mervesert. 2010. The History of Visual Communication. Wordpress. [Online]. Available: http://mervesrt.wordpress.com/. [5 May 2010].

Figure 2.2

Lajos Kozma, Átrium-ház (Átrium House), 1935. Budapest.

Image from: András, J. 2007. Modern építészet Budapesten | Modern Architecture in Budapest. [Online]. Available: http://budapestmodern.org/index.php?showimage=28. [10 May 2010].

Figure 2.3

Mies van der Rohe, D 42 Bauhaus Armchair, Tubular steel, wicker, 1927.

Image from: moderndesigninterior. 2006. Modern. Nova68. [Online]. Available: http://www.moderndesigninterior.com/. [6 May 2010].

Figure 2.4

Josef Albers, Set of Four Stacking Tables, Ash veneer, black lacquer and painted glass, 1927, London.

Image from: Nighswander, T. 2006. Albers and Moholy-Nagy: From the Bauhaus to the New World. Leigh Hatts. [Online]. Available: http://www.london-se1.co.uk/news/view/2060. [6 May 2010].

The theory of deconstruction took a confrontational standpoint against the existing architecture and architectural history, by disjoining and disassembling the architectural structure (Johnson & Wigley, 1988: 34). These deconstructed architectural constructions liberated the geometry of traditional architecture to create a dynamic new form of expression, a form of expression that recognizes shapes and forms of astonishing complexity; fragmented forms and clashing and distorted geometries. The structure presents an unsettling and incomplete façade. The geometries create a dramatic aesthetic of clashing forms and broken lines and curves and it is all these elements, evident in deconstructivist architecture, in Figure 2.5, which directly influenced the form and aesthetics of my range of furniture.

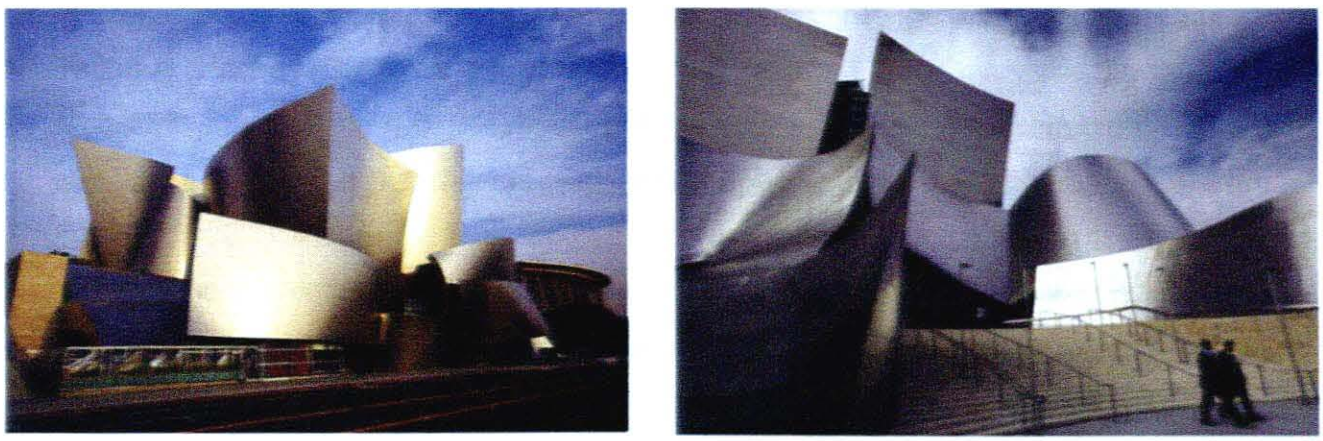


Figure 2.5

Frank Gehry, Walt Disney Concert Hall, stainless steel, 1991. Los Angeles, California.

Image from: McNew, D. 2010. Walt Disney Concert Hall. Getty Images. [Online]. Available: http://you-are-here.com/theatre/walt_disney.html. [4 May 2010].

The various forms which constitute the different pieces of furniture are inspired by the design principles of the deconstructivist style of architecture, which will be outlined in this chapter, and which will inform my product, the focus of the following chapter. The shaped pieces of wood and steel, in displaying a deconstructivist aesthetic, will resemble the elements from the architectural structures of deconstructivist architecture. These deconstructive elements are in the form of dramatic, distorted geometries, fragmented figures, clashing forms and broken straight lines, angles and curves (Horsely, 2009) and together these elements create a structure that appears to be unsettled and incomplete. The reason for creating

furniture inspired by deconstructivist architecture is to be found in the unusual form and aesthetic of these constructions, which made the buildings memorable in my view. The deconstructivist architect Daniel Libeskind has explained that the forms of these constructions gained the admiration of viewers because of the force of what was possible for people to build (Murray, 2004: 66) and it altered the views that they held regarding the traditional aesthetic of architecture. In the same manner, I intend that my furniture structures will leave viewers with a new perception of furniture design and that this range of furniture will lead to a new preference in furniture design.

Deconstructivist architects such as Frank Gehry, Zaha Hadid, Daniel Libeskind, Herzog & de Meuron, Rem Koolhaas, Peter Eisenman, Shingeru Ban and Bernard Tschumi (Horsley, 2009) have inspired me. The work of Frank Gehry and Daniel Libeskind serve as the two main inspirations for my furniture. The architectural structures of both these architects consist of shapes and forms of extreme complexity, broken straight lines, angles and curves, and fragmented forms of distorted unconventional geometries (Schulman, 1998: 4). Gehry's work consists of imaginative elements and surprising irregularities that create a fantasy experience. He introduces these characteristics in unexpected ways, all the while displaying a fondness for playfulness, a characteristic previously unknown in serious architecture (Pollack, 2010). Among his architectural structures that display such characteristics are the Guggenheim Museum, shown in Figure 2.6, and the Hotel Marques de Riscal, in Figure 2.7, both situated in Spain (The Studio Trust, 2010).

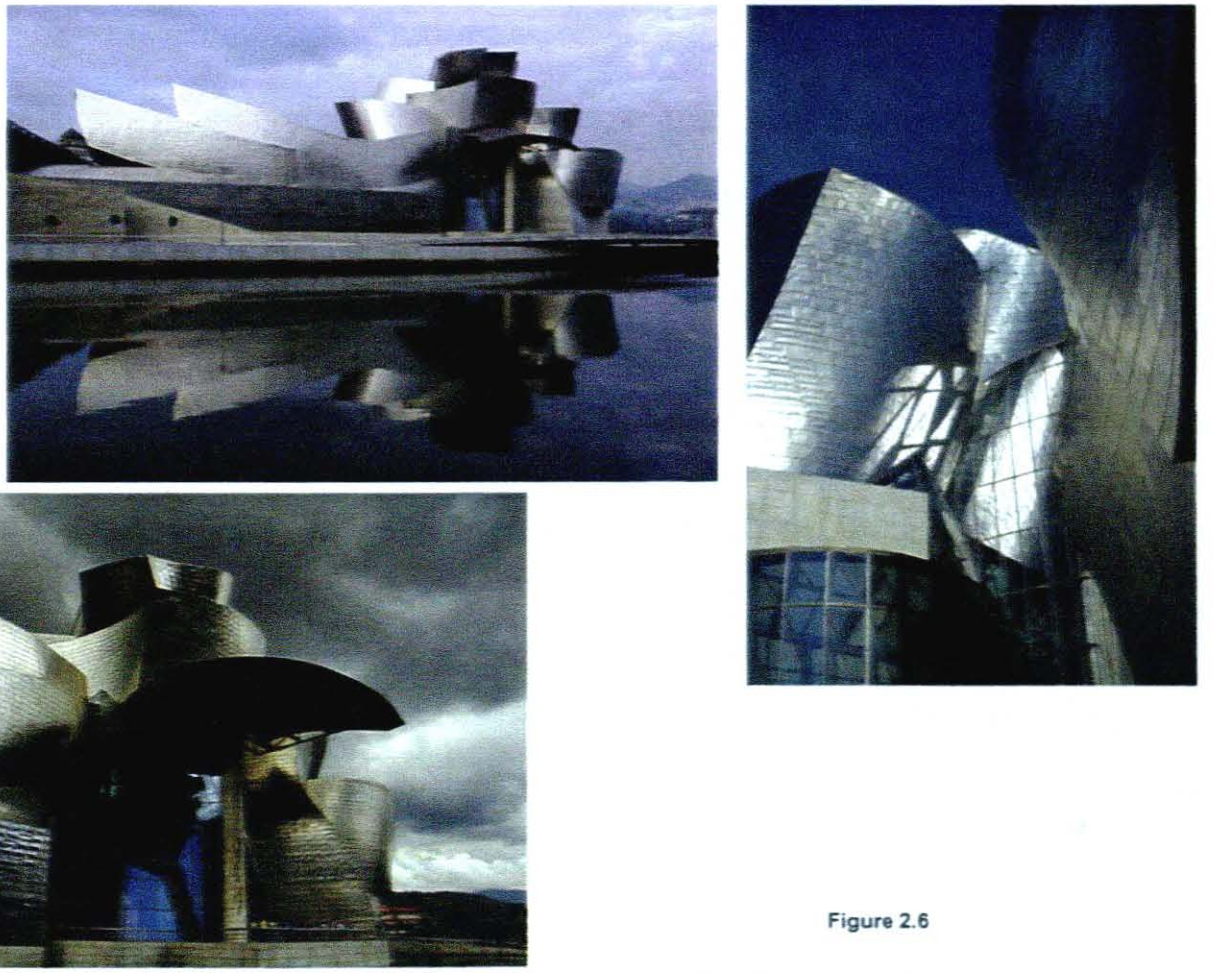


Figure 2.6

Frank Gehry, The Guggenheim Museum, Glass and metal, 1991. Bilbao, Spain.

(http://www.achievement.org/autodoc/photocredit/achievers/geh0-030.)

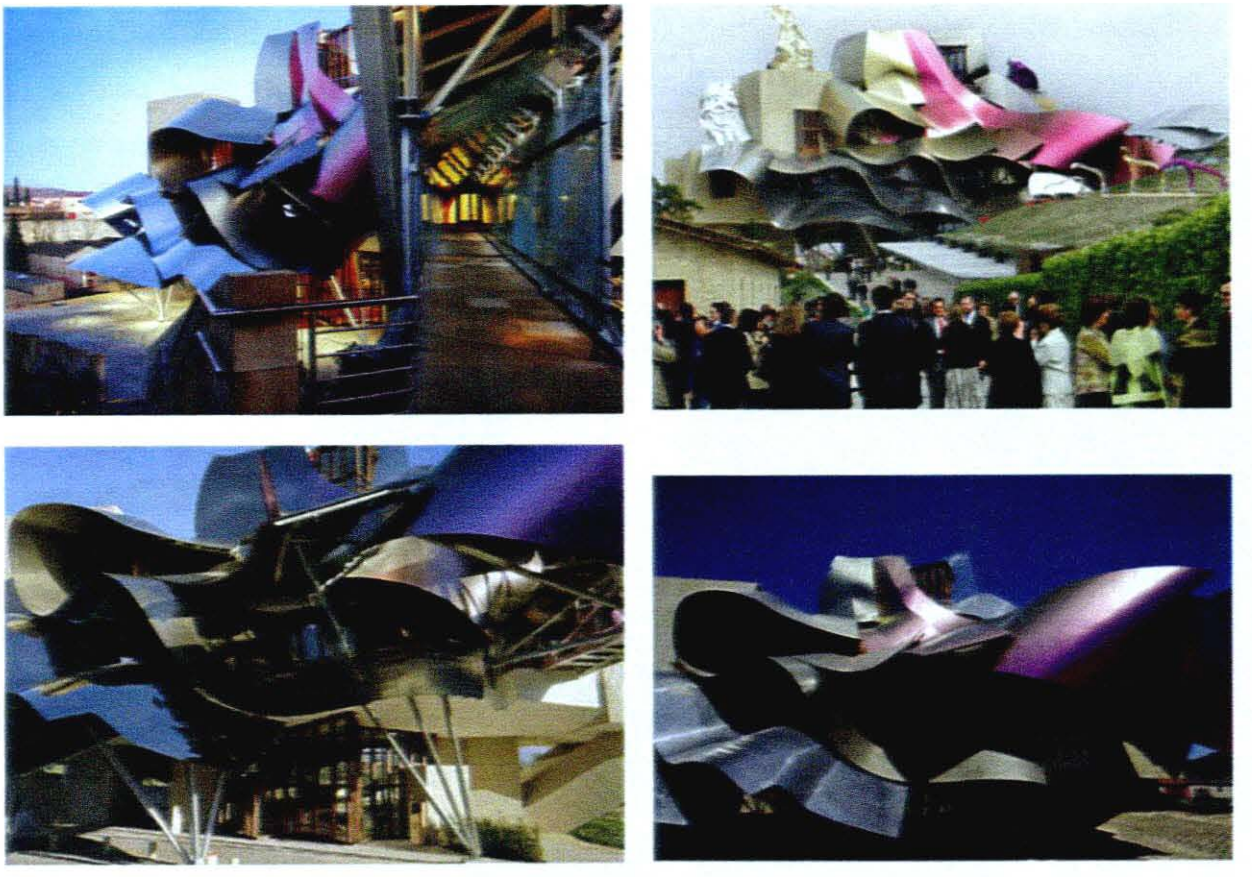


Figure 2.7

Frank Gehry, Hotel Marques de Riscal.Sandstone, Titanium, stainless steel, 2006. Elciego, Spain.

Image from: Mayer, T. Gehry Partners, LLP Hotel Marques de Riscal. arcspace. [Online]. Available: http://www.arcspace.com/architects/gehry/riscal_winery2/riscal2.html. [19 May 2010].

Equally meaningful is the multidisciplinary approach of the dramatic architecture of Daniel Libeskind which creates an inharmonious presence in the form of piercing zigzags without a care or need for right angles (Murray, 2004: 23). He does not trademark his work on functionality, instead his architectural exteriors are jarring and display an angry aesthetic metaphorically speaking of the anguish and destruction caused by mankind (Feitelberg, 2005). The Michael Lee-Chin Crystal Building shown in Figure 2.8 hardly displays any right angles and the structure seems to have been attacked by a giant prism. The Jewish Museum, in Figure 2.9, is a display of the anguish that the Jewish people endured throughout the Holocaust and it illuminates how the murder of these millions of people should never be forgotten (Nayar, 2007).

The work of these two architects and the deep thought that informed their work and has enabled them to realize this contradiction of the traditional architectural aesthetic in building these monumental structures, speak of their sense of responsibility to human experiences (Ouroussoff, 2005).

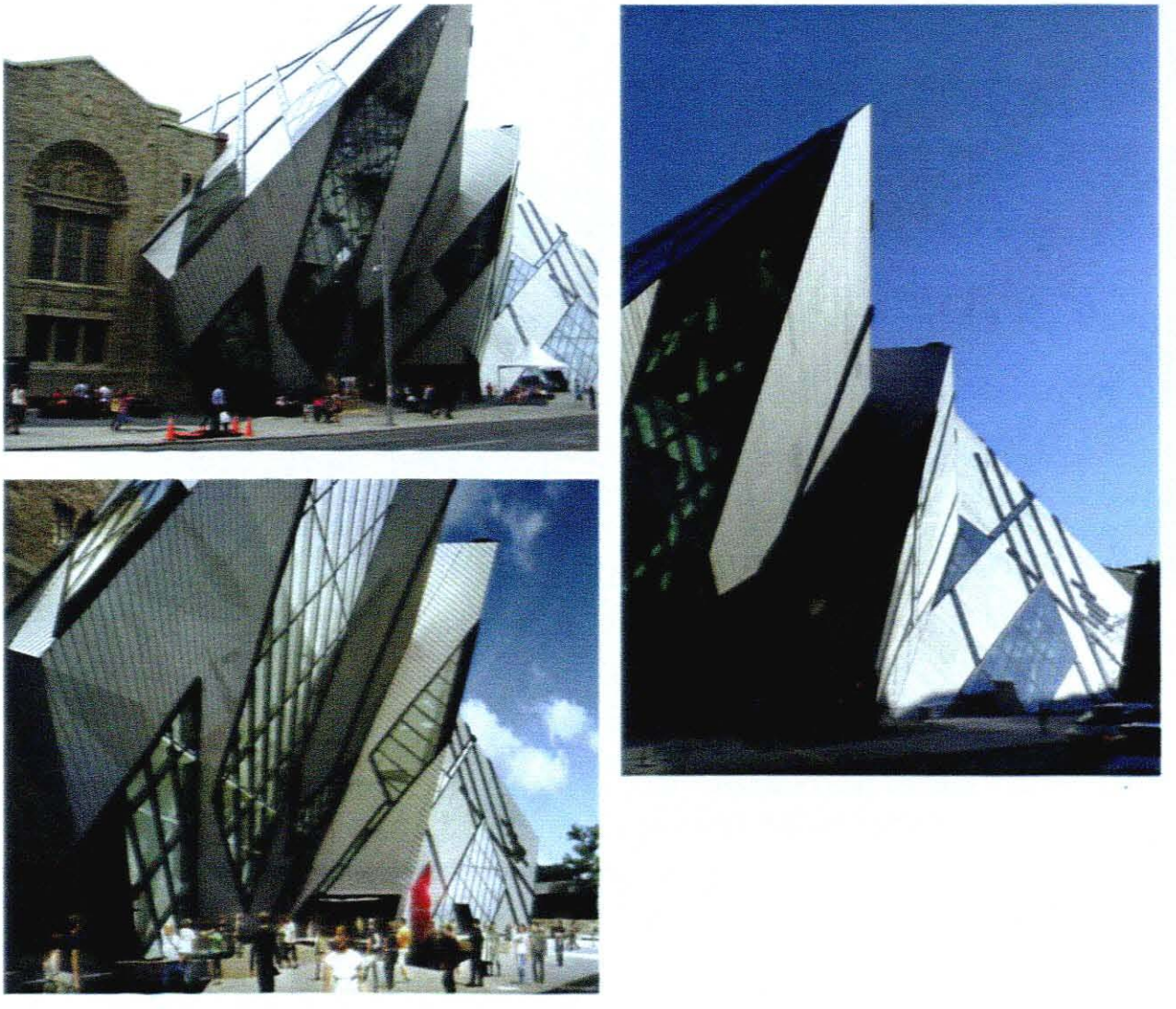


Figure 2.8

Daniel Libeskind and Bregman+Hamann Architects, The Michael Lee-Chin Crystal Building, Crystalline-form clad in glass and extruded-brushed, aluminium-cladding strips in a warm silver colour, 2007. Canada.

Image from: Loy, V. 2009. Starchitecture: The Crystal (Toronto). Getty Images. [Online]. Available: http://vincentloy.wordpress.com/2009/08/04/starchitecture-the-crystal-toronto/. [1 May 2010].

