DESIGNING (RESEARCHING) LIVED EXPERIENCE

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DESIGNING (RESEARCHING) LIVED EXPERIENCE

Ownership statement

This thesis is offered by

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as a requisite component for fulfilment of the requirements of the degree;

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Dedication

At the very end of a long road I look back and see what is really just a short journey made longer by all the trials, obstacles and pain of growth. Through this I have been impossible to live with; I am changed, and will never be the same again. No one has suffered this journey more than my best friend, my wife, Ann-Marie. During this time she has been on her own journey of self discovery (graduating in 2007 as a registered nurse) of which I am immensely proud.

I am pleased beyond words to be able to say we have arrived at the end of my PhD and the beginning of our new journeys together, love intact, improbably deepened. We are both richer for the difficulties we have faced and come through together. Weaker relationships would most surely have failed. She made sure ours did not. This monograph is dedicated to her dedication to ‘us’.
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“We shall not cease from exploration. And the end of all our exploring will be to arrive where we started and know the place for the first time” T. S. Eliot, (Little Gidding)

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Earle Taylor, my oldest and dearest friend, for selflessly sharing his broad knowledge, wisdom and patience in the face of my ignorant stubbornness.
Statement of originality

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Name: Ian Robert Coxon

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Ethics statement

The research contained in this thesis has been approved by the University of Western Sydney, Ethics Committee (UWS approval No. HEC 03/104, Dated 09/07/03) and found to be in compliance with the Commonwealth Privacy Act 1988 and the NSW Privacy and Personal Information Protection Act 1998.

In accordance with these laws and out of respect for participants, every effort has been taken to protect the anonymity, welfare and individual rights of all those who generously took part in the research. It is because of their valuable contributions that the goals of this research have been realised.
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Abstract

After many years of research focusing on different aspects of human experience conducted both within design research and outside of it, no clear understanding of experience or ways it might be researched have yet been developed. Many conferences, academic papers, and design studies have described partial structures, formulas and hypotheses that have so far provided inadequate understandings of what constitutes experience and how it might be understood (especially in design) [Engage, 2005 #263, p.68]. The first difficulty is that there are no suitable design research methods available to enable design researchers to study experience. Secondly, the nature of what is being studied (what constitutes experience) is unclear and thirdly (due to the absence of the first two) no well reasoned way has yet been found to make this type of information useful to designers.

This research project set out to find a way to understand everyday human experience from the point of view of design, but first the tools and methods to do this kind of research had themselves to be researched. The personal experiences of a niche group of transport users were chosen as the research vehicle for an explorative research project. Using hermeneutical phenomenology to guide the philosophical orientation as well as many aspects of the methodological approach, field research was conducted in Australia and Europe. From this approach, a taxonomy of the vehicle experience (ToE) was developed. A process of deeply (hermeneutically) exploring the information contained in this taxonomy produced a second set of methods (The SEEing process) that causes a deep understanding of the experience to emerge in the design researcher. Both these methods were successfully trialed in Australia and Germany and an analysis of the results is presented.
The ToE-SEEing methodology described in this paper provides firstly, a structured approach to understanding a specific experiential situation. Secondly, the methods enable a fundamental and clear understanding of the deeper essences of the experience to be seen with a degree of clarity, such that informed design can take place. This methodology will be helpful to those for whom it is important to have a deep understanding of the experience they wish to design for, and it will be especially helpful for informing those responsible for decisions (design or otherwise) effecting the quality of others experience with goods or services. ToE-SEEing has been shown to be teachable, learnable and useful as a design methodology.
Executive summary

This project while it did not begin with the same ‘question’ as it has ended, has essentially been an exploration of the concept and meaning of everyday human experience. The ‘journey’ that is described in this thesis and woven into its structure can be summarised as follows,

I started out looking at sustainable transport and thinking that the project was a transport issue. I found out that it wasn’t and that it was more about individual people and the personal experience they were having with their transport choice.