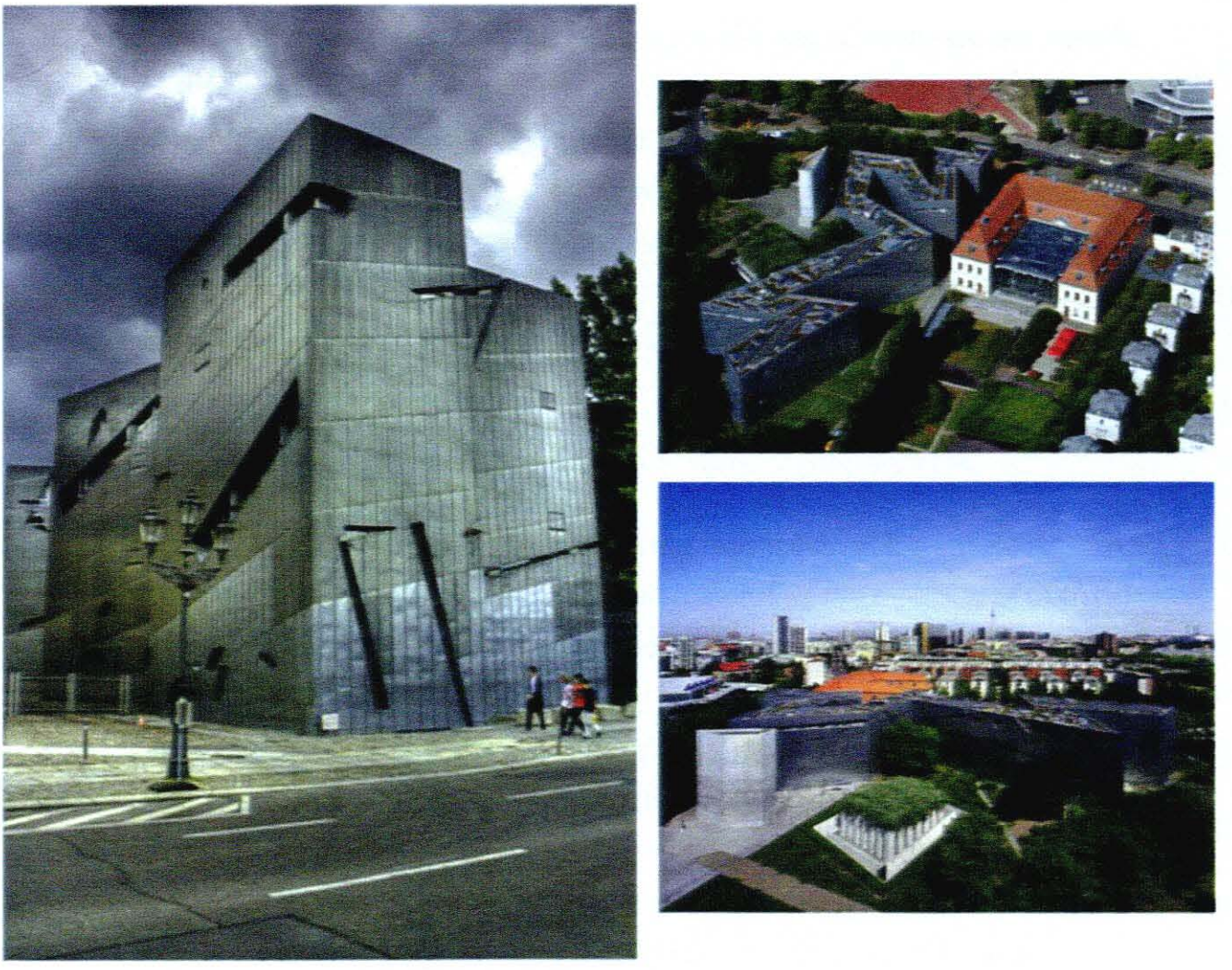


Figure 2.9

Daniel Libeskind, The Jewish Museum, Reinforced concrete with zinc façade, 1999. Berlin.

Image from: Studio Daniel Libeskind. 2010. The Jewish Museum Berlin. Studio Daniel Libeskind. [Online]. Available: http://www.daniel-libeskind.com/projects/show-all/jewish-museum-berlin/. [19 May 2010].

To conclude this chapter I have discussed literature that has reflected on two specific theories, namely Sohail Inayatullah's theory of Futures Thinking, which was further supported by Victor Margolin's study dealing with changing existing situations into preferred ones, and Jacques Derrida's theory of deconstruction. I have discussed the work of architects Frank Gehry and Daniel Libeskind who serve as the sources of inspiration for my furniture as I am inspired by the deconstructivist forms of fragmented and irregular geometries evident in their iconic architectural work (Loy, 2009).

I have established that deconstruction involves the recognition of the individual interpretation that everyone is able to form when unravelling the meaning of text and any other subject that is presented for an individual viewpoint (Siegel, 2010) – interpretation always remains open. This theory was applied to practical design work where it influenced architecture in contradicting the traditional building form. The traditional aesthetic that architecture reflected has now become characterized by a disjointed and disassembled structure of fragmented forms and clashing geometries that present an unsettling and incomplete façade. I have also determined that a deconstructive design aesthetic can be established in my furniture, the practical component of this research. These fragmented forms and clashing and distorted geometries will provide the structure of the pieces and will contradict the traditional form of furniture design while still complying with the specific design constraints of furniture.

When furniture design adheres to a single form and aesthetic it becomes confined in that manner and supports the idea of the single possibility and our belief that there is only one future. From the concept of alternative futures, Sohail points out that we continue to make the same mistakes each time because we cannot see the alternatives, especially of a future that is better than what seems possible because of what our existing world is like. It is only when we look for these alternatives that we are able to see something new (Inayatullah, 1992). The new furniture that I want to introduce will give furniture a new life and aesthetic, adding new value and interest

that was perhaps not thought possible. It opens up a new alternative to furniture design that has not been considered and it gives people the possibility of choice.

In the following chapter I will be discussing the methodology that was followed and I will explain the link between the theory and my practice. In keeping with the theory in the field of sustainable design, I discuss Ezio Manzini's theory of sustainability and the various approaches to designing for sustainability such as designing for recycling and reuse. In Brazil, the two Campana Brothers (Muniz, 2008) have been involved in sustainable design since the early 1980s. They serve as experts in the field who adhere to sustainable practices, but their design aesthetic is counter to the one I intend to apply. Further discussion of the manner in which I will be collecting data to establish the success of my products will follow.

CHAPTER THREE

Methodology

The sustainable aesthetic as represented in my collection of furniture

My aim in this chapter is to establish the correlation between the theory and my practice. I made use of secondary research methods, to establish to what extent a deconstructive aesthetic can be evident in sustainable design, with reference to Ezio Manzini's theory of sustainability, which proposes to bring about a regeneration of the context of our lives (Manzini, 2009). In the field of sustainable design, I concentrated on two of the various approaches to designing for sustainability, namely designing for recycling and designing for reuse (Martin, 2010). I reflected on work of the existing practitioners of sustainable design, the Campana Brothers, who, as experts in the field, adhere to sustainable practices (Blouin, 2010). I further discuss the manner in which I collected data, for detailed discussion in the following chapter, to establish the success of my products.

My pieces of furniture create an awareness of sustainability achieved through designing for reuse, specifically the reuse of wood and steel. The term "sustainability" was most accurately defined by the United Nations in 1986 as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Hassan, 2006). Present needs can be met through developing awareness and practicing the recycling of waste products, to reduce that which we knowingly consume and to reuse that which we plan to dispose of (Martin, 2010). The furniture that I have designed and produced, the focus of Chapter 4, positively reflects on environmental sustainability, because, as I have indicated earlier, I am minimizing the burdens impacting on the natural environment. In producing these pieces the natural environment remains undisturbed because a tree will not need to be cut down for the provision of new wood and iron ore will not

have to go through the costly and time-consuming process of production to provide new steel. By designing for the reuse of wood and steel, I am diminishing the accumulation of 'waste wood' that is disposed of in second-hand stores and 'waste steel' that is disposed of at steel scrap yards. Through the process of reuse I am breathing new life into these pieces by adding new value, interest and significance.

Ezio Manzini's theory of sustainability deals with creating an environmental awareness that encourages the concept of designing with sustainability in mind. He stresses our need to learn to consume less in order to redevelop the context in which we currently exist, so that we will regenerate the context in which we live. Supporting this, he deals with the issue of the culture of consumption and calls for us to start thinking beyond 'the product' and to see it rather as a tangible object that must be sustained and supported (Manzini, 2009). My furniture pieces act as expressions of my environmental awareness and the need for sustainability. They act as tangible objects that do not disturb the natural environment. Instead the production towards reuse evident in these pieces of furniture will support the object by reducing the burdens that impact on environmental sustainability (Manzini cited in Masuda, 2006).

As suggested in the previous chapter, the structures created by the constructivist architects were created out of their personal sense of duty to bring consciousness and maintain the rich histories of the struggles of those who came before us. Similarly, the Campana Brothers are creating furniture out of recycled material out of their sense of responsibility to a sustainable environment. The brothers are present-day practitioners in the field of sustainable design through their contribution towards environmental sustainability. Their contribution takes the form of creating furniture by recycling and reusing every day, ready-made materials, waste products and industrial goods for reuse (Blouin, 2010). These are objects that have been disposed of and forgotten by the consumer. The brothers draw their inspiration from their Brazilian heritage of a lively Brazilian street life and a colourful carnival culture (designboom, 2010). They combine found objects of wood and fabric off-cuts, cardboard, rope, aluminium, wire and furry toys with advanced technologies to provide an exciting alternative to the products created according to rationalist Modernist ideals, and so "they convert unwanted chaos into a product of new use and beauty" (Muniz, 2008).

The brothers describe their approach to design as their obsession with materials and fabrication as being the starting point, then the form follows and finally they elaborate the function of the product by studying its ergonomics, limitations and capabilities (Di Persano, 2010). They rely on the chaos and beauty of their city to inspire their designs. The idea for the Favela Armchair presented in Figure 3.1 was born in the shanty towns in Brazil and the chair was the result of reusing the many pieces of natural wood off-cuts that were discarded when shacks were built. By gluing and nailing the pieces together, they were able to create a new chair envisioned as a 'throne' for the poor and a wake-up call to the wealthy (Blouin, 2010). Their Vermelha chair, shown in Figure 3.2, was developed after buying a large bunch of rope from a street stall. After carefully studying the construction of the mess of ropes they saw in it a representation of Brazil in its beautiful chaos and deconstructive qualities (Moss, 2010). They replicated this deconstruction in the chair by tying, weaving and looping an abundance of the coloured rope through a metal frame (designboom, 2010).

Figure 3.1

The Campana Brothers, Favela Chair, Scraps of wood, 1991. Brazil.

(http://www.bombsite.com.)

Figure 3.2

The Campana Brothers, Vermelha chair, Acrylic and natural cotton rope, 1993.

Designboom. 2010. campana brothers 'italian pride' vermelha chair. designboom. [Online]. Available: http://www.designboom.com/weblog/cat/8/view/8191/campana-brothers-italian-pride-vermelha-chair.html. [19 May 2010].

The essential component in their practice, the importance of materials, sees them experimenting with high and low technological materials and the usage of artisanal techniques (Blouin, 2010). The Sushi chair presented in Figure 3.3 shows the transformation of strips of brightly coloured plastic and carpet underlay that have been bundled up into decorative rolls to upholster a basic frame. This exciting new process of transformation has enabled the brothers to bring a fresh energy to contemporary design by defining a new aesthetic based on experimentation and advanced technologies (Fuad-Luke, 2004: 11).

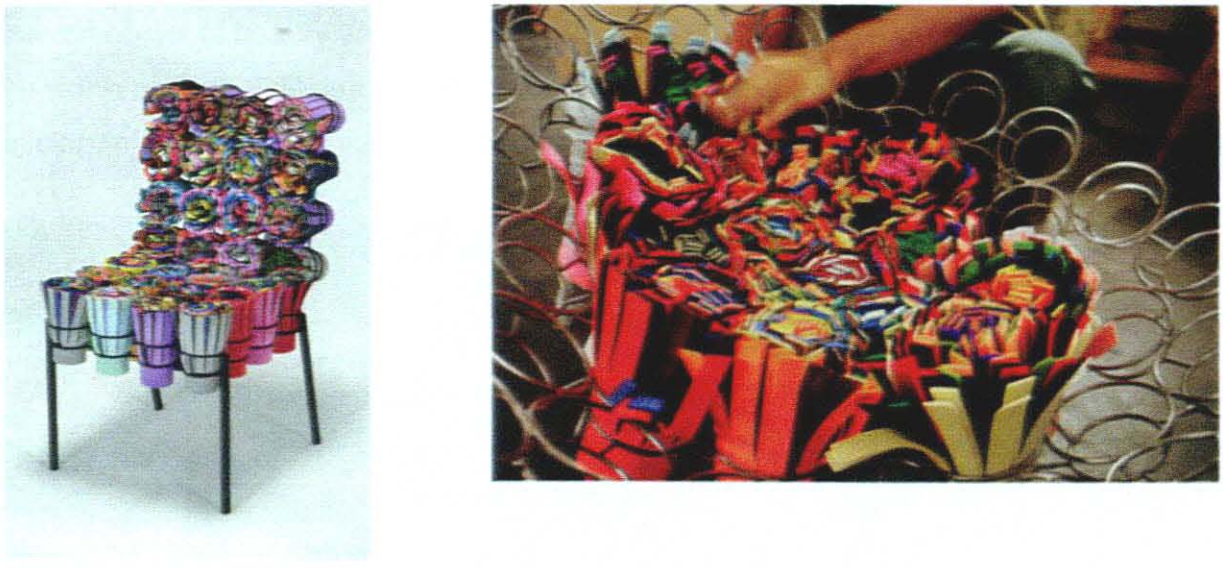


Figure 3.3

The Campana Brothers, Sushi III Chair, 19.5 x 23.5 x 37.5 in. / 49.5 x 59.6 x 95.2 cm. Felt, textiles, and synthetics rolled into concentric rings on welded iron structure, 2002. New York.

Image from: Moss. 2010. Sushi III Chair. Flavorpill. [Online]. Available: http://artkrush.com/gallery/98/interview/3/Campana-Brothers.html. [6 May 2010].

Through this process of transformation they are able to use stacks of colourful plastic bins, bunches of brooms, clusters of birdcages and batches of religious paraphernalia, which, in the eyes of the consumer, would be considered simple, cheap, disposable goods, to create innovative and surprising pieces of furniture (Martin, 2010). The brothers see these goods as a treasure trove of cheap and available raw materials with potential as bases of colourful patterns, surprising arrangements and compelling constructions which they combine inexpensively, directly and through low technological methods to create other useful and valuable

items (Fuad-Luke, 2004: 46). Such a valuable item is the terracotta table, Tavolo Cobogó, seen in Figure 3.4, which is made of decorative ventilation bricks commonly used in Brazilian homes. The design of the bricks creates a decorative top that casts patterned shadows on the ground (designboom, 2010). The brothers challenged the regular usage of the bricks by transposing it into a completely new environment. Through their practice of sustainable design they reflect how, in Brazil, this sort of spontaneous, survivalist invention is everywhere (Di Persano, 2010). In a similar manner I present a new alternative to furniture design through my pieces, by converting the unwanted chaos of old, discarded school furniture and scrap metal, into an object of beauty and value, thus creating something out of what seemed to be worth nothing. I design in order that the product will remain functional, whilst aiming to challenge the traditional form and aesthetics of furniture design.

Figure 3.4

The Campana Brothers, Tavolo Cobogó, height 74 – diameter 137, Terracotta, resin, varnished steel, 2009. Milano.

Image from: Pellion di Persano, S. 2010. Tavolo Cobogó by the Campana Brothers. Dezeen. [Online]. Available: http://www.dezeen.com/2010/02/11/tavolo-cobogo%cc%81-by-the-campana-brothers/#more-64159. [19 May 2010].

In Figure 3.5 a chaotic mosaic of reflecting glass pieces, in an assortment of sizes and heights, make up the Brasilia coffee table. The brilliant colour is in acknowledgement of the brothers' country of origin and the stones on which the capital, Brasilia, was built (Designcorner, 2010). The pieces of glass seem to display a deconstructivist aesthetic with the pieces resembling fragmented forms and irregular shapes (Nayar, 2007); an object that has contradicted the traditional aesthetical surface of furniture design, namely that adhering to tables.

Figure 3.5

The Campana Brothers, Brasilia coffee table, Length: 125cm, Width: 90cm, Height: 42cm, Glass, stainless steel base, 2005. Brazil.

Image from: Edra. 2010. Edra - Coffee table Brasilia. Designcorner. [Online]. Available: http://designcorner.blinkr.net/db_%3E_designboom/www.tokyo-gas.co.jp?page=180. [20 May 2010].

I planned to collect my own data to establish the possible success of my various pieces as to whether they would appeal to a niche market. I interacted with people about my products by conducting informal interviews with two distinct groups of students, namely Commerce Faculty students and Design Faculty students at the Cape Peninsula University of Technology. These interviews helped to establish whether there is an interest among people for a new preference in design, in the form of my deconstructivist-inspired pieces of furniture.

To conclude this chapter: I have established the extent to which a deconstructive aesthetic can be evident in sustainable design, with reference to Ezio Manzini's theory of sustainability, to regenerate the context of our lives (Manzini, 2009). Furthermore I discussed the Campana Brothers, as practitioners in the field of sustainable design, and their approach to designing for recycling and reuse. Finally, this chapter dealt with the approach I took in collecting data to determine the possibility of success of my deconstructive furniture as opposed to traditional Modernist furniture design.

I have established that it is possible for a deconstructivist aesthetic to be evident in sustainable design to a large degree. The aesthetic of the style is able to create a new perception in the minds of people, similarly to the impact of the architectural structures, in making them recognize a new possibility in furniture design and creating a new possibility of choice for the consumer when purchasing furniture.