I started to look into the concept of experience and while I was doing that I used a scooter to investigate my own concepts of experience. It was at this time that I came into contact with phenomenology and the approaches of Van Manen, Heidegger, Gadamer and others. Their perspectives on lived experience seemed to gel with where I felt the investigation was heading.

This led me to develop an initial methodological framework with a theoretical system of research methods and techniques.

I conducted field research in Europe which changed the way I thought about the research methods and led me to change my structured approach to more randomly capture elements of the experiences of both the participants and myself. I transcribed and analysed the data which again changed the way I thought about the methods and data; leading to a more open hermeneutic relationship with the data and the meaning it was giving me.

The analysis and initial findings led to methodological tools which were briefly trialed in a series of tests with students at UTS (Sydney Australia) and in a more extensive evaluation at KISD (Cologne, Germany). Feedback and evaluation from these trials is contained in the Testing and Validation Chapter Eight.
Summary of the findings

While the research has been explorative it has achieved a sound result. Throughout the development of what has been a phenomenological quest, information has been gathered and analysed in such a manner as to illuminate, in the final stages, the questions that are answered by the research. That is, what is experience and how can we as designers know it? These questions are answered by two new ways of understanding experience.

The first is a method by which information about an experience can be methodically collected and presented in a structured way, so that the experience can be seen for what it is. This takes the form of a Taxonomy of Experience (ToE).

The second involves the designer/researcher firstly in a process of submersion in the experience and secondly in an iterative, close interaction with data captured about the experience and contained within the ToE. This interaction over nine sequential steps, brings the designer to an intimate understanding of the deeper (Third level) meanings within the experience. At this point the designer/researcher has a broad familiarity with the whole experience and more importantly, a new understanding of the ‘Superordinary’ essences within the experience, that together enable the designer to confidently design for the experience.

These methods have been shown to be communicable and learnable. The structure of the methods as they currently stand, were developed in such a way as to enable them to be taught to design students. This was achieved. The learning evidenced (particularly in the German trials) showed that the methods could be learned and significantly enhance design thinking.
Further research is required to develop a more fluid ‘designerly’ interface with the methods described above.

The efficacy and finesse of the two methods were tested and refined in the trials, and both methods offer the potential for further improvement as experience with them, and different disciplinary perspectives, are brought to bear on them.

Deeper exploration of the information gathered about design practice in transport design could yield interesting material for further study.

Also as the focus of the study shifted to developing methods for understanding experience itself, the understanding developed of the N MV experience was not utilised and consequently could be further developed or used in transport design.

At the beginning of the project I set out to answer the question, why do these vehicles fail? However, instead of answering that question I have answered another and that is, ‘how can we understand human experience for design?’ and the answer is through reasserting a role for human values in design particularly those of the individual. This requires a greater understanding of human experience, it requires a commitment to value it and this further requires a commitment from designers to participate in that understanding.

The methods developed in this project encapsulate all three of these goals.

---

1 NMV (New Mobility Vehicles) The experiences of people using these small vehicles was the research setting for this study. A more detailed description is provided in the following Terms section and in the beginning of Chapter 2.
Key terms and concepts

The title

Designing (researching): Lived experience: The title of this thesis represents a number of ways in which the multiple goals of this project (finding ways to understand everyday lived experience) can be seen. In one sense it refers to designing a way in which to do this kind of research. In another way it is about researching methods through designing a way to research. These two views demonstrate how the interrelationship between design and research can become so close that these terms verge on being interchangeable. In a deeper sense the project is about finding ways to design for the lived experience of others by researching ways to understand my and their lived experiences.

Transport terms

Transport: In this thesis, the term transport is interchangeable with the term transportation; in most cases it refers to personal, individual, powered mobility options offered by common forms of modern automobiles or cars. It does not address the wider concepts of air, rail or shipping, public transport or commercial vehicles. It also does not address human powered transport such as walking, bicycling or various forms of skates. Transport as an industry sector and as a field of research does not generally recognise that the subjects of this research, NMV’s (see below), have a role to play.

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2 Refers to comments by Peter Downton (2000a & 2000b), about how we gain experience in designing or research through the process of designing and researching.
New mobility Vehicles (NMVs): This term is used to describe a relatively new vehicle concept that has been designed especially to respond to the mobility needs of people living in modern urban spaces; that is, principally inner-city environments, involving higher density housing, high levels of traffic congestion and pollution (Holbrook, 1982 #86).

Technically, these vehicles are smaller (<3 metres) with 2, 3 or 4 wheels, lighter (<1000 kg) less powerful (0.2-20 kW) more nimble, manoeuvrable and with substantially less environmental impact than standard (6cyl.) automobiles (Delucchi, 2002 #159). They are designed to carry 1-2 passengers and can include current technology such as is used in power-assisted bicycles, mopeds, motor scooters and other powered mobility machines.

In this review the term NMV is also used to describe or refer to future mobility design concepts, which might fit a similar description. (See Chapter Five, Figure 5.01 European ‘NMV’ manufacturers and their vehicles)

Infrastructure: This term refers to the infrastructure systems involved in maintaining and supporting the automobile’s place in the transport world. Transport infrastructure includes component parts such as manufacture and supply of automobiles and their consumables in the form of fuel, land use, parts and service, as well as the ancillary infrastructures of health, economics, politics and environment.
Philosophy and methodology terms

Phenomenology and Hermeneutics: In the context of this study, phenomenology is taken as both a philosophy and a methodology. My use of phenomenology draws extensively on the human science philosophy of Martin Heidegger and the hermeneutical branch of phenomenology dominated by Hans-Georg Gadamer. I have used hermeneutical phenomenology methodologically to guide the design of the field research and, extensively in the subsequent processing of data. For example, phenomenological principles were used to guide the writing of narrative descriptions of the life-world (experiences) of participants. These narratives are the ‘data’ which were analysed using hermeneutic techniques and further developed into design research methods. (see Chapter Three for more detailed discussion of how Phenomenology and Hermeneutics have been used in this project)

Experience: As the focus of the study, it is understandable that the term experience is used a great deal. In almost all cases it refers to an experience; that is, a discrete, single event which is generally fleeting and personal. In using a generalised version of the term experience, I am referring to a single event or a representational event, and in each case, the experience being described is always individual. (see Chapter Three, Section 3.3.1 Defining ‘experience’)

This meaning of experience does not include life experience or professional experience or other references to longitudinal collections of individual experiences.
**Heuristic /Heruristics / Heuristically:** Reber (1985) describes a heuristic thesis as one that is conducive to understanding, explanation or discovery, a heuristic investigation conducted by trial and error. In this thesis, Heuristic is used in the sense of a flexible method of learning by discovering things for myself; this involved working out strategies for solving problems as they arose and learning lessons from previous ‘mistakes’. Heuristics are individually those things which bring about this learning.

**Forestructures:** Used in this instance to describe preconceptions and prejudices researchers carry with them which may influence the way in which s/he approaches a project and the level of influence these prejudices have on the way the project is conducted. Heidegger described three main types of forestructures; those that the researcher brings to the project (forehaving); those that effect the decisions or researchers perspective in the project (Foresight); and those that might cause him to assume outcomes or predict future direction [Heidegger, 1962 #97] (see Chapter Three, Section 3.4.2.2 Dealing with ‘fore-structures’)

**The 'Language' of experience:** This term describes the type of knowledge gained using close participation techniques in the research for understanding the deeper meanings of an experience (see submersion below) by which the researcher ‘submerges’ in the experience to the point of understanding the ‘language’ of the experience as if s/he was a fluent converser with it (an experienced experiencer). This means being able to fluently ‘read’ and understand all the spoken and unspoken clues that convey meaning within an experience. In chapter seven I refer to this as ‘human-speak’, an unspoken language that is difficult or often impossible to describe but carries with it the way people deeply ‘relate’ to one thing and sometimes not to another. (see Chapter Seven, Section 7.5, Introduction)
**Submersion/submersive:** Throughout this project rather than refer to standard ‘immersive research’ approaches, I have used the term ‘submersive research’ to describe the deeper levels I went to, to understand the NMV experience. In fully ‘submerging’ myself in the experience and the context of the experience, I reached a point where I was no longer an outsider to the experience, but knew it from the inside.