CHAPTER FOUR

Product development

The development and construction processes of my deconstructivist-inspired furniture pieces

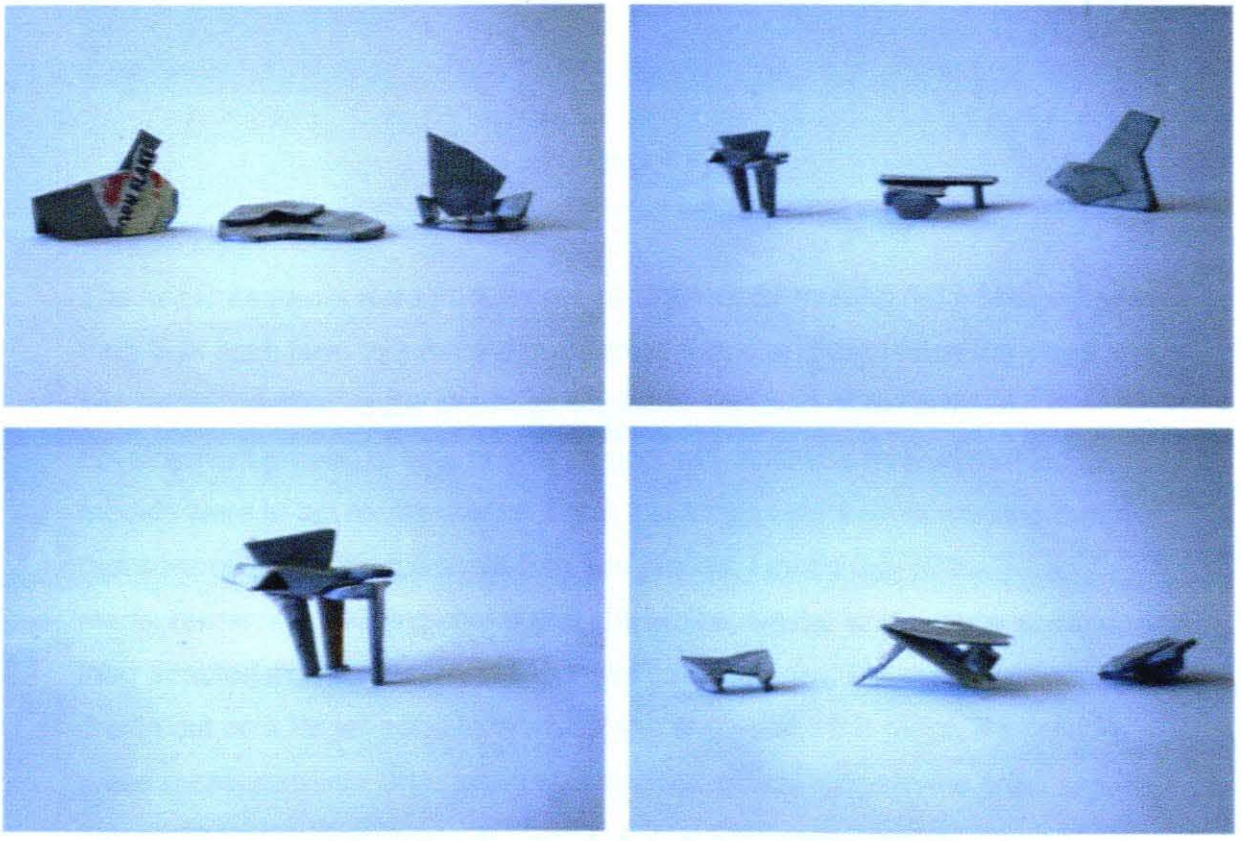
The aim of this chapter is to discuss the development and construction processes of my various deconstructivist-inspired furniture pieces. These comprise low tables and chairs that have been handcrafted. I further discuss the manner in which I approached this research and how I collected data in the form of primary and secondary research methods, in order to establish the success of the various pieces of furniture.

As practiced in the field of Surface Design, the approach to this research can be classified as qualitative. The manner in which I conducted my research process was through conceptual research methods with the research largely based on secondary sources of information. I became engaged in understanding the theories supporting my research as well as in developing an understanding of my inspiration, which was deconstructivist architecture. My aim was to expand a body of knowledge and the understanding of the concepts that have been dealt with in the previous chapters.

Some of the research is partially based on primary research methods as I have collected data by interacting with people about my products for establishing the success of the various pieces of furniture. This interaction with participants took the form of informal interviews with two distinct groups of students, namely Commerce Faculty students and Design Faculty students. This dialogue was conducted to establish whether there was an interest among people for a new choice in design, as represented by my deconstructivist-inspired furniture.

The creative approach to producing the deconstructivist-inspired pieces is a handcrafted approach. Electrical hand-tools and heavy-weight industrial machinery were used to shape the waste wood and scrap metal to configure the various components of the furniture.

As with architects who initially construct an architectural model of the buildings they design, my product development started with the construction of small-scale cardboard models of the various pieces (Figure 4.1). This aided me in interpreting my sketches to see how the pieces could possibly look in three-dimensional perspective. These models were a reflection of honest, stripped down and layered design in a direct response to deconstruction in its deceptive simplicity.



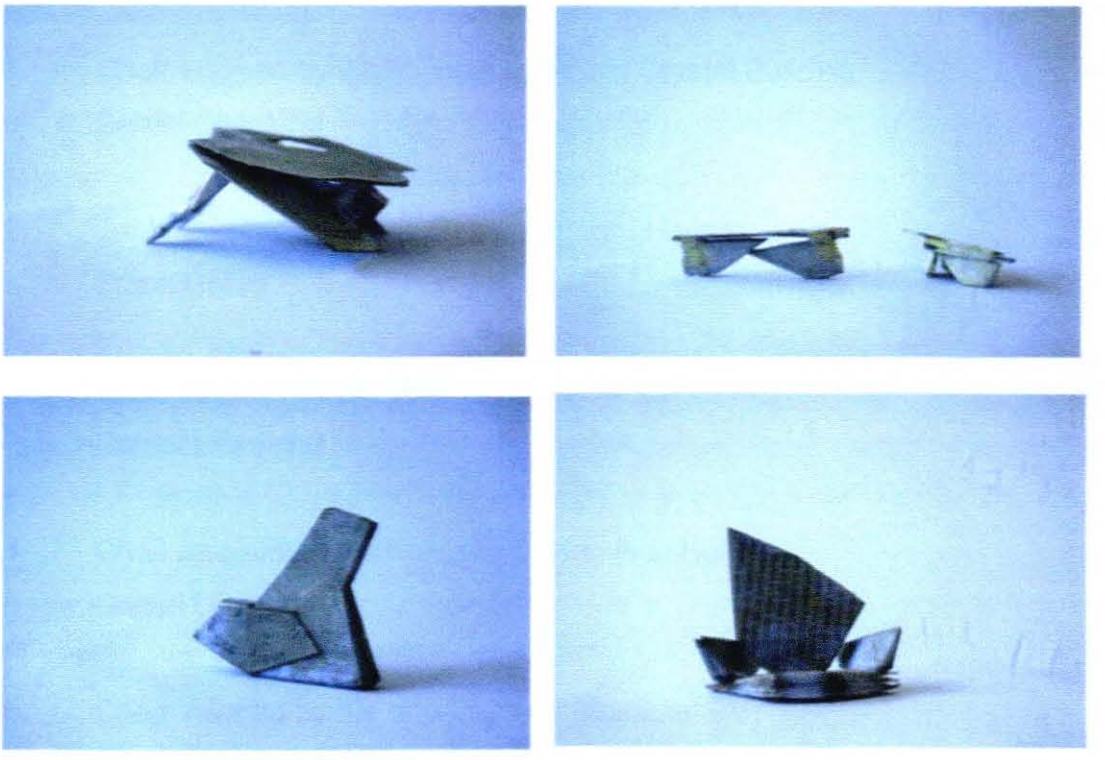


Figure 4.1

Small-scale cardboard models of the various pieces

The separate forms were traced onto cardboard, by reusing old porridge boxes. I then built each form to a three-dimensional shape and then fitted the separate segments together as the sketches illustrate. This part of my product development proved to be a critical component, as these three-dimensional models were to act as my guides. From this stage I went on to working out measurements for the full-scale furniture pieces. I made use of the measurements of existing chairs and low tables, similar to the piece at hand, and then adapted my measurements to these existing ones. My measurements were drawn out on a larger scale to work out the angles of each piece. Perceiving these measurements large-scale was another critical stage in the pre-development process because I had to adjust the measurements much of the time in order for them to work adequately. This stage helped me to realize and eliminate errors before the actual product was constructed.

List of deconstructivist-inspired products

1. Chair inspired by the Michael Lee-Chin Crystal Building
   Daniel Libeskind

2. Table inspired by Frank Gehry's Dream House
   Frank Gehry

3. Chair inspired by the Villa
   Daniel Libeskind

4. Chair inspired by the Frederic C. Hamilton Building
   Daniel Libeskind

5. Chair inspired by the Imperial War Museum
   Daniel Libeskind

6. Table inspired by the Ray and Maria Stata Center, MIT Building
   Frank Gehry

7. Park seating inspired by 18.36.54.
   Daniel Libeskind

8. Table inspired by the Guggenheim Museum
   Frank Gehry

The form and deconstructive aesthetic of the chair was inspired by the Michael Lee-Chin Crystal Building designed by Daniel Libeskind and seen in Figure 4.2. The building has complicated angle joints and sloped walls which create its crystal-shaped façade. This façade is composed of five interlocking prismatic structures, reminiscent of crystals and linked by criss-crossing bridges to the original Royal Ontario Museum building next to it, which it seems to have crashed into (Royal Ontario Museum, 2010).

The chair shown in Figure 4.3 displays a heavy aesthetic of solid forms and clean lines, both prominent features drawn from its deconstructivist inspiration. Its coarse, rough surface texture, which was created by sandblasting, incorporates linear metal inlays, depicting the graphic lines on the building's exterior. The metal inlays add a type of strength and power, which the building displays, to this wooden aesthetic, whilst bringing to mind the reflective quality that envelopes this inspiration. The diagonal inlays are spaced unevenly to illustrate the characteristic of irrationality of deconstructivism. The glass panels on the building's exterior allow the only access of light into this solid and closed façade, as though the crystals have crashed into the structure and these glass sections reveal the brokenness as a result (artdaily, 2009). The roughened sections on the chair's exterior that are a result of the sandblasting, remind of the wounds and marks left behind on old, thrown-away furniture, to recall the condition of the wood when I found it. The wood has undergone a process of transformation to the extent that one would never have thought that the material once displayed the damaged, scarred aesthetic of vandalism.

The deconstructivist aesthetic has been applied to this chair in a manner emulating the crystalline forms that the building displays. The open space revealed in viewing the chair from behind invites any interpretation that its user permits, and as the theory of deconstruction states. This space could be understood as a chair that is still incomplete in its construction; as this unfinished aesthetic is a prominent feature in deconstructivist architecture. The space could

be interpreted as adding to the chair's functionality through creating storage. This space could create storage space for objects such as books, or fitted shelves could be inserted in the hollow on which objects could be placed. Consequently this hollow cavity could be understood, interpreted and used according to the opinion and choice of the individual engaging with it. This notion forms a relation to the theory of deconstruction and how the meaning and understanding of any subject matter is seen as unlimited in its interpretation. Here, no limit is imposed on the interpretation of the usage of this hollow in the chair.

The chair could also be seen as multifunctional in the way that it could serve as a side table. If one were to turn the chair on its side, the leg and the long, slanted outer side of the backrest could act as a top on which to place objects, as is the function of a table. This aspect of the chair's design also forms a relation to the theory of deconstruction and how any subject or object is open to free interpretation by an individual because interpretation is not bound by limitations.

As the principles of this deconstructivist inspiration (Figure 4.2) has been applied to the chair it intends to bring about an original, fresh and unconventional aesthetic as the inspired architectural style has done. This contemporary design expresses an alternative preference in furniture design to individuals by being most appealing to its niche market who finds interest in the different and unreserved appeal of these furniture pieces.

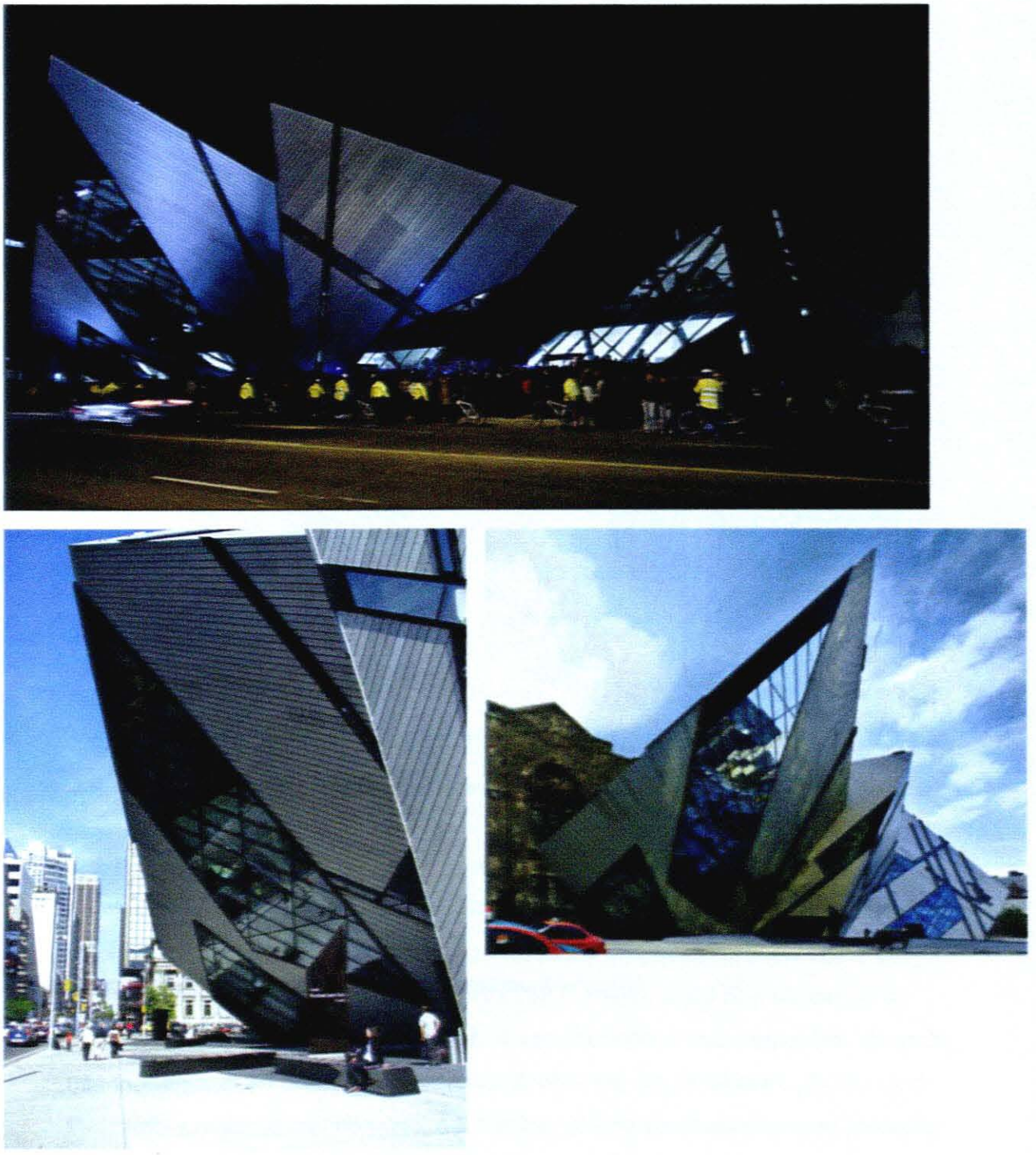


Figure 4.2

Daniel Libeskind and Bregman+Hamann Architects, The Michael Lee-Chin Crystal Building, Crystalline-form clad in glass and extruded brushed, aluminium-cladding strips in a warm silver colour, 2007. Canada.

(http://www.schinnerer.com/blogs/rm/2008/04/17.html)

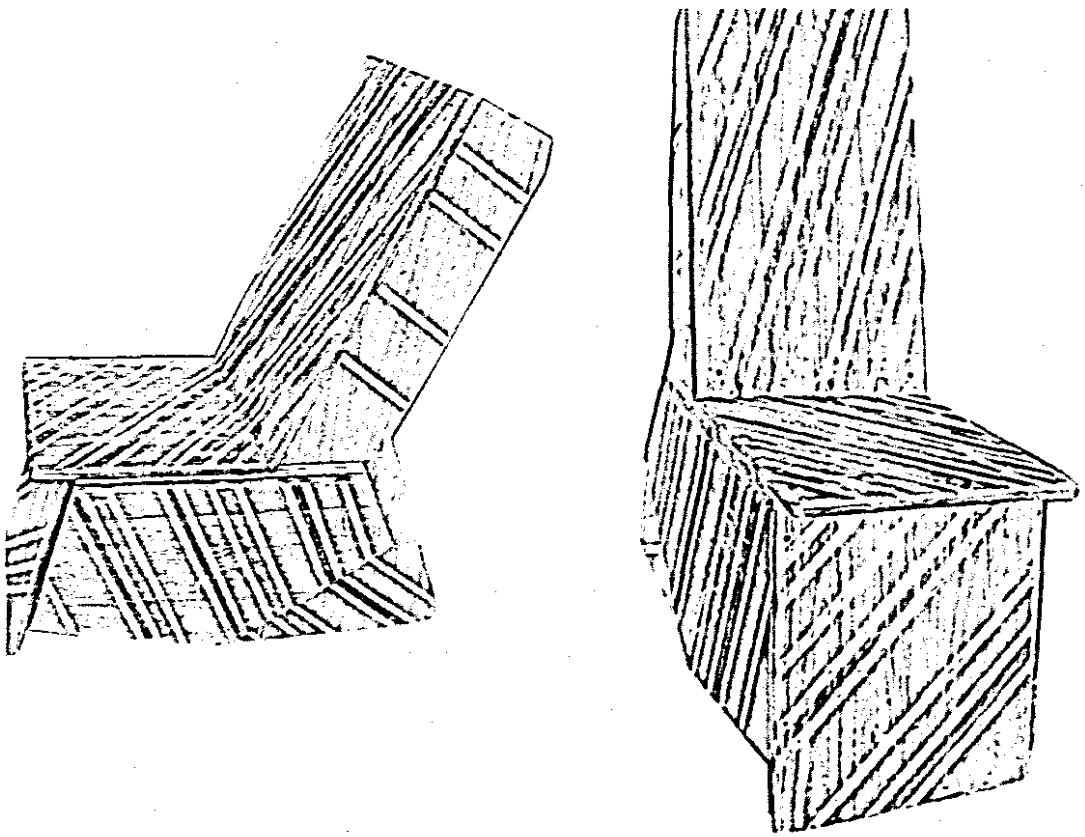


Figure 4.3

A heavy aesthetic display of solid forms and clean lines with a coarse, harsh surface texture that has been sandblasted and diagonal metal inlays

The inspiration for this table came from the unbalanced glass box at the side of Frank Gehry's house shown in Figure 4.4. This strange aesthetic of the house displays mixed and matched elements and materials, such as seen in the use of chain-link fence. This is a harsh material that is made, used and absorbed by society with much denial attached to it. It was this denial that fascinated Gehry to use the fence in an attempt to humanize it, with the aim of creating awareness that such a material can be used in a manner that is aesthetically more pleasing (Heyer, 2010).

The low steel table in Figure 4.5 is constructed of scrap metal, a material that, like the chain-link fence, is made, used and absorbed by society. There is a sense of rejection attached to the material because it has been disposed of as it was not useful any longer. Through reusing the scrap metal, this material is given

a new life where it will serve a new purpose. The practice of reusing old, thrown-away materials will make society more aware of the positive impact of sustainable design and the creation of new products from existing materials that can be made functional and valuable again.

This process of transformation of the scrap metal forms a relationship with the theory of deconstruction, stating that any individual can give account of interpretation. Here individuals might have different opinions regarding the usage and discarding of this material. This concept could allow interpreting this material as having spent its life not being useful any longer and therefore having become scrap metal. A further interpretation could embrace this scrap metal by transforming it from its useless state into a new, valuable product, as these deconstructivist pieces show. The latter prolongs and furthers the lifespan of the material so that it becomes useful again.

The table is constructed from off-cut galvanized steel sheets that have been tack-welded together and then laser-cut to make for easy assembling. I actively participated in the assembling process when I tried my hand at welding parts of the table together. The table consists of two identical sheets that are joined at one edge, one positioned horizontally and the other diagonally, and standing on three projecting legs placed at inward angles. The legs have square fitted wooden beams inserted in them to break the solid steel aesthetic. The diagonal sheet, although not touching the ground, causes the table to appear as though it has collapsed. This collapsing, 'broken' aesthetic, a characteristic of deconstructivist architecture, is inspired by the unbalanced glass box at the side of the house (Figure 4.4) (WebUrbanist dot com, 2009). The parallel bent edge of the diagonal sheet allows for holding an object as the horizontal sheet does. The table was painted black and then partially shotblasted, revealing the table's steel aesthetic.

The diagonal sheet is pierced by the longest obstructive leg forcefully pushing through to support the horizontal top. This projecting leg introduces the idea of

forcefulness in its determination to keep the table functional, and so the table cannot be without it. Another two slanted legs support the bottom diagonal sheet without piercing this section. The three obstructive legs create a harsh and intrusive feeling that demands attention by this stance. The functionality of the table is intact; it is the form and aesthetic of this piece that has been challenged.

The design principles of deconstructivism are strongly evident in the table in Figure 4.5, adding an original, innovative aesthetic to this functional piece. I aim to introduce an unconventionality that allows an alternative preference in furniture design. These pieces cater to a niche market of individuals who are fascinated by that which is daring and out of the ordinary.

Figure 4.4

Frank Gehry, Frank Gehry's Dream House, Chain link fencing, corrugated aluminium, unfinished plywood. 1978. Santa Monica.

(http://wirednewyork.com/forum/showthread.php?t=5591&p=41629)

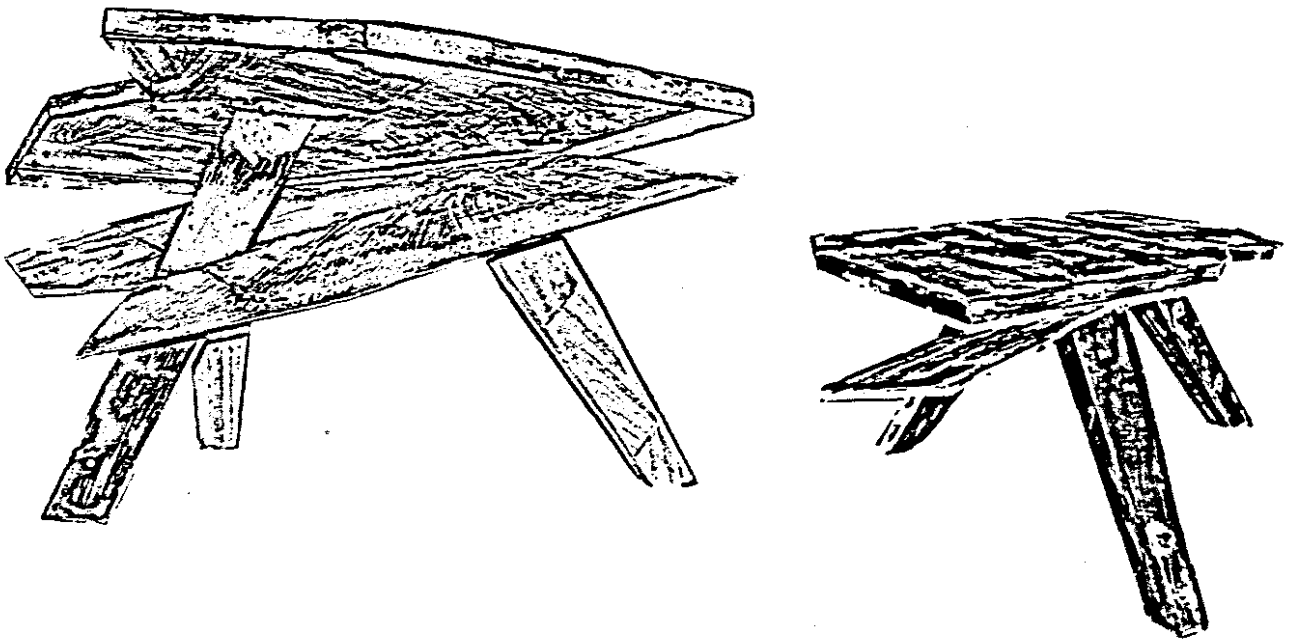


Figure 4.5

The table appears as though it has collapsed representing the collapsing, 'broken' aesthetic characteristic of deconstructivist architecture

The sharp edges and crystal-like shape of The Villa seen in Figure 4.6 served as the inspiration for the chair seen in Figure 4.7. A display of clean lines and elaborate metalwork shows three interlocking bands that envelope the Villa in striking angles, resulting in a dramatic stance in its geometric space (Libeskind, 2010). The Villa is designed as a model of sustainability, being largely constructed of renewable wood with this exterior encased in a zinc façade (Libeskind, 2010).

The chair displays a solid aesthetic of clean lines and crystal-inspired forms create this very sturdy, geometric design. With the use of sustainable materials in the form of off-cut scrap metal, the chair is also designed as a model of sustainability, with the scrap metal, which would otherwise have been disposed of, being given new life. A wooden 'hive' resembling the metalwork seen in Figure 4.6, overlays areas of the chair introducing the concept of layers. These layers bring this piece into relation with the theory of deconstruction.

The chair reveals bent areas along its profiles and on the seating area, proving that even though this metal has been abandoned, it can still be reused. The bending of this unusable steel shows that it can in fact be reused to construct something new, furthering its lifespan. This concept relates to Sohail Inayatullah's study of Futures Thinking, dealt with in Chapter 2. He speaks about the problem of abandoning one's own view of the future for someone else's view of what the future should be like. There is a further reference to the theory of deconstruction, which states that each individual holds their own account of interpretation as there is no end to the possibilities of interpretation (The Studio Trust, 2010), each person is free to think for themselves. With this said, we need to start thinking of our actions on a deeper level, meaning actions that have damaging consequences for our environment when we discard without considering the possibility of reusing scrap materials.

The deconstructive design aesthetic present in the construction of the crystal-inspired forms applied to the chair introduces an unconventionality that is not evident in Modernist furniture, as discussed previously. The deconstructivist-inspired chair (Figure 4.7) showing the bending of the material, overlaid by its wooden hive represents the complexity of layers, which relates to the many complex layers of interpretation stated by the theory of deconstruction. The chair's complexity of layers reflects the obsessive and compound structure in which society is shaped. With this being said, this inspired chair appeals to its niche market of unreserved, daring individuals who, through these furniture pieces, are being provided an alternative preference in furniture design.

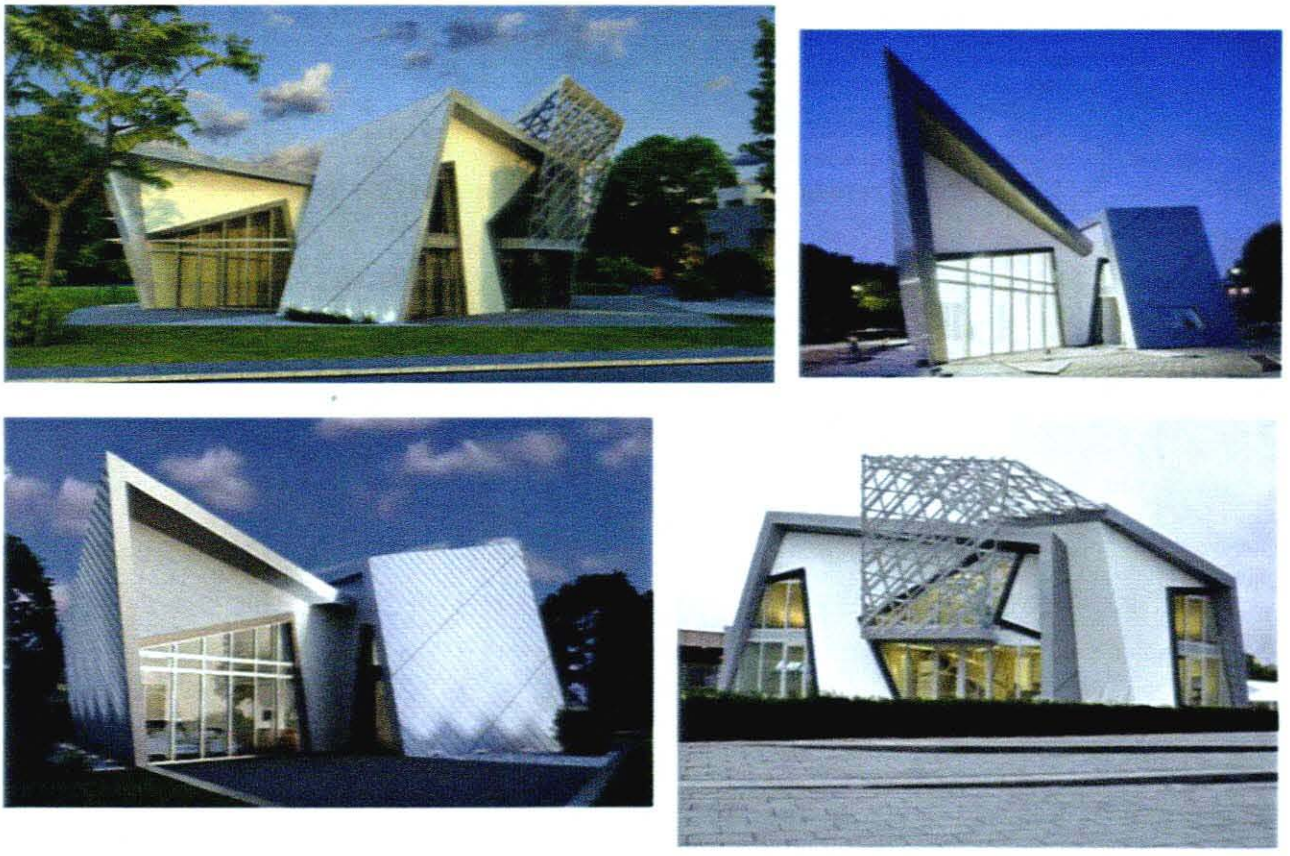


Figure 4.6

Daniel Libeskind, The Villa, Shell of wood with standing-seam zinc cladding, elaborate metalwork, 2009. Germany.

(http://www.jetsongreen.com/2009/10/libeskind-villa-modern-prefab-germany.html)

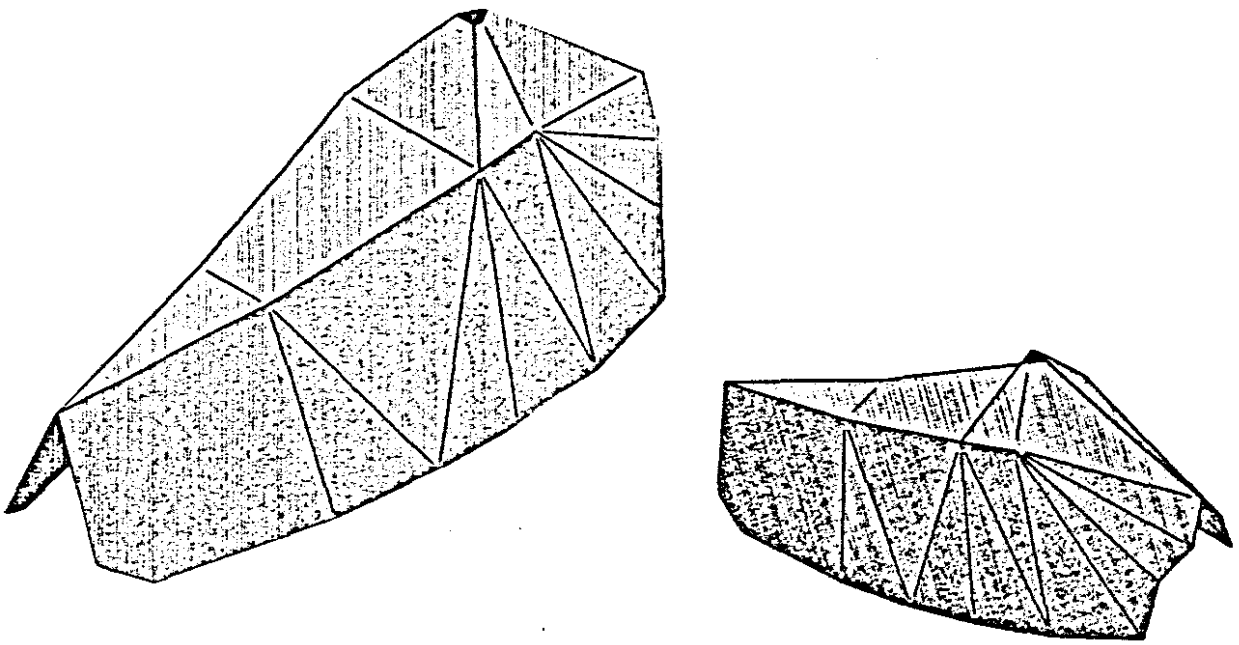


Figure 4.7

The chair displays a solid aesthetic of clean lines and crystal-inspired forms overlaid by a wooden 'hive' representing the theory of deconstruction, which speaks of the many layers of interpretation.

The Frederic C. Hamilton Building (Figure 4.8) was built as part of a composition of public spaces to intimately connect to the larger public and to those aspects of experience that are intellectual, emotional and tangible. This bold structure has been integrated for the public in a way that brings across the respect for handcraftsmanship and the building's immediate communication from the hand, to the eye, to the mind (Libeskind, 2010).

The building reflects the nearby Rocky Mountain peaks as a vision of the rocky cliffs which stems from the large geometric shapes clad in titanium (WebUrbanist dot com, 2009). The structure of interlocking rectangles, suggests that a pile of boxes has tumbled across the site, resulting in changes of the exterior when viewed from different directions (arcspace, 2010).

The chair's forms reflect sharp angles and bold clean lines which make up its four segments, the flat seating area, a majestic backrest and two armrests, as seen in Figure 4.9. These areas have been sandblasted in remembrance of the scarred condition of the wood when found while also representing the broken, damaged aesthetic of deconstructivism. The surface area also displays metal inlays in the wood, spaced randomly to demonstrate the irrational approach of deconstructivism. The inlay on the seat is the realistic size of the leg of a chair. This missing part has been incorporated in this unusual way to illustrate how the chair verges on the illogical. The two armrests similarly are awkwardly positioned on the seat, strongly indicating this irrationality as an interpretation of deconstructivism. The unfinished back of the chair and the omitted legs reflect the incompleteness that the façades of deconstructive architecture display.

The building shown in Figure 4.8 creates the illusion of shapes sinking into the ground and different tonal values of shadow formed on its façade. The chair's surface plays with these principles by means of grooves and inlays placed in various areas in the wood. These cut-out areas illuminate the shapes and tones that speak to the piece from its inspiration.

Although the chair's aesthetic reflects its inspiration, the experience of this chair suggests total opposition to the aims of the Hamilton Building, which was planned to contribute to connecting society. With the chair not bearing any legs and standing flat on its seat, there is a disconnection with its surroundings, almost also with the one who will be seated. There is a suggestion of loneliness about it that is strongly reflected through the missing parts and the unfinished back. These exclusions repeat the broken, incomplete façades which characterize deconstructivist architecture whilst acknowledging the theory of deconstruction. The recognition of the theory's relation to the chair in Figure 4.9 lies in the opposing meanings of the inspiration and the piece. These meanings strongly emphasise on the individual interpretation and its freedom, which the

theory recognizes. The chair speaks solely of disconnection and disassembling, especially because of its missing parts.

The deconstructive principles are evident in the chair's structure reflecting the building's aesthetical features, but carrying its own interpretation. The state of loneliness that characterizes the disconnected chair could serve as an appealing feature for the niche market, so as to encourage the purchase of the chair as a manner of ending this loneliness or a part of it.