**Taxonomy of Experience (ToE):** With all due respect to the biological origins of the word, Taxonomy\(^3\) is used in this project to describe the hierarchical nodal structure of NMV experience, which became evident during the NVivo analysis of field data. Labelling this structure in this way interprets the field data model as a general structural model of experience, whereby information about any other experience might be collected, categorised and contained in a similar way within such a taxonomy. During trials, students testing this model, referred to the process as ‘doing a ToE’

**Superordinary Essence of Experience (SEEing):** This term collectively describes the set of methods developed in the second phase of interaction with NMV experiential field data in the ToE. It refers to the nine sequential steps in which information contained in the ToE is repeatedly reduced in a process designed to ‘extract’ and so make visible (seen) the Superordinary or non-physical essence\(^4\) of the experience. That is, the deepest layers of meaning within the experience, which uniquely define the experience for

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\(^3\) Taxonomy: Any systematic set of principles for classification or arrangement. (Reber 1985) In biology, the classification of organisms into a hierarchy of groupings, from the general to the particular, that reflect evolutionary and usually morphological relationships: kingdom, phylum, class, order, family, genus, species. (Britannica 2007)

\(^4\) "Phenomenology is the study of essences" [Merleau-Ponty, 1962 #124, p. viii]; " the essence of a phenomenon is a universal which can be described through a study of the structure that governs the instances of particular manifestations of the essence of that phenomenon [in this case a ToE] ...The aim of phenomenology is to transform lived experience into a textual expression of its essence" (Van Manen 1997, pp. 10, 36)
what it is. The term Superordinary refers to the Urphenomenon; the intangible, Super-ordinary aspects of the experience; sometimes novel, exceptional, unexpected elements of an event, which can produce in an individual a broad range of generally positive emotional, cognitive or even physical sensations.

Design theory terms

**Design, Designing, Designerly:** The term Design and its many variants are used in many fields of design discourse in loose and diverse ways. In this project I admit to being equally ‘loose’ in my use of the word design, this is unintentional but I feel unavoidable. It is a testimony to the versatility of the word that its meaning can be construed in so many ways. In a collective sense I use design frequently to describe the broad occupational field, i.e. in the field of ‘design’, or design’s use of something. In a general sense, I have used the noun design as in contributing to design or doing design (the industry sense) also in regard to the general act of designing and the broader description of designerly actions.

Then there are the verb versions such as, to design something, or being involved in designing something. (see Chapter Four, Section 4.2.2 Defining what design means)

Glossary of terms in Appendix

For a full glossary of English, Latin and German terms useful to or used in this project (See Appendix 0-01a and 0.01b).

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5 “There is a difference between the mere crude description of a phenomenon as it may first present itself, where it is complicated still and untransparent, and the description which emerges when one has sifted it, so that the simple essentials and they alone stand out. This then, the Urphenomenon is what Goethe takes to be fundamental, in place of the unknown entities or the conceptually defined “Laws” of customary Science” [Steiner, 1919 #343; Findeli, 2006 #336]
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PART ONE – DEFINING THE FIELD

CHAPTER ONE
INTRODUCTION TO THE THESIS

CHAPTER TWO
SUSTAINABLE TRANSPORT ISSUES

CHAPTER THREE
PHILOSOPHY AND METHODOLOGY

CHAPTER FOUR
DESIGN AND OTHER THEORY
PART ONE – DEFINING THE FIELD

Introduction to Part One

This thesis is divided into three parts.

- Part one: Defining the field - introduces and provides the background to the thesis followed by a discussion of the literature related to philosophy, methodology and design theory which was reviewed over the course of the candidature and used to guide and support it throughout its many phases.

- Part two: Empirical research - discusses practical aspects of the field research, followed by the two key stages of data analysis and synthesis leading to the development of the ToE and SEEING methods.

- Part three: Presentation – Presents a discussion of the outcome of validation trials in Australia and Germany along with conclusions drawn from these and the project as a whole, culminating in suggestions for further research.

Part One presents the following chapters,

- Chapter One – Introduction to the thesis.

- Chapter Two – A brief discussion of the sustainable transport issues impacting on NMV’s (the subject vehicles in this study).

- Chapter Three – A discussion of the philosophical and methodological knowledge related to understanding experience that was particularly helpful in this project.

- Chapter Four – A critical review of the body of Design and other theoretical knowledge related to understanding experience in which this project is situated.
CHAPTER ONE – INTRODUCTION TO THE THESIS

Introduction

This thesis is presented in a narrative form, reflecting the unconventional nature of the project. It describes a highly exploratory search for new ways to understand the nature and meaning of everyday experience. The medium in which this exploration of new design research methods took place was the research processes required to be developed in this project to understand the usage experience of New Mobility Vehicles (NMV’s⁶). A lack of this type of (experiential) knowledge is evident in design theory and in design practice⁷ and is exemplified by the continual failure of these vehicles to succeed in the marketplace.

It is my thesis that an experience with all its multiple meanings and subjectivities can be made understandable to a researcher and that if attention is focussed on a specific experience of interest to the researcher, this experience can be made understandable to a researcher/designer in such a manner as to allow designing to take place that is directly aligned with the experience being designed for.

The path to uncovering this type of understanding has not been smooth. Throughout this exploration I have encountered many dead ends, vague and obscure paths, disappointments, elation and some success. This is said to establish for the reader that this thesis should not be perceived as a smoothly arrived at, empirically linear ‘explanation’ of my attempts to understand experience. It has been a clumsy, ‘grappling’ with a ‘messy’ problem; the way forward at no time seeming clear, even so far as what the goal was.

⁶ NMV’s - Small, 1-2 passenger, 2-3 wheeled, low powered vehicles. (See Key Terms above)
⁷ See Chapter 4 - Design theory and Experience – 4.3.3.4 What’s missing? Where are the gaps?
There was no clear guiding ‘research question’ or hypothesis. This is said now, to openly inform the reader that even the question that the research answers was derived only at the end of this process. But still for this text to make sense and not read like a mystery novel, it must be understood here at the beginning that the research has had an outcome. In stating this in the introduction I am contradicting the deductive process by which it was derived, but still it must be stated so that the reader will know that there is an endpoint to this text.

This sense of contradiction also resonates in the misleading artifice of presenting the following chapters in sequence. In reality they did not evolve this way but to present the information contained in them in the slightly chaotic and piecemeal manner in which they arrived would be to deliver a thesis requiring excessive interpretation. Chapters are therefore presented with a degree of chronological symmetry, which bears no relationship to their sequence of involvement in the project. I have striven to maintain a little of this ‘groping in the dark’ flavour throughout the thesis without suffocating it with the same sense of the order I was trying to impose on the uncertainty encountered in the project.

This research began with the relatively simple goal of understanding why some quirky little vehicles fail to sell in the marketplace. It soon became much more about everyday human experience. What follows is an explanation of how I went about finding out how to understand what experience is, and in particular how this understanding might be made useful to design.
1.1 What is the research question when there is no question?

1.1.1 The genesis (research) question

Throughout most of this PhD candidature a question that has often startled me, and immediately made me feel quite nervous as to how to answer it, especially when asked at parties and social gatherings is, ‘so what is your thesis about?’

Usually my mind begins to whirr frantically, thinking, how do I answer this simply? I don’t have a clean, clear, research question or hypothesis, and what level of understanding can I assume of the person asking the question? - are they genuinely interested or just being polite?