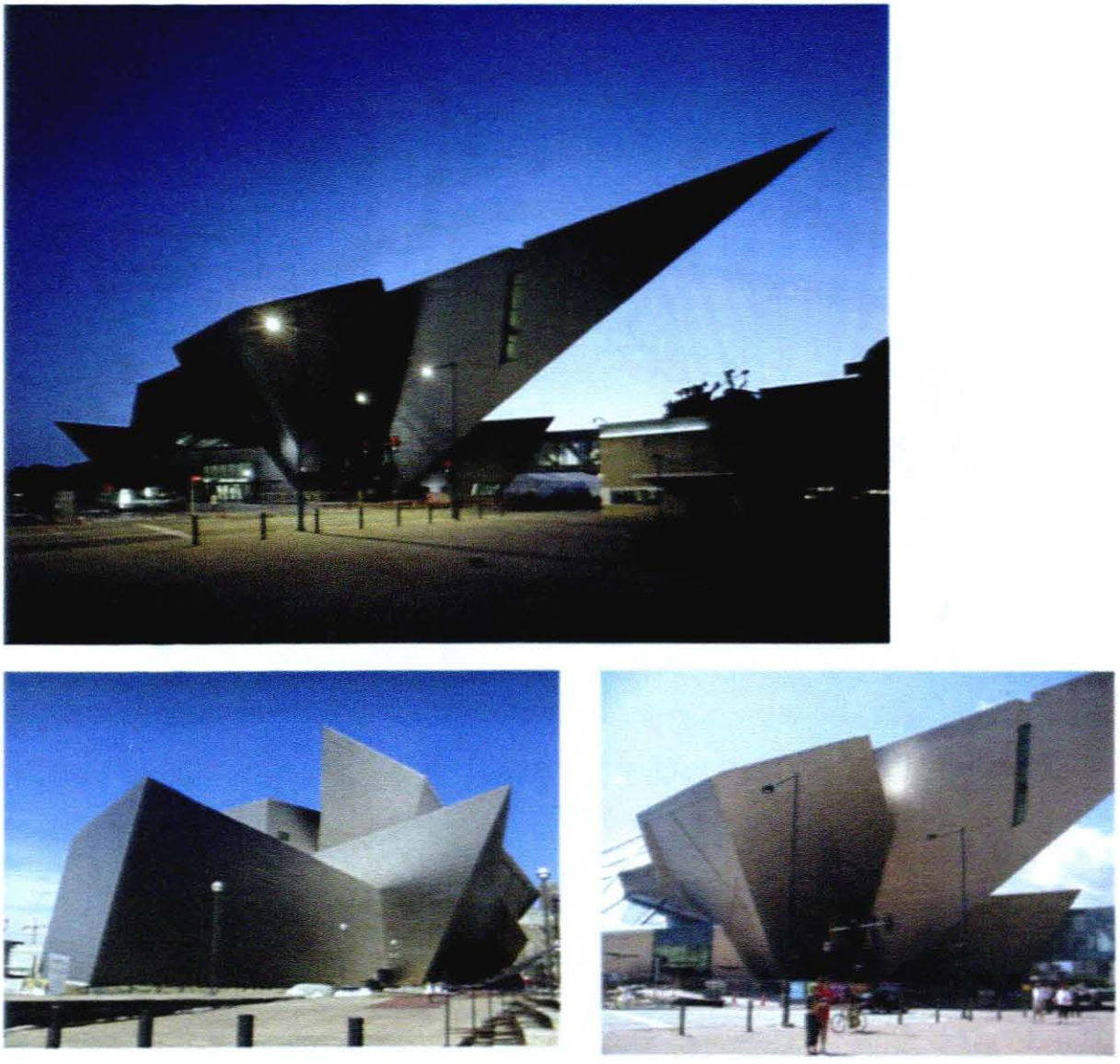


Figure 4.8

Daniel Libeskind, The Frederic C. Hamilton Building, Titanium panels, 2006. Colorado.

(http://www.waymarking.com/waymarks/WM1R8Q_Frederic_C_Hamilton_Building_Daniel_Libeskind_Denver_CO_United_States_of_America)

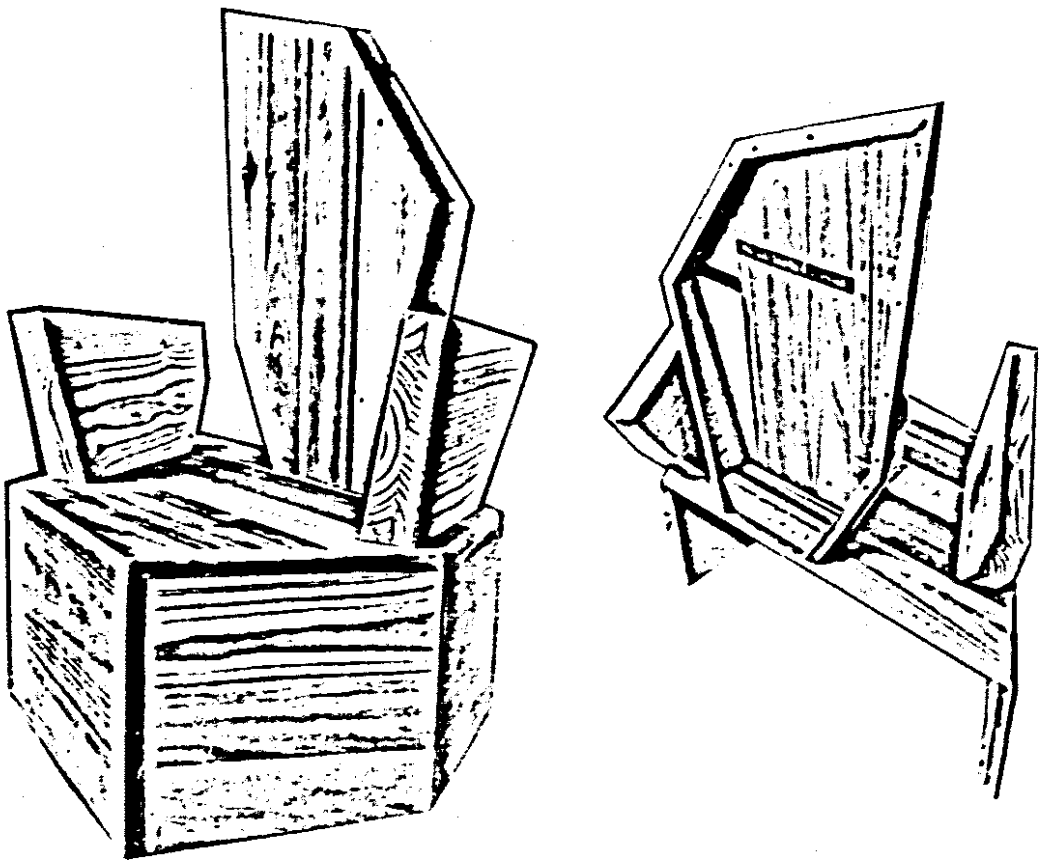


Figure 4.9

The chair's forms reflect sharp edges and bold clean lines consisting of the flat seating area, a majestic backrest and two armrests and not bearing any legs. This produces a disconnection with its surroundings, almost also with the one who will be seated.

This architectural structure of unconventional curves and diagonals, shown in Figure 4.10, is a representation of the globe, our contemporary world. It has been shattered into fragments and then reassembled to represent an iconic emblem of conflict, symbolizing that war shatters the globe. These three fragments act as shards or traces of history interlocking with each other and each representing earth, air and water (Libeskind, 2010). Together the three shards characterize Twentieth Century conflicts that have been fought on dramatic terrain by infantry, in the skies by the air force and in the sea by battleships (Ouroussoff, 2006).

The large rounded metallic forms and organic shapes of the tower and its interlocking fragments (Jones, 2003) served as inspiration for the chair seen in Figure 4.11. The chair has been shotblasted to reflect the scarred aesthetic of discarded wood and the fragmented aesthetic of deconstructivism. The chair's inwardly sloping seating area suggest two sections that fit together, with a metal silhouette of the inspiring building, in Figure 4.10, inserted upright on the seat serving as a short backrest, and two low legs. The seating area has been planed toward its centre so that the seat is not horizontal with the floor, but slopes inwardly, like the 'shards' shown in Figure 4.10. The two wooden sections fitted against one another resemble the shattered globe, the inspiration behind this piece; the suggestion is that the chair had been shattered and these two pieces have been put back together again to form a restored seat.

This visible division shown on the seat of the chair further illustrates the broken, scarred aesthetic of deconstructivism. It also represents the damaged aesthetic of old, thrown away furniture that carries its own scars, and that it can be repaired. The visible division of the seat brings about awareness of sustainability by suggesting that the discarded scrap wood can be reused and reconstructed as a new and functional piece. The division speaks of experiences that have been etched onto the surface area, marking the experience that the wood has undergone before being restructured as a chair. The practice of creating something innovative and original from the thrown-away wood by fitting cut and damaged pieces of wood together is how I have designed for reuse, specifically the reuse of wood and steel.

The element of fire is represented in the chair by the burnt aesthetic of the metal silhouette and the metal inlay on the leg. This finish was achieved by immersing the pieces of metal in mentholated spirits and then setting them alight, controlling the areas to be burnt. The burnt aesthetic on the silhouette and on the metal inlay on the right leg creates the illusion of the reflecting tonal values seen on the building in Figure 4.10. With the element of fire being represented by the chair,

the representation of the elements from the inspiration to this inspired product is complete.

The deconstructive design aesthetic is evident in the apparent uncomfortable character of the chair. Representing the building's three shards, the chair is constituted of three features, namely the form of its low height, an inwardly slanting seating area and the lack of a conventional backrest. The metal silhouette of the building is applied to the seat, as though it could serve as a low backrest, but still not providing adequate comfort.

In spite of the aspects combining in an uncomfortable chair, one could think it to be the deciding factor for this product's success. It is especially these awkward and challenging elements that confront the form and aesthetics of traditional furniture. For this reason, the niche market of daring, unreserved individuals would yield to the chair's appeal and purchase this piece as it is still functional, with an alluring aesthetic.

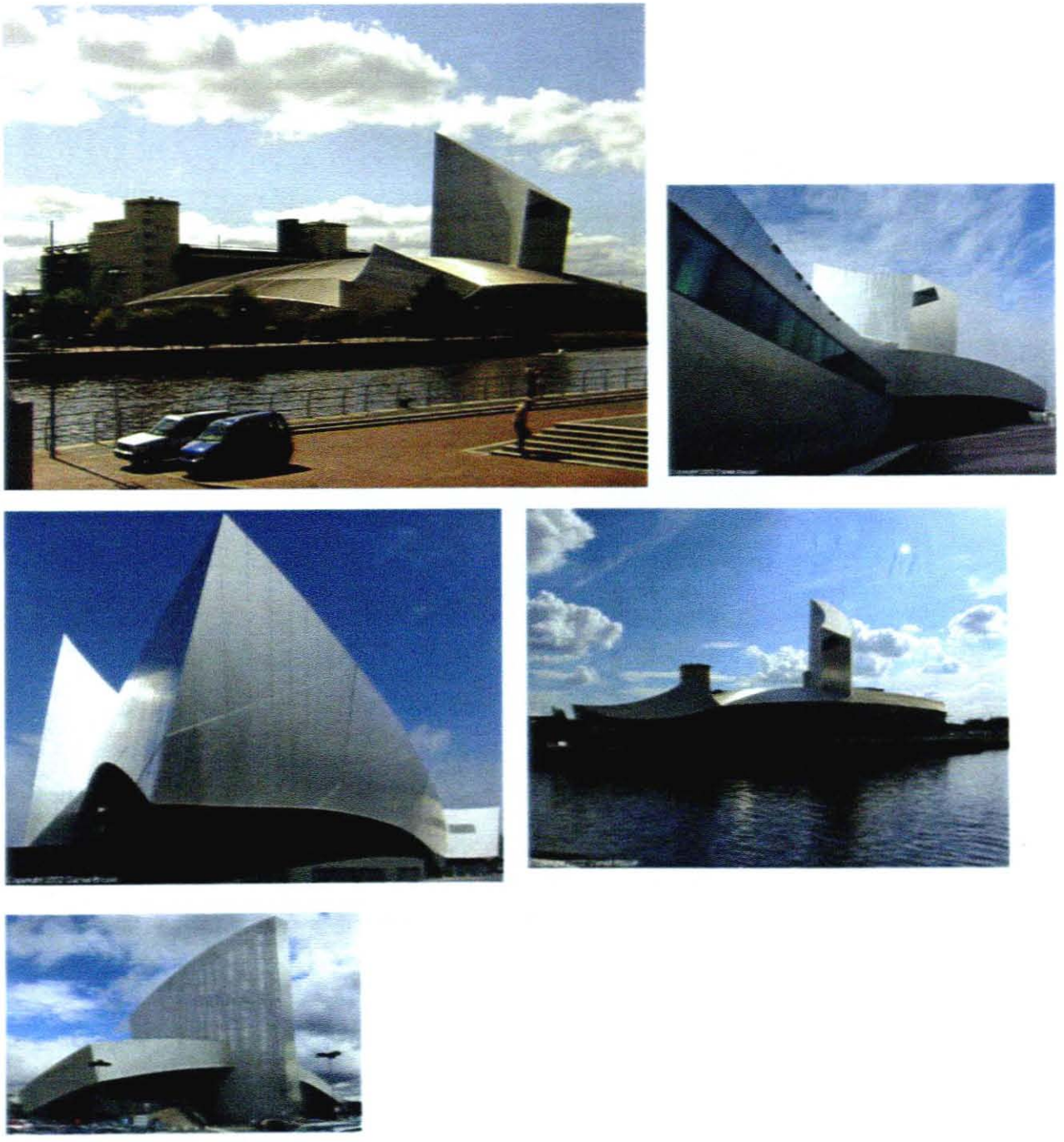


Figure 4.10

Daniel Libeskind, The Imperial Museum, Steel-framed aluminium cladding, 2002. Manchester.

(http://scrapbook.citizen-citizen.com/subjectivity/the_imperial_war_museum/)

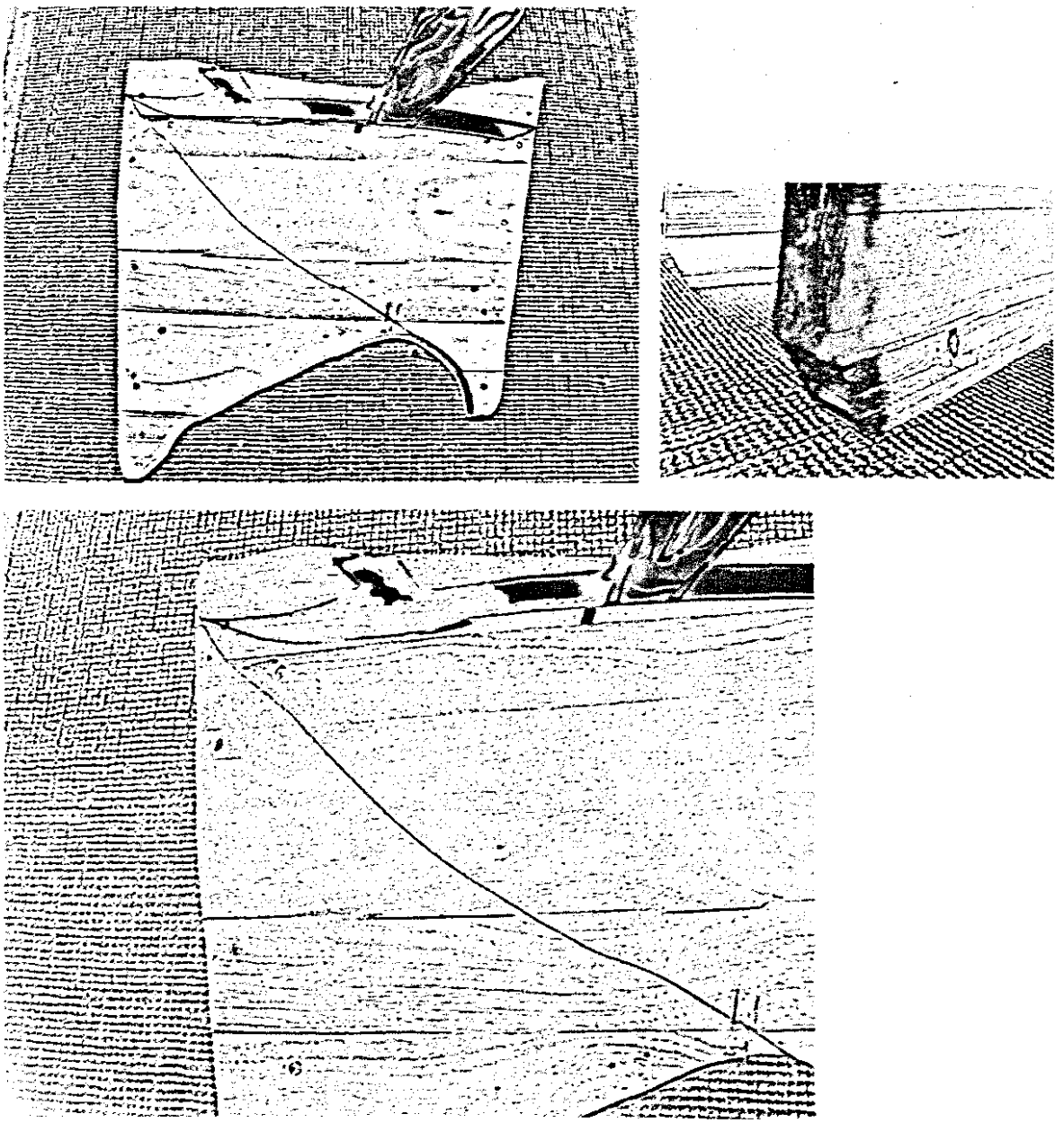


Figure 4.11

The seating shows two sections that fit against one another. These two separate parts have been planed from the outside inward with the two wooden sections fitting against one another to suggest the inspiration of the shattered globe, now showing these two pieces put back together again as if the chair had been shattered.

The building in Figure 4.12 is seen as an extravagantly lyrical structure where the aesthetic is folded, torn, punched, warped, shredded and crinkled. These qualities reflect the collective anxiety of our society, with the twists and tilts in the building, suggesting our culture's unstable adjustment to change (Hill, 2004).

In the table shown in Figure 4.13, the attention is focused on its jagged protrusions of various sizes which represent the turbulent conflict within our society. The protrusions create interruptions and disorder where the design of a conventional table would generally be a solid, whole form. These protrusions imitate the overhanging windows visible on the caved-in exterior of the building. This representation of instability and strife uses these various projections to show that it is the differences amongst individuals that cause our social conflicts. The table furthermore consists of two cut-out sections that overlap one another to form the L-shape of the table. A hollow cavity of the top section of the table is formed by two sheets of metal, tack-welded together. This cavity creates the idea of being unfinished to reflect what Gehry states about the architectural structure shown in Figure 4.12. He did not want the occupants of the building to think it too precious to change; instead he requested that they use the building in manners that could not be foreseen (Crosbie, 2004). Following this the hollow between the overlapping sheets of metal serves as a storage area for any objects that can fit into this space, making this table multifunctional.

The surface of the table imitates the raw, rough texture of the Rocky Mountains. This ragged, ruined effect was achieved by sanding the surface of the table in different directions to roughen it. Imitating the building's folded, angular façade, seen in Figure 4.12, I stuck down tape to create this structured pattern. I then poured hydrochloric acid over the table; the acid eating away at the galvanized surface to reveal the raw, dark metal underneath. At areas it illuminated the galvanized top, creating a reflective replication of its inspiration. The template shows the overlapping lines and broken lines that the acid has formed revealing areas of rust, reflecting my interpretation of a deconstructivist aesthetic.

The table can be seen as a multifunctional piece: as a seat when it is turned upside down, with its low legs pointing upward (Figure 4.13). The three low legs, acting as backrests to the seating, are spaced apart so that one is able to sit straight-legged on this seat. In this manner, this piece recalls the theory of deconstruction, stating that there is no final interpretation. Instead many viewpoints and opinions are possible when unraveling the meaning of this table.

The knowledge of the theory of deconstruction, which states that every individual preserves their own account of interpretive understanding (Pogrebin & Zezima, 2007), can renew the individual's self-confidence. As mentioned above, the projections break away from the usually solid aesthetic of the table, showing how the theory can enable us to positively break from our daily routines. With this knowledge we can discover new and possibly more successful ways of settling our problems and strife. The protrusions represent ourselves as individuals, and that as a society we should not allow our beliefs and characters to become lost in a social order that is fighting so hard to render us all the same.