Sometimes I try the short version see what their first reaction is by saying, “I’m investigating methods for doing design research into aspects of human experience”. This mostly gets a puzzled ‘uh huh’ look from my audience, followed by a change of subject or sometimes the genuinely curious or foolhardy ask for more information and often to their regret, get the long version.

The long version begins by explaining that during a previous research project, an ethnographic study of scooter riders in Sydney*

*I developed an interest in sustainable transport and one particular paradox which this research highlighted. I discovered that around the world every year, hundreds of quite sustainable* little vehicles are designed which are never heard about. I also discovered in my early reading in sustainable transport (which was what I erroneously thought at first, this project was about) that even though many sustainable transport strategists are calling for smaller modes of transport to be developed |Delucchi, 2002 #159; Sperling, 1995 #137|

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** Sustainable in the sense that they consume far less materials and energy in production and generate far less pollution and end of life waste in comparison to cars.
Urry, 1998 #266; Hoogma, 2002 #29], that they were already being produced; but most of them fail to succeed in the marketplace and soon disappear. This was the point at which my PhD thesis began. I formulated a genesis question; if so many strategists are saying we need these things, and so many are designed and/or produced, ‘why do so many small single passenger, powered, transport\textsuperscript{10} vehicle designs and concepts fail to reach or survive in the marketplace?

1.1.2 Transport question … down the wrong track!

I spent the first nine months reading everything I could find on Sustainable transport looking for a way into this complex area of mobility until I came to a startling realization brought on by a supervisor who suggested to me that my project was not about transport at all. Understandably this came as a shock and left me wondering, what was it really about?

Thinking I had answered this in my genesis question, I cast about for a finer aspect of the ‘vehicle failure’ paradox which I might be able to throw more light on. The political, economic, technical and environmental aspects of the problem were enormous and largely beyond the scope of my background and expertise\textsuperscript{11}. I shifted my focus to consider the social impacts of these vehicles, and as it seemed from my previous scooter studies that the social behavioural aspects of small vehicle transport were an important part of their current success, I began my new search here.

My previous ethnographic study had highlighted the importance that participants attached to the experience of riding a scooter versus driving a

\begin{footnotesize}
\textsuperscript{10} These are what I refer to as New Mobility Vehicles (\textit{NMVs}). See Terms section for a fuller explanation
\textsuperscript{11} My undergraduate degrees are in Marketing and Industrial Design with many years experience in graphic and industrial design practice
\end{footnotesize}
car or riding a bus. I decided to look further into this concept of ‘experience’ and what it might mean to the design of these small vehicles.

1.1.3 Experience … a new direction

A great deal of my early reading related to experience required me to venture out of my comfort zone in design and into the disciplines of psychology, sociology, neuro-physiology, neuro-psychology, linguistics, semiotics, aesthetics, ergonomics, even as far afield as economics, health and social sciences.

Through my preliminary explorations of the meaning of the word-concept ‘experience’ I reframed my inquiry to consider, ‘what is the New Mobility Vehicle experience like, how can we know and understand it?'
1.2 Research objectives

After these initial evolutions of the topic I began to investigate ways I might research the NMV experience. Around this time a chance meeting with a senior academic advisor raised the stakes when he told me that if I only set out to understand the experience of NMV users, then that would probably be a Masters level outcome. He also told me, if I wanted to do something worthwhile and ‘new’ I would have to do it in such a way as to not only develop an understanding of this experience but also in such a way as to make this way of understanding it generally ‘useful’ to designers. I chose to approach this by studying the way I could understand the ‘lived experience’ had by users of the niche transport group, called New Mobility Vehicles (NMV’s). After some preliminary reading in Phenomenology I decided that the project should be based on a deep exploration from the phenomenological position, that is, what is the (NMV) experience like and what can we understand from this? [Van Manen, 1997 #28]

1.3 Significance of the research

Recent research into the social impacts of small electric cars or alternative powered vehicles, has referred to the enormous social-behavioural changes necessary if this form of vehicle is ever to be broadly accepted [Nilsson, 2000 #125; Kurani, 1994 #190; Redshaw, 2001 #237; Urry, 1998 #266]. Little has yet been done to understand the impact these ‘behavioural changes’ might have on the lived experiences of these users. Many European cities have had considerable success with NMVs and many thousands are on their roads. In Australia, as in the United States, (we follow the US closely in transport terms) there are few if any of this type of vehicle [Newman, 1999 #40].
In Italy, Germany, the Netherlands and France, production of NMVs has met with significant market acceptance. Early adopters\textsuperscript{12} have continued to react positively to the vehicles but little is known about why. There has been no research into the lived experiences of this unique transport group. This is not entirely surprising when the ‘experiential’ component of personal transportation in any form has been largely un-researched. I approached this research with the view, that if personal mobility is to move forward in design terms, there is an opportunity to learn much from this group and they are worth studying. They offer a unique opportunity to understand a group who have redefined their personal mobility needs, radically changed their travel behaviour and rejected automobile marketing hegemony. This is the path that many transport and environmental strategists (described above) have told us we need to go down, urgently and … en masse.

This research contributes two new methods that help to achieve these goals. The first provides a theoretical model of experience in design in the form of a Taxonomy of Experience (ToE). This model will be useful to researchers exploring the nature of different experiences as a tool for structuring and controlling their data collection and management. The second method, the SEEing process of data analysis, exposes the data collected within a ToE so that deeper layers of thematic abstraction can be achieved.

1.4 The nature of this thesis

1.4.1 Overview of the methodology used

This research has been guided throughout by my growing understanding of phenomenology and particularly hermeneutical phenomenology. From the

\textsuperscript{12} the first consumers to ‘adopt’ these new concepts
development of a guiding research direction, throughout the data gathering and analysis through to its synthesis and validation, I have been guided by ‘listening’ to what the research uncovered and wanted to ‘say’. This has not been a straightforward process of simply gathering information, observing or relating what was observed. In attempting to understand an abstract and complex human concept such as ‘experience’ I have become aware that it is not very useful if experience is simply measured, categorised, or defined by a formula, but still it can be ‘understood’ in a different way. Hermeneutical phenomenology firstly requires of the researcher an ontological orientation towards human values, a way of Being that is people oriented, inquisitive and open to the possibilities in everyday life events. Secondly, it offers an epistemological path to understanding these things. By following this path I have been able to (admittedly clumsily at times) explore the possibilities for meaning that I have found in the real life situations studied in this project.

I refer regularly throughout this text to how I have drawn on Heideggers work particularly in relation to ontological understandings of the life-world, for reassurance along the way and to reorient myself when uncertain how to proceed. Likewise, I have held a continuing dialogue with Gadamers hermeneutic phenomenology, which has been very useful in guiding my data collection and subsequent ‘conversations’ with the data in analysis and synthesis [Gadamer, 1975 #9; Heidegger, 1962 #97]. These referrals in no way should be read as a sound understanding of the philosophies of these two philosophers. I have read such a small amount of their voluminous writings that I can only admit to having a naïve but growing understanding and

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13 I acknowledge that in all probability I not have correctly interpreted the writings of these eminent men in the way they meant them to be interpreted. This highlights the nature of hermeneutics in that even Heideggers and Gadamers writings about hermeneutics must also be open to interpretation. In this situation I am using the term dialogue in the sense of a hermeneutic conversation, meaning that I take Gadamers words and interpret them in terms of this project then return to his words for confirmation of the direction I have followed from the earlier interpretation.
respect for their work. I have however, read and been affected deeply by my reading of their work, finding great comfort and much guidance in the limited writings I have studied. I have in some instances quite broadly interpreted their written concepts and I apologise in advance to those scholars who hold these esteemed gentlemen’s work in high regard, as I do, for any clumsiness exhibited in my references to and use of their work in advancing this project.

1.4.2 The thesis style

The style of writing used throughout this thesis is my endeavour to align my writing ‘voice’ with my ontological view that care-filled communications between people should take primacy