With this reflection of the theory of deconstruction and the manner in which a deconstructive design aesthetic has been applied to the inspired table, this piece of furniture captures the interest and emotional appreciation of its niche market of unconventional, distinguishing individuals.

Figure 4.12

Frank Gehry, The Ray and Maria Stata Centre, Massachusetts Institute of Technology, Brick, painted aluminium and stainless steel, 2004. Massachusetts.

(http://www.sauer-thompson.com/junkforcode/archives/002436.html)

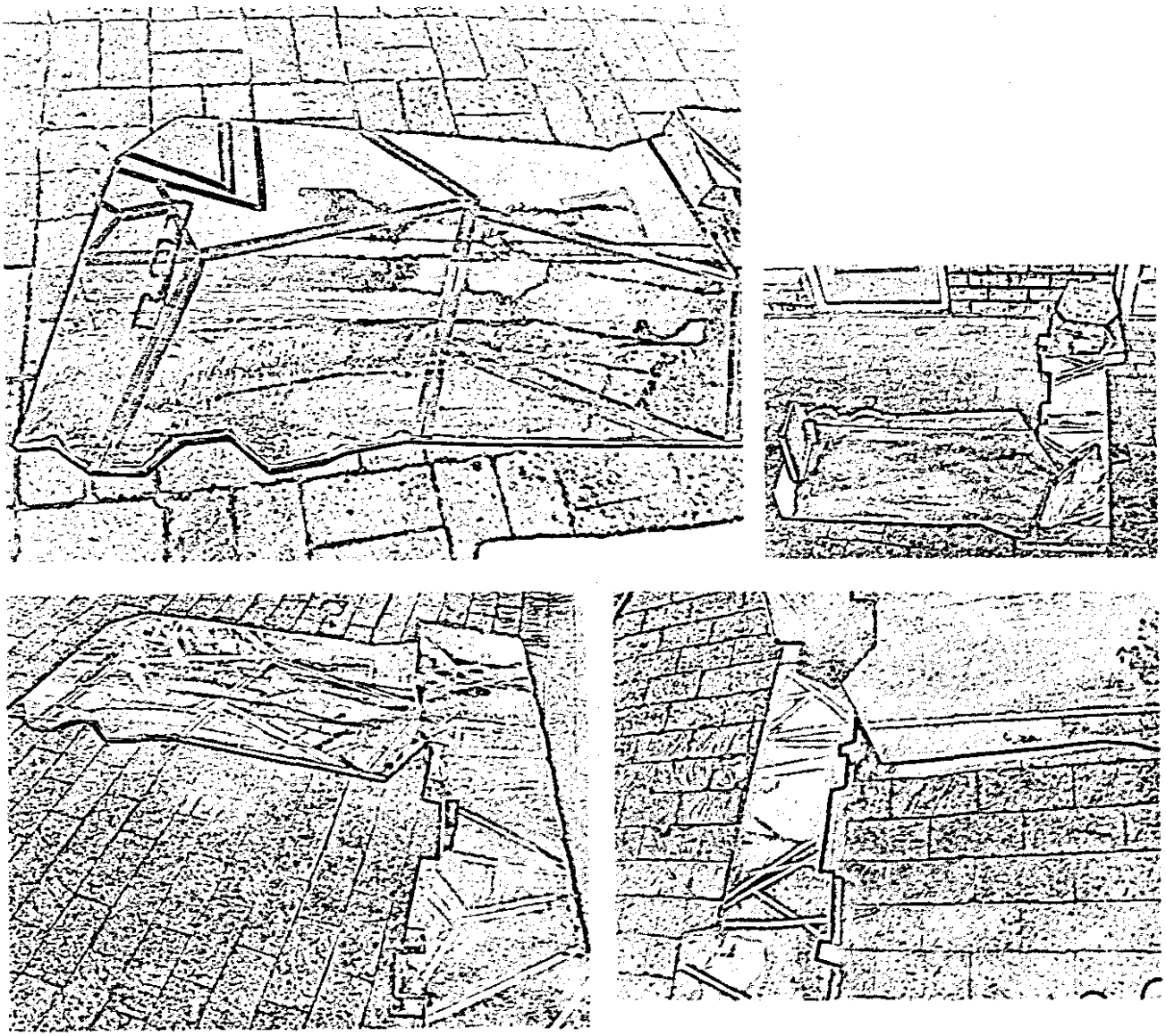


Figure 4.13

The attention is focused on the jagged protrusions of the table, which reflect on the theory of deconstruction while its hollow cavity gives a sense of incompleteness, as if the piece is unfinished.

The architectural structure seen in Figure 4.14 and referred to as 18.36.54, derives its name from its spiraling ribbon of 18 planes, which are defined by 36 points which are connected by 54 lines. The building's diagonal lines make it seem as though it could be moving slowly, creating fluidity when observing this solid structure (dezain, 2006).

The seat in Figure 4.15 has been designed for the outdoor environment such as park settings and other large open areas. This seating is constructed of four irregular shapes that have been inspired by the structure and forms of 18.36.54 in Figure 4.14. The four shapes lie next to and overlap one another at certain points to form the larger shape of prominent diagonals. These four shapes of different heights and sizes represent that all individuals are different and so hold their own opinions and interpretations, as the theory of deconstruction states. The reflective surfaces in the structure's façade (Figure 4.14) break the closed aesthetic, creating a lighter feeling to break the seriousness and introduce a playful, relaxed aesthetic. This feeling is specifically associated with the park setting and any other outdoor environment, where the piece will be placed. These surfaces in Figure 4.14 are reflected in the open spaces between the different levels of the seat. Furthermore, they break the solid aesthetic of the seat; suggesting that interpretation and meaning is an open space to be filled by the individual who contemplates it.

This open park seat is constructed from wood salvaged from old school furniture. The wood has undergone a process of transformation that has made the discarded wood useful once more. Through this process, which is the sustainable practice whereby I designed for the reuse of wood, one realizes the enduring properties of discarded wood. It remains a strong material that can be reused to create a valuable new product.

This sturdy seating structure is constructed for its users to sit and step on the various leveled platforms. The structure is secure and safe enough for adults and especially for children to climb and play on. In this way the structure becomes an interactive apparatus that is integrated into its environment.

The surface finish depicts the outside environment in which the seating is placed. I photographed a courtyard in which the seat would be placed in, being enclosed by the Freeworld Coatings building in the heart of Cape Town. I photographed

the geometric forms seen in this context and allowed these forms to speak to this piece. The surface has been sandblasted and the missing sections on the surface reflect the broken, unfinished aesthetic of deconstructivism.

The seat is also able to function as a low table when designed on a smaller scale. It could serve as a home furnishing either inside or outside the house and it is light enough to move around depending where it will be used. That this piece is able to function as both seating and a low table relates to the theory of deconstruction, stating that there is no fixed interpretation. Furthermore, the theory stresses that there are many viewpoints when unraveling the meaning of any subject.

The deconstructive design of this outdoor seat appeals to its niche market of unreserved, bold individuals. The structure's large size draws attention as it suits the context that it was designed for. As mentioned previously, this piece, if constructed on a smaller scale, could serve as a home furnishing and so is made available to the larger public.

Figure 4.14

Daniel Libeskind, 18.36.54, Steel, 2009. Connecticut, USA.

(http://architecturelab.net/2008/12/07/183654-by-daniel-libeskind/)

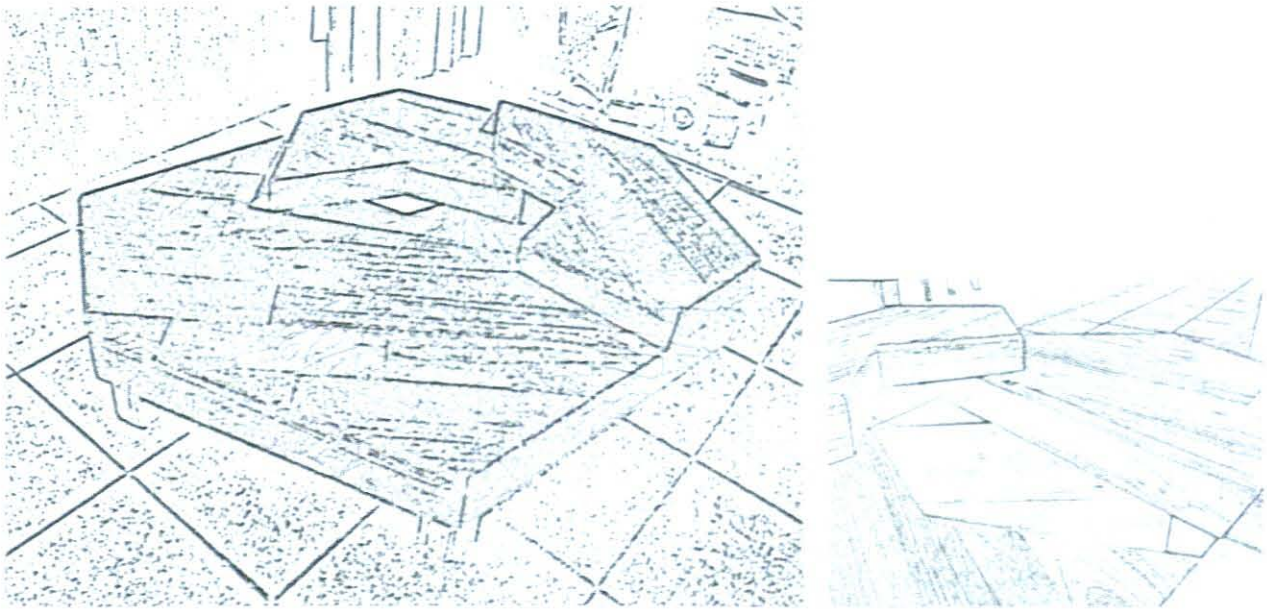


Figure 4.15

This open park seating is constructed of four irregular shapes, varying in height, which lie next to and overlap one another at certain points to form a larger shape of prominent diagonals.

The fluid architectural structure in Figure 4.16, with its asymmetrical curves supports a group of free-flowing volumes at the top that seem to have come together in a train crash (Lazere, 2001). This construction is thought of as a representation of a sailing ship, because of its audacious scale and it being built on the shore overlooking a river (SOLOMON R. GUGGENHEIM FOUNDATION, 2010).

The table shown in Figure 4.17 was inspired by this. The clean lines of the irregular angles forms the two sturdy legs and the elongated table top that reflects the building's free flowing volumes. The legs have been planed toward the outside and the whole piece has been sandblasted to reveal the broken, scarred aesthetic of deconstructivism. The volumes on the table's top have also been planed to repeat the planing of the legs. The elongated volumes are stacked to different levels, breaking the settled aesthetic of the table. They represent the troubles and stresses we are burdened with in the unhealthy society that we live in and continue to live with. As the table carries these wooden volumes, so we carry the baggage that we do not confront, hoping that our unhealthy environment might improve. The sandblasting on the wood has chipped the wood away at places, representing the damage that these circumstances cause. It eats away at our spirit, as the sandblasting has done to the wood, and so ruins us. This attitude persists because we practice ignorance, which never brings a resolution. We are especially ignorant of the need to preserve the environment through sustainable practices, such as recycling and reuse.

The table's surface incorporates a metal grid that is attached to the top by metal hooks. This grid has been hammered into the wooden top, to suggest the irrationality of deconstructivism. The hammering of the grid into the table represents the harsh, cold aesthetic of the building, in Figure 4.16.

The table is multifunctional in also serving as a bench. With the addition of two more legs the bench will be sturdy and safe enough to sit on. This function of the table relates to the theory of deconstruction, which stresses that each person can form an individual interpretation (Gradin, 2007). This piece reminds us that there is more than one way of interpreting any subject matter because the interpretation is not restricted.

If more was made known about the theory of deconstruction, which states that individuals can give account of their own interpretation and find their own meaning, safeguarding the environment would become a priority to us. We would not live as though it is not our problem; we would believe in our understanding and become more responsible individuals.

The deconstructive design aesthetic of the table appeals to its niche market, as it is a piece of furniture related to current circumstances. As the table carries volumes of wood on its top, so we carry our life's baggage with us. When we decide to believe and follow our own knowledge and understanding, as the theory of deconstruction affirms, then we will become free of the unhealthy baggage that defines our lives.

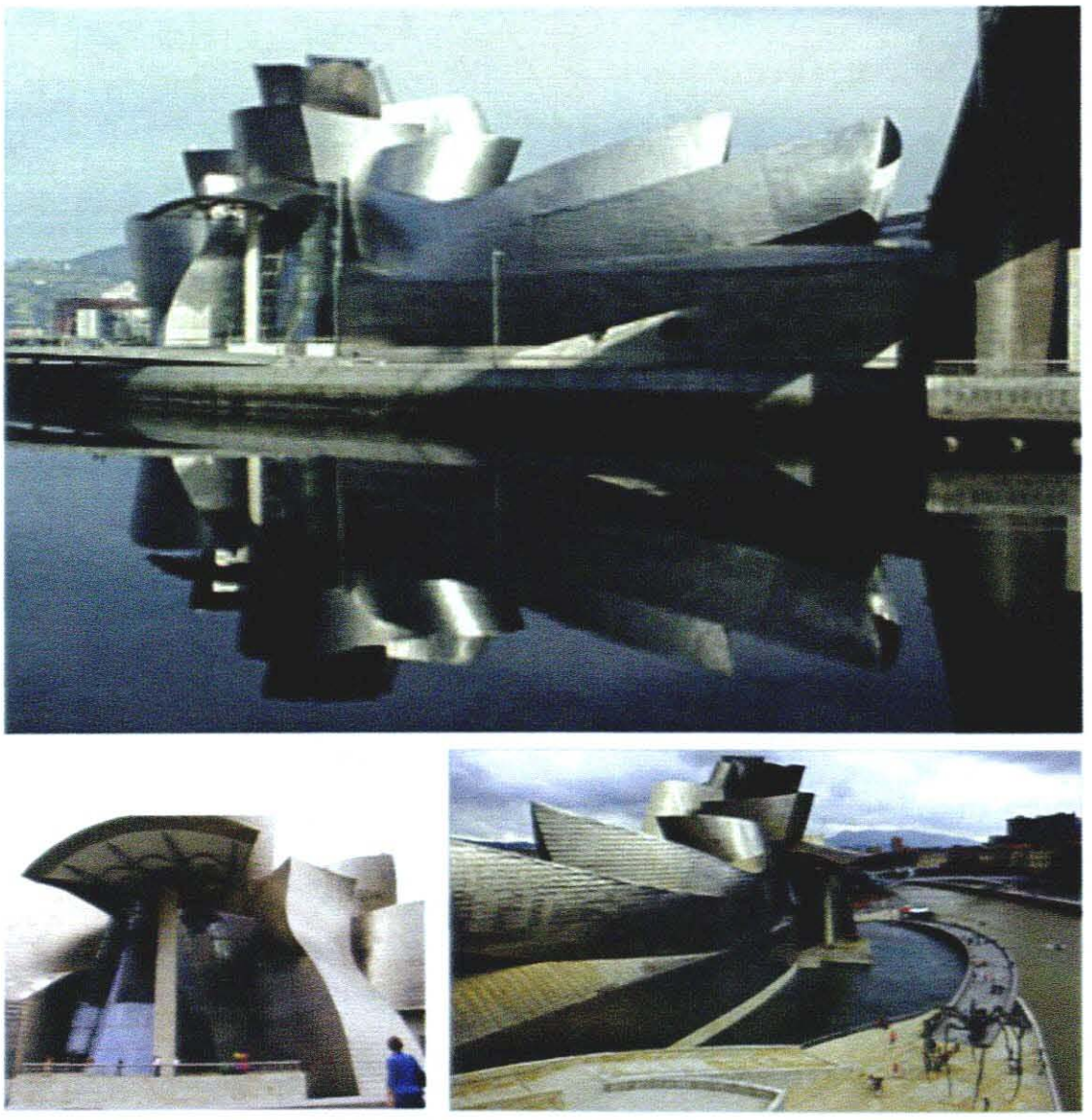


Figure 4.16

Frank Gehry, The Guggenheim Museum, Glass, limestone and titanium, 1991. Bilbao, Spain.

(http://www.fineartregistry.com/articles/art_history/architect-artists.php)

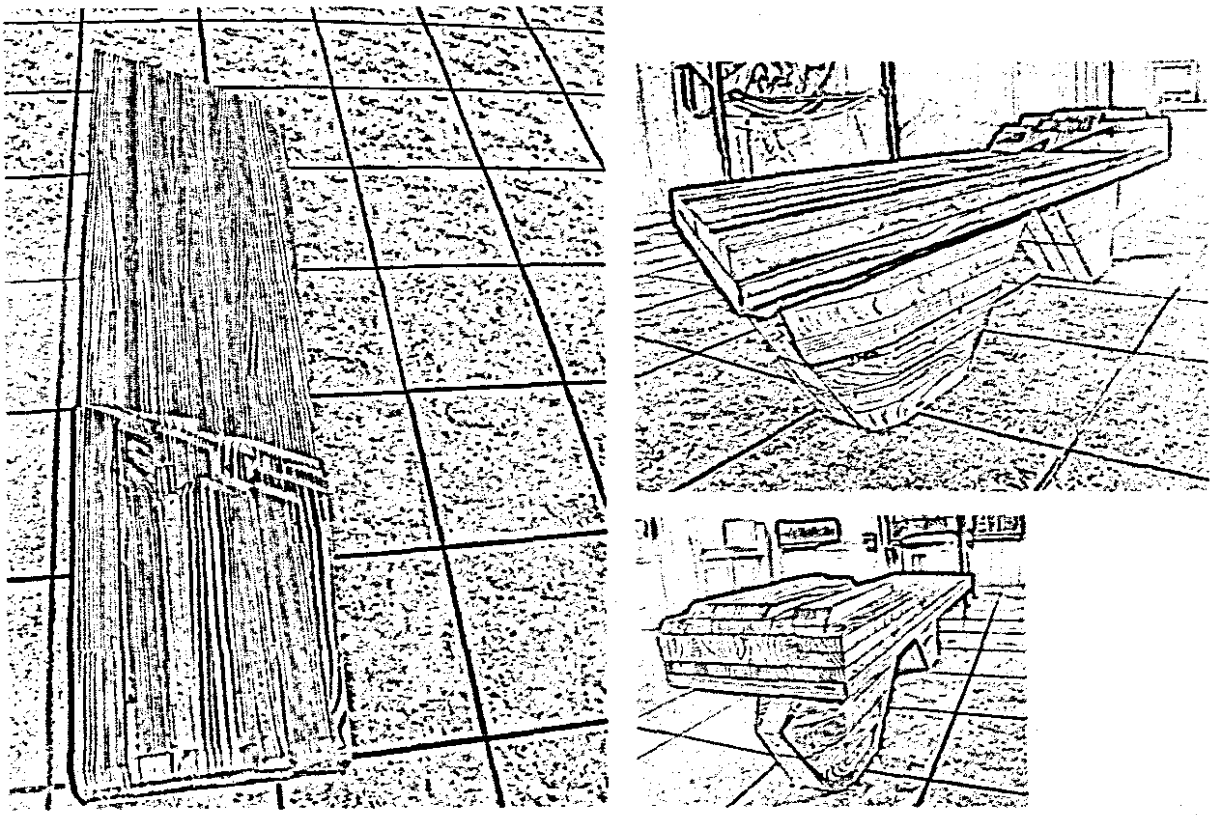


Figure 4.17

The table sees clean lines of irregular angles with a display of free flowing volumes taking up a section of the table top. These volumes are stacked at different levels to attain various dimensions to break the settled, complete aesthetic of the table's design.

The aim of the informal interviews with students from the Commerce Faculty and from the Design Faculty was to gain an understanding of their preferences in furniture design, and whether my deconstructivist-inspired furniture pieces would appeal to them.

With the qualitative approach to the research that I relied on in collecting data I contrasted the two distinct styles: Modernism, namely furniture from the Bauhaus movement, and my contradictory deconstructivist-inspired pieces comprising low tables and chairs. These individual aesthetics were photographed and placed next to one another and the twenty individuals were asked to indicate the style that they preferred. I chose to interview ten students of each of these two faculties as they are two contrasting groups of individuals. They differ to an extent in their thinking, according to what I have concluded from the informal interviews.

The results of my informal interviews proved to be very surprising, as I had pre-conceptions about the opinions and preferences of the students from the Commerce Faculty. The results revealed that a small percentage (40%) of these students showed an interest to the deconstructivist-inspired pieces, while the majority of 60% of the Commerce students preferred the traditionalist furniture aesthetic. Of the Design students the majority percentage of 70% shared a preference for the unconventional pieces inspired by deconstructivism, while the minority percentage of 30% of these students preferred the Modernist furniture aesthetic. Figure 4.18 depicts a graph representing the above-mentioned percentages.

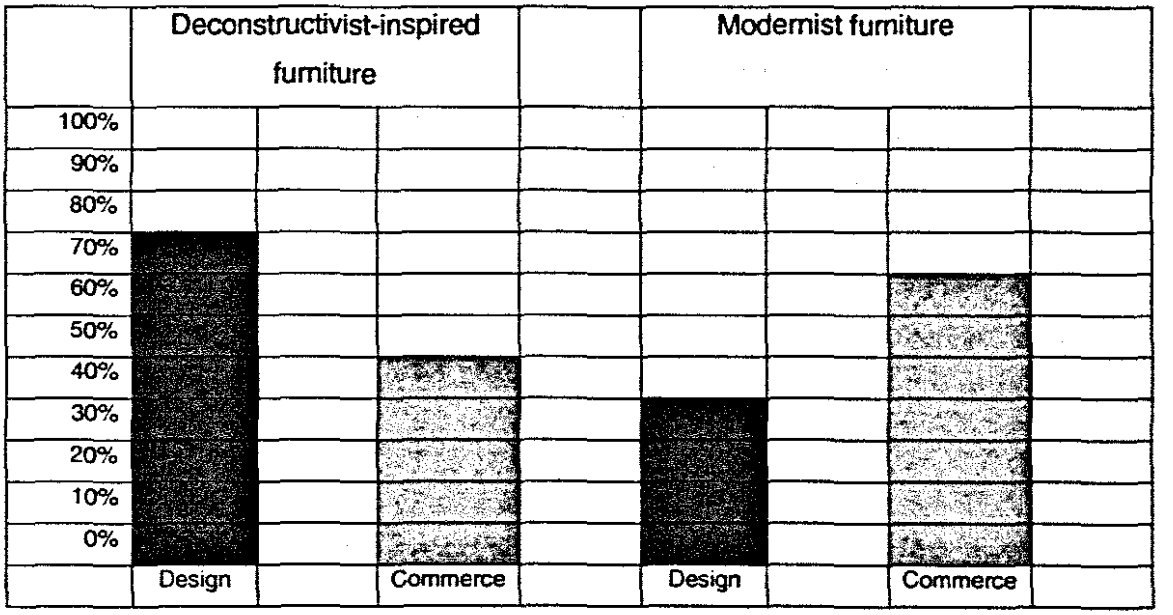


Figure 4.18

A graph depicting the percentages that resulted from the informal interviews

In conclusion: to my data collecting process, the results have proven the success of the deconstructivist-inspired furniture pieces. These pieces promise to flourish as a probable new preference in furniture design. The results have shown that a deconstructive design aesthetic, when applied to furniture, can, in fact, appeal to a niche market.

To conclude this chapter, I have discussed the various development and construction processes of each of my deconstructivist-inspired pieces comprising of low tables and chairs. These construction processes adhere to the sustainable practice of designing for reuse, as these pieces are made from off-cut scrap metal and discarded wooden school furniture. The creative approach entailed handcrafting the deconstructivist-inspired furniture with the aid of electrical hand-tools and heavy-weight industrial machinery.

I have discussed the development process which started with constructing simple small-scale models of the various furniture pieces, before producing it to human

scale. The inspiration for my work was derived from deconstructivist buildings which have given these pieces their unconventional form and aesthetics along with the theory of deconstruction, which recognizes individual interpretation, (Siegel, 2010), which has given a deeper significance of contradiction to the individual pieces. The underlying intention was that these pieces would further knowledge of the theory of deconstruction. This knowledge is needed to spread the awareness of reawakening the individual spirit and developing self-confidence. I believe that increasing our assurance of our own interpretive understanding and beliefs will help us to become responsible individuals and ultimately restore individualism.

I have explained that I have used a qualitative approach. The research process was largely based on secondary sources of information, through which I engaged with supporting theories to my research in order to extend a body of knowledge. Part of my investigation was based on primary research methods, as I collected data by interacting with individuals about my products to establish the possible success of my furniture. This interaction comprised informal interviews with two distinct groups of students, namely Commerce Faculty students and Design Faculty students.

The results of the informal interviews showed a majority of Commerce Faculty students preferring the traditionalist furniture aesthetic while a small percentage of them adhered to the deconstructivist furniture and the Design students indicated a majority percentage preference for the unconventional pieces, while a minority of the students preferred the Modernist furniture aesthetic.

Thus concluding the data collecting process, the results have proven the success of the deconstructivist-inspired furniture pieces, attesting that they could flourish as a probable new preference in furniture design and proving that a deconstructive design aesthetic, when applied to furniture pieces, can in fact appeal to a niche market.

CHAPTER FIVE

Market feasibility

In this chapter, I am to present a probable business plan with the purpose of starting a company for the marketing and retailing of deconstructivist-inspired furniture pieces. The company, *FurniTECTURE,* designs and manufactures exclusive, unconventional, furniture pieces in the form of low tables and chairs, whilst also participating in a sustainable practice.

1. Executive Summary

Introduction

FurniTECTURE is a designer and manufacturer of exclusive, one-of-a-kind pieces of furniture comprising low tables and chairs made of off-cut wood and scrap metal that have been inspired by deconstructivist architecture. This aesthetic visualizes complex geometries and angles, presenting a contradiction to the traditional forms of buildings. The furniture produced by *FurniTECTURE* aims to challenge the traditional form and aesthetics of furniture design. All the pieces are designed and finished by Melanie Pietersen and constructed by The Woodpecker, a carpentry company, by which the wooden furniture will be produced and Fabrinox, a steel company, which will produce the steel furniture. The business is partially home-based, with the products being sold through design and art exhibitions, design expos and through select furniture retail stores.

The owner, Melanie Pietersen, discovered a gap in the local retail segment of the furniture market for contemporary furniture for pieces that contradict the conventional form and aesthetics of modernist furniture, acting as one-of-a-kind pieces. The inspiration of a deconstructivist aesthetic provides the consumer with a new choice in furniture design and this aesthetic separates these pieces from that which is already available everywhere today.

1.1 Company Summary

FurniTECTURE is a custom manufacturer of deconstructivist-inspired furniture. Pieces on offer comprise low tables and chairs. All the pieces are designed and finished by Melanie Pietersen and constructed by The Woodpecker, a carpentry company and Fabrinox, a steel company. The wooden products are handcrafted with the aid of electrical hand-tools while the steel products are all laser cut for precision and then easily assembled. The individual pieces are assembled from off-cut wood and scrap metal with both materials being incorporated in the pieces. Various finishes are experimented with to add interest to the pieces and to contribute to the deconstructivist aesthetic. The business will be partially home-based, for the design process while the construction processes will take place at the manufacturers of the wood and steel pieces. Melanie will sell the pieces through design and art exhibitions as well as through well-known, exclusive furniture retail stores.

1.2 The Mission

The company's mission is to satisfy the needs of customers who seek a product and a service simultaneously. With its deconstructivist aesthetic, the company is focused on providing a new customer choice in furniture design where customer opinion and preference is highly regarded.

FurniTECTURE exists to attract and maintain customers and by adhering to this responsibility we can be assured of successful exposure and the realization of our brand. The services that we provide will surpass the expectations of our customers.

1.3 The Market

The furniture industry is highly fragmented with thousands of designers competing for distribution contracts and recognition. Some of these designers work and distribute their products locally, while others have arrangements with national distribution organizations. Some of these designers design products that are manufactured by larger companies whilst others design and produce the products themselves.

The competition for *FurniTECTURE* includes:

- Designers who are creating one-of-a-kind furniture products and manufacturing them on a large scale and distributing their products locally.
- Designers such as Melanie who are re-using discarded or redundant materials and thereby continue toward a sustainable practice.
- Designers such a Melanie who design products themselves and have them produced, but do the wholesaling and retailing themselves.

The company is focused on a niche market consisting of the following distinct groups of customers:

- Exclusively selected furniture retail stores, as a means of distribution and generating exposure.
- Potential consumers visiting furniture retail stores and design and art exhibitions, shows and expos.

1.4 Competitive Advantage

The company's competitive edge is based on the innovative design and execution of products, the result of professional handcraftsmanship and modern technology. The creation of a quality product for a curious individual who is intrigued by unconventionality in design, specifically furniture design, sets this edge. This individual is drawn to this product which is not commonplace, yet remains efficient and functional. Another competitive advantage is the company's

creation of a contemporary product that is combined with customized service, where customer's opinions and preferences are taken into consideration.

1.5 Management Strengths and Weaknesses

Strengths

- Ability to adapt to the conditions of change within the market as well as the business and to swiftly make decisions, if necessary, to take advantage of an opportunity.
- Works well under pressure.
- Able to multi-task.
- Good leadership skills that ensure that the work gets completed.
- Enjoying working with people.
- Equipped with computer programming knowledge of Photoshop, CorelDraw and Illustrator.
- Equipped with silkscreen printing knowledge, if textiles as upholstery would later be a preference of the customer.

Weaknesses

- Procrastination as a result of getting distracted quite easily and then attending to things at the last minute.
- Indecisive at times, when design decisions need to be taken.
- Tends to spend more money than initially planned; finds it difficult to always stick to the budget. Contains partial knowledge of accounting and bookkeeping, but not enough knowledge for administration purposes.

2. Description of Business

FurniTECTURE is a custom manufacturer of deconstructivist-inspired furniture pieces comprising low tables and chairs made from off-cut wood and scrap metal, with both materials being incorporated in the pieces. The wooden products are handcrafted with the aid of electrical hand-tools while the steel products are made to computer-aided designs; the various parts are laser cut and then easily assembled. All the pieces are designed and finished by Melanie Pietersen with the aid of The Woodpecker constructing the wooden furniture and Fabrinox constructing the steel furniture. The business will be based out of her home studio where the design and finishing processes will take place. Melanie will sell the furniture pieces through design and art exhibitions, as well as through well known exclusive furniture retail stores.

The company will attract potential customers to purchase these furniture pieces because they provide a new, fresh preference in furniture design as apposed to conventional furniture which the industry is constantly producing. These pieces are based on one-of-a-kind furniture designs with an unusual aesthetic, with these factors urging potential customers to be motivated to purchase the furniture because we are a society so curious for the strange and uncanny offerings of life.

3. Market Analysis

3.1 Industry description and outlook

The furniture industry is an extensive and diverse industry. The trade boasts of an innumerable amount of designers who are producing a vast range of innovative and intelligent furniture products. These products show an enduring trend toward the popularity of home and wood furnishings because the latter displays the love of natural things (jurgita, 2008). This gives the illusion of permanence and so this niche is continuing to see a higher level of expectation in terms of design detail (Aronson-Korot, 2009). The process of transformation, which Melanie is practicing in constructing these pieces of sustainable furniture

has become synonymous with the movement of sustainability, as one of the biggest trends that have emerged in recent times (Nexis, 2009). The innumerable amount of designers, along with many others from a variety of design disciplines, have started to take part in interdisciplinary design practices by investigating unknown and untried territory with the fusion of their attained skills to create products of diverse aesthetical value. This is when design brings together various creative skills in products of diversity.

There are artists and designers from the various cities in the country who manufacture products, specifically furniture products. They sell their products to and in large department stores; they exhibit their works in galleries and at exhibitions; some designers sell their products via a website. Another group of designers will travel with their products and sell that which they carry with them. All these factors depend on what the designer's goal and objectives are and what image they want to portray.

3.2 Customers

FurniTECTURE focuses on catering to a niche market of the following target groups of consumers: Exclusively selected furniture retail stores and individuals or consumers visiting design and art exhibitions, shows and expos.

- **Exclusively selected furniture retail stores**

  These retail stores are those focused on the furniture market. They are either exclusively situated in a shopping mall or they are one of many stores situated in popular areas such as Long Street or Loop Street in the CBD of Cape Town or in Woodstock. These stores could offer floor space at a cost or they could receive your products on delivery.

  The stores that would typically be interested in *FurniTECTURE* designs are more up-market and contemporary and they take bold steps in their design choices; these stores similarly specialize in selling one-of-a-kind

pieces. They appeal to a niche crowd who are in favour of expressive, unconventional and intelligent design. These stores would most likely be situated in the city or in an up-market mall known to house exclusive stores.

- **Potential buyers or consumers**

  These groups of consumers act as potential buyers who own and visit furniture retail stores and exhibitions. They have become familiar with *FurniTECTURE* as a result of stumbling upon the company's website displaying examples of Melanie's work or they have heard of the company by word of mouth or have read an article that covered the company in one of the many design magazines available. The individual would then view the various pieces shown on the website to see where they are available to be purchased, with prices on request in the store. As the company incorporates customized service for their customers as well, this group of consumers, requiring a custom design and manufacture service, may contact Melanie via email, fax or telephonically to arrange for a consultation.

  The margins in making individual sales are greater as no distribution layer is involved. On the other hand, if the company aims at making individual sales in a store, this distribution must be in place, therefore the reason for greater margins will result more positively through direct sales at exhibitions and the customized service which is a direct path from *FurniTECTURE* to its end consumer.

  The particular individuals who are characteristically attracted to this style of furniture usually are from the cities and they are fairly daring, unreserved individualists. They are not afraid of expressing a style of their own, especially if it does not adhere to the social norm. The reason for this is that the pieces speak daringly as bold pieces in their stance that most

certainly challenge a traditional aesthetic in furniture design. The pieces consist of the complex forms of deconstructivist architecture, which produce an unconventional aesthetic, bringing about the break with traditional furniture. It is for this reason that more expressive individuals will see and appreciate the value in *FurniTECTURE* designs.

The customized service which the company provides to these potential customers is attractive in the way that it takes into consideration the customer's opinions, preferences or ideas. In this way the customer can play a role in the design's development before the manufacturing process is set in motion.

3.3 Target Market Segment Strategy

FurniTECTURE is targeting exclusive furniture retail stores, such as VAMP in Woodstock, for example, as well as other innovative individuals as they will be the most likely stockists of such contemporary designs, i.e. one-of-a-kind products. Such innovative individuals are also the most likely purchasers of the furniture pieces.

The retail stores will first approach *FurniTECTURE* by means of coming into contact with Melanie after having seen examples of her furniture pieces on her website or at a design exhibition. Another method of contact between *FurniTECTURE* and the retailers is that Melanie makes contact with them to show samples of her products. The retailer's interest in the pieces is proof that the delivery will be accepted by the store. In this manner, a long-term relationship will be formed between Melanie and the store where they will encourage more deliveries of her furniture products to be sold in their store.

FurniTECTURE's target market for potential consumers will be established from the success of exhibitions. These are customers visiting the store and those regularly visiting the website where examples of Melanie's work can be viewed

along with a list of stockists. Furthermore, individuals who are seeking service delivery will come across the website, possibly by referral or a targeted web search. These individuals should then make an appointment to arrange a consultation with Melanie, via email, fax or telephonically. The potential customer can also visit one of the stores that are listed on the website to view the product samples in person if they wish to place an order.

3.4 Competition

The furniture industry involves a large number of designers who are designing contemporary furniture and distributing their products locally while others have national distribution arrangements. There are also those designers who design products that are manufactured by larger companies while others design and make the products themselves.

S.W.O.T Analysis

Strengths

- There is more than enough working space, even though the company is home-based, so even if the workload gets too chaotic, the studio space will not become cramped.

- There are no expenses for purchasing office equipment such as tables and chairs as these are already provided for and available at home.

- With the company being partially home-based, there are no expenses due to rental.

- The supply of thrown-away, off-cut wood, in the form of old school furniture for constructing the wooden furniture pieces, has been granted to

the company free of charge by Noorder-Paarl High School and they will make an annual donation of raw material toward the company.

- The laser cutting, the means of shaping the steel furniture, enables this production process to be efficient as it ensures that assembling the furniture is easy and straightforward.

- The steel factory, Fabrinox, at which the sections involving steel are produced, provides the company with scrap metal at an exceptionally affordable price.

- The two manufacturing companies that construct the wooden and steel furniture, The Woodpecker and Fabrinox respectively, are in close proximity for Melanie to keep track of the production process with ease.

- The owner of The Woodpecker, where the wooden furniture is produced delivers the finished pieces at the home-based studio free of charge.

Weaknesses

- With the company additionally offering a customized service to its customers, it is possible that the workload could become somewhat problematic if delivery dates and deadlines clash.

- The capital is limited as only one person is contributing toward it.

- The steel factory, Fabrinox, also caters for other major companies that generally place bulk orders and therefore are constantly busy with other work. This means that my furniture takes longer to be produced, even though I remain in regular contact with them via email and telephonically, to keep track of the production process and progress.

Opportunities

- The display of my furniture at design exhibitions, shows or design expos will create an opportunity for me to network with other designers in the industry and so develop contacts with these designers and such contacts as furniture retail owners who show an interest in the work produced at *FurniTECTURE*. These store owners could possibly propose the use of floor space for the furniture to be sold in their stores.

- The display of my furniture at design exhibitions, shows or design expos will create exposure for the *FurniTECTURE* brand and possibly allow for the sale of the products.

- With the furniture being displayed in the store of a furniture retailer, another new group of customers will be exposed to the brand.

Threats

- Larger companies who hire many designers and labourers to produce their products for local distribution.

- Should pieces be placed in a furniture retail store and not sell quickly enough or at all, the desired income does not result.

- The long periods of time between design exhibitions, shows and design expos along with failure to generate income from the products in a store, will leave the company with no choice but to wait for business opportunities to come along.

- If a piece of industrial machinery breaks down or becomes out of order for an unspecified period of time, speaking especially of the steel factory

Fabrinox producing the steel furniture, the result would be loss of production time.

3.5 Competitive Advantage

FurniTECTURE's competitive edge is based on the innovative design and execution of these deconstructivist-inspired furniture pieces. This competitive edge is obtained only as a result of experienced handcraftsmanship and modern technology combining to create a quality product for the inquisitive and daring individual who finds interest in the unconventionality of these articles of furniture. These pieces are not commonplace, yet they remain efficient in fulfilling their functions. The furniture displays an unconventional aesthetic that is based on the complex geometries of the architectural structures of deconstructivism by which they are inspired. These complex forms inspire innovative design that is multi-functional and contradicts the rationalist traditions of Modernism.

Another competitive advantage is the customized service that is offered to our customers, which entails that their opinions and preferences are taken into consideration during the design process. In this manner the company builds a strong working relationship with their customers by means of integrating their ideas and seeing to it that their needs are met at all times. Our competitive advantage is in ensuring that punctuality with regard to the customer is practiced in every part of the design practice – from the designing process to the manufacturing process and finally the finishing process, the company's word will be their honour.

4. Marketing and Sales Strategy

FurniTECTURE's sales strategy will be targeted with the aim of obtaining a number of exclusive furniture retail stores to carry Melanie's furniture. This will be done as follows:

1. Melanie will visit various exclusive furniture retail stores to interact and create networks with the storeowners or managers so as to become acquainted with them, also showing them products designed and manufactured by *FurniTECTURE*.

2. Attending design exhibitions, shows and design expos to display the products designed and manufactured by *FurniTECTURE*. At such venues well-established and fresh names in the industry attend, as well as store owners who are present with the intention of meeting designers and forming possible business relationships with them.

3. The placement of the company's business cards or information booklets in the furniture retail stores where the *FurniTECTURE* products will be stocked. Ensuring that the business cards or information booklets are available at the design exhibition stand where the furniture will be exhibited.

5. Operations

5.1 Office/Facility requirements

The company is partially based out of Melanie Pietersen's home studio. The facility where the production of the furniture takes place, The Woodpecker and Fabrinox, are situated close to the home studio and in driving distance of the studio. As these two industrial units are close to the studio, Melanie is able to keep close contact with the production processes of the various products. She is also able to be an active participant in the construction and assembling

developments of the furniture products. The studio is converted from a garage and therefore allows a lot of working and storage space, and is not situated in an open area, in full view of its customers. Instead it is situated in a central and well-known area. The geographical location of the company is therefore not seen as a disadvantage, as the familiarity of the area will not cause trouble to the customer in locating it. This studio only serves the purposes of the designing process. Melanie keeps in contact with her customers via email or telephonically, both from her home studio. Consultations with customers also take place at the home studio or at a central and frequent meeting spot, wherever more comfortable and accessible for the customer.

5.2 The Product and Service

FurniTECTURE designs and manufactures pieces that are inspired by deconstructivist architecture. The furniture takes the form of low tables and chairs constructed from discarded scrap metal and wood. The pieces reveal the complex angled geometries that are prominent in deconstructivist architecture, which establishes a contradiction to the traditional building form. With the inspiration of this challenging style, I aim to contradict the conventional form and aesthetics that furniture design adheres to. The various segments of off-cut wood and scrap metal that form the individual pieces of furniture are handcrafted with the aid of electrical hand-tools and are laser-cut to precision, respectively.

These solid materials of off-cut wood and scrap metal have been selected because their reuse from a discarded state makes a vast contribution towards sustainability. These materials impact on architecture where they are an everyday commodity in the construction of architectural structures. The strength of materials is of immense importance in architecture to ensure that the building is securely built because it houses people; this same principle applies to furniture design. Furniture should similarly be securely built as it also serves people, just from a different approach.

The wooden furniture is suited to a more handcrafted approach through the use of electrical hand-tools to cut the desired shapes and to plane the different parts where desired. The various parts are either joined with screws or glued together with very strong wood glue. The steel sections constructed from off-cut galvanized metal sheets are tack-welded together to form a square from which to laser cut the different parts. These welding marks are exposed and therefore accurately display the raw deconstructivist inspiration. The laser cutter cuts incisions at the desired places where the different parts have to be fitted together, which make the assembling process very efficient.

5.3 Suppliers

The major suppliers of the raw materials for the business include:

Fabrinox: They are not only the manufacturers of the steel furniture, but they also supply *FurniTECTURE* with the off-cut scrap metal in the form of galvanized steel, stainless steel and mild steel for the furniture production at a very affordable price. Fabrinox makes a vast range of finishes available to the various metals which they provide, in the form of matte or gloss finishes in a range of colours, spray painting and sandblasting to name but a few.

Noorder-Paarl High School: This school supplies the discarded school furniture and off-cut wood that is used to produce the wooden furniture. The discarded furniture comprise school desks and tables with metal frames still attached, laboratory shelves and desks, chairs of solid wood and of wood attached to metal frames, empty drawers, locker cupboards, wooden poles and off-cut pieces of wood. These pieces could no longer be used by the school and I was granted permission to remove the furniture from the property to produce the wooden furniture. The school will annually supply me with this raw material, in the form of similar unused school furniture that they would otherwise just dispose of at a garbage dump.

Mica Hardware Store: They supply *FurniTECTURE* with BRUMMER Balcotan Waterproof Wood glue and screws for the assembling of the wooden furniture pieces.

6. Management

6.1 Background and experience of key owner

FurniTECTURE is owned and operated by Melanie Pietersen. It will be formed as a close corporation that will allow for a future employee to enter the business if deemed necessary.

Melanie followed the BaccalaureusTechnologiae (BTech) Degree in Surface Design at the Cape Peninsula University of Technology in Cape Town. At the University of Technology, Melanie became familiar with computer-aided design programmes such as Adobe Photoshop, Illustrator, CorelDraw and Microsoft Office PowerPoint. Her tertiary education trained her in the use of various surface techniques such as silk screen printing, sandblasting, laser cutting and various dyeing techniques on surfaces such as paper, fabric, glass, Perspex, wood and metal. She made use of a government funded craft centre laboratory for students, The FabLab, which specializes in laser cutting of a wide range of materials.

Her BaccalaureusTechnologiae (BTech) Dissertation and practical component entailed the construction of furniture in the form of low tables and chairs inspired by the architectural structures of deconstructivism. Towards the completion of her studies she realized that she had developed a passion for furniture design and that she wanted to develop her own business practice around it. Here she would design and manufacture, with help from larger companies, and then distribute these architecturally-inspired pieces.

6.2 Professional Services

The professional services of a qualified accountant, an aunt of Melanie's, will be engaged to handle the administrative work of the company.

7. Financial Requirements

FurniTECTURE's start-up costs will include the following equipment for the home-based business:

Fees for creating a website
A photo copying machine
(Melanie currently owns a PC with CD-RW, Adobe Photoshop, CorelDraw and Microsoft Office PowerPoint; an A4 colour printer; ADSL is currently running)
A fax machine
A light box
An extra telephone landline
Strip agents (to prepare the steel products for finishing)
Finishing agents

Raw materials:

off-cut scrap metal (galvanized steel)
thrown away wooden school furniture and wood off-cuts
screws
wood glue

Start-up Expenses

This includes: stationery, website development and raw materials

TOTAL START-UP EXPENSES: **R 3 000,00**

Start-up Assets

This includes: photo copying machine, fax machine, extra telephone landline

TOTAL START-UP ASSETS: **R 10 000,00**

Long-term Assets

This includes the light box, which is an essential part of the running of the business.

TOTAL LONG-TERM ASSETS:	**R 13 000,00**

Start-up Assets:

Start-up cash required	R 10 000,00
Long-term Assets	R 13 000,00
TOTAL ASSETS	**R 23 000,00**

Start-up Funding

Start-up expenses to fund	R 3 000,00
Start-up assets to fund	R 23 000,00
TOTAL FUNDING REQUIRED	**R 26 000,00**

CAPITAL

Planned investment

Melanie Pietersen	R 25 000,00
Bank Loan	R 35 000,00
TOTAL PLANNED INVESTMENT	**R 55 000,00**

8. Financial Data

8.1 Cash Flow Projection

The first year of business, on a month-to-month basis of 12 months for the year ending 31 December 2011

furnItecture

by melanie pietersen

Cash Flow Statement for the year ended 31 December 2011

FurniTECTURE furniture design and manufacture *Financial year begins Jan 01*

	Pre-Startup EST	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Dec 01	Total Item EST
Cash on hand (beginning of month)	25 000	50 580	51 630	53 810	53 751	58 330	59 837	64 561	69 907	70 237	74 719	76 430	80 471	80 471
CASH RECEIPTS														
Cash sales	0	2 000	2 500	1 999	4 040	2 450	3 450	3 760	3 500	3 659	2 320	3 400	3 880	
Collections from CR accounts	0	2 200	2 680	1 577	4 000	2 930	5 002	4 860	3 850	4 159	2 820	3 999	4 317	
Loan/other cash injection	30 000	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL CASH RECEIPTS	**30 000**	**4 200**	**5 180**	**3 576**	**8 040**	**5 380**	**8 452**	**8 620**	**7 350**	**7 818**	**5 140**	**7 399**	**8 197**	
Total Cash Available (before cash out)	55 000	54 780	56 810	57 386	61 791	63 710	68 289	73 181	77 257	78 055	79 859	83 829	88 668	80 471
CASH PAID OUT														
Purchases (raw material)	250	300	150	200	450	200	310	250	180	200	160	160	185	
Purchases (specify)	350	0	300	0	325	0	70	50	0	100	23	0	54	
Gross wages	0	0	0	0	0	0	0	0	0	0	0	0	0	
Payroll expenses (taxes, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Outside services	1300	1 500	1 200	2 000	1 269	2 315	1 550	1 440	5 200	1 547	1 750	1 580	1 955	
Supplies (office & oper.)	300	0	0	0	50	20	0	0	0	0	0	0	0	
Repairs & maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	
Advertising	2 000	0	0	0	0	0	0	0	0	0	0	0	0	
Car, delivery & travel	100	50	50	60	55	40	50	70	100	55	60	120	120	
Accounting & legal	0	0	0	0	0	0	0	0	0	0	0	0	0	
Telephone	50	50	50	76	55	50	46	66	100	60	50	98	75	
Utilities	0	0	0	0	0	0	320	0	0	0	0	0	0	
Insurance	0	0	0	0	0	0	120	120	120	120	120	120	120	
Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other expenses (internet)	70	50	50	69	57	48	62	78	120	54	66	80	123	
SUBTOTAL	**4 420**	**1 950**	**1 800**	**2 405**	**2 261**	**2 673**	**2 528**	**2 074**	**5 820**	**2 136**	**2 229**	**2 158**	**2 632**	**0**
Loan principal payment	0	1 200	1 200	1 200	1 200	1 200	1 200	1 200	1 200	1 200	1 200	1 200	1 200	
Capital purchase (specify)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other startup costs	0	0	0	0	0	0	0	0	0	0	0	0	0	
Reserve and/or Escrow	0	0	0	0	0	0	0	0	0	0	0	0	0	
Owners Withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL CASH PAID OUT	**4 420**	**3 150**	**3 000**	**3 605**	**3 461**	**3 873**	**3 728**	**3 274**	**7 020**	**3 336**	**3 429**	**3 358**	**3 832**	
Cash Position (end of month)	50 580	51 630	53 810	53 781	58 330	59 837	64 561	69 907	70 237	74 719	76 430	80 471	84 836	80 471

8.2 Income Statement

For the year ended 31 December 2011.

Income Statement for the year ended 31 December 2011

furnItecture

by melanie pietersen

SALES		36 958
COST OF SALES		- 1 076
GROSS MARGIN		35 882
OPERATING EXPENSES		**35 086**
Merchandise (raw materials)		2 995
Purchases (specify)		1 272
Outside services		24 606
Supplies (office & oper.)		370
Advertising		2 000
Car, delivery & travel		930
Telephone		826
Utilities		320
Insurance		840
Other expenses (internet)		927
OPERATING PROFIT (before tax & interest)		**796**
TAX		**0**
INTEREST		**0**
NET PROFIT (after tax & interest)		**796**

To conclude this chapter, I have presented a probable business plan, with the purpose of starting a company which will market and deal in the sale of these deconstructivist-inspired furniture pieces. These pieces aim to challenge the traditional form and aesthetics of furniture design. The company, *FurniTECTURE,* with Melanie Pietersen as the owner and designer, will manufacture exclusive, one-of-a-kind pieces of furniture comprising low tables and chairs of off-cut wood and scrap metal. In this manner the company will follow the route of a sustainable practice in designing for the reuse of wood and steel.

The company manufactures these furniture pieces with the aid of The Woodpecker, a carpentry company producing the wooden furniture, and Fabrinox, a steel company, at which the steel furniture is produced. Both of these companies are in close proximity to the business. The business is partially home-based, with the products being sold through design and art exhibitions, design expos and through select furniture retail stores. The brand boasts of a niche market of unreserved, daring individualists who express themselves in a style their own.

A probable Cash Flow Projection and Income Statement for the business recording feasible amounts of income and expenditure for the duration of twelve months have been drawn up. From the Income Statement I calculated a profit made for the twelve months ended December 2011. This prediction foresees the success of *FurniTECTURE* as a probable company providing the consumer with a new preference in furniture design.

CHAPTER SIX

Conclusion

My research has explored and reached an understanding of architectural structures that adhere to deconstructivist design principles, and has inspired the reconstruction of second-hand furniture and scrap metal into functional, innovative pieces of furniture appealing to a niche market, or specific spaces. These pieces comprising of low tables and chairs have been handcrafted with the aid of electrical hand-tools and heavy-weight industrial machinery to perform as expressions of contradiction that adhere to sustainable design practices, through designing for reuse, specifically the reuse of wood and scrap metal.

The theoretical basis of my research is supported by three specific theories. I reflected on "Futures Thinking", which provided a conceptual basis for this research, from Sohail Inayatullah stating that better understanding of the process of change is required so that a wiser, preferred future can be created (Inayatullah, 2001). Supporting this theory is Victor Margolin's study regarding changing existing situations into preferred ones (Margolin, 1989: 3). Essential to this research was Jacques Derrida's theory of deconstruction, which provided the conceptual framework of my research. This theory states that written texts undermine their apparent meanings as there is no limit to their interpretation (The Studio Trust, 2010). It gives recognition to the individual interpretation, which everyone can practice when unraveling the meaning of text or any other subject to present an individual viewpoint (Siegel, 2010). Finally this research reflected on the theory of sustainability, supported by Ezio Manzini who advocates that this is vital in order to regenerate the context of our lives (Doors of Perception, 2003). In the field of sustainable design, I reflected on the Campana Brothers who, as practitioners and experts in the field of sustainable design, adhere to sustainable practices. Therefore this research has been concerned with confronting and challenging the conformity that the form of furniture and its aesthetic adheres to.

My products reflect the design principles that characterise deconstructivism. I have focused on the architectural structures of Frank Gehry and Daniel Libeskind. Their constructions are created from a sense of duty to bring consciousness and preserve the rich histories of the struggles of those who came before us. Their deconstructivist expression embraces complex geometric forms and shapes appearing as fragmented figures, broken-straight lines, angles and curves and clashing and distorted geometries, to create an unsettling and apparently incomplete façade. I have applied these distinctive elements, evident in architecture, on a smaller scale to the furniture I have produced, forming the various structures so that they are directly accessible to humans, to engage and interact with.

Through this approach I have established that it is possible for a deconstructivist aesthetic to be evident in sustainable design to a large degree. So the aesthetics of the style of my pieces may create a new perception in the minds of people who are willing to consider it, similar to impact of the architectural structures; to exercise more sustainable practices whilst recognizing a new possibility and preference in furniture design.

In recognition of the need to test whether a new preference through my furniture may be possible, I conducted a data collecting process to establish the possible success of my products. The positive outcome confirmed that my deconstructivist furniture could appeal to a niche market and establish a probable new preference in furniture design.

The inspiring architectural structures of deconstructivism that have led to the unconventional form and aesthetics of these pieces, along with the theory of deconstruction, which encourages recognizing the individual interpretation, has imbued these individual expressions of contradiction with significance. The underlying intention derived from the association with deconstructivism is that the theory of deconstruction associated with these pieces will become better known. This may encourage an awakening of the individual consciousness and lead to a renewed sense of confidence in one's own interpretive understanding and beliefs and thereby help people to become responsible individuals and to ultimately restore individualism.

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Figure 3.5
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Table inspired by the Guggenheim Museum - Frank Gehry

Figure 4.18
A graph depicting the percentages that resulted from the informal interviews

APPENDICES

APPENDIX A

Commerce Faculty	
Indicate the style that you prefer with an 'X'	
The Bauhaus	Deconstructivism
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
Comments:	

APPENDIX B

Design Faculty	
Indicate the style that you prefer with an 'X'	
The Bauhaus	Deconstructivism
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
Comments:	

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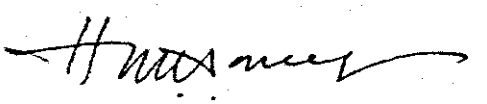
Relevant information about my involvement with English language editing is as follows:

Qualifications:	BA Honours (English) University of Stellenbosch	1988
	Higher Primary Teacher's Certificate	1959
	Bilingual Certificate AE	1958

Experience: **Working as Translator and Editor** **since 1993**
(involved with official University documentation, dissertations, theses, research reports, year book entries, conference papers and lecture notes for various disciplines, inter alia covering Business Management, Consumer Science, Education, Fine Arts, Futures Research, Industrial Psychology, Geography, Law, Physics, Soil Science, Theology, Medicine)

Teaching English as a Secondary School subject **1987, 1989**
Conducting private classes in English **since 1993**
(involving school learners, foreign students and members of the public)

Editing and Translating for Stellenbosch University Language Services Department



H M Honey

(13/10/2010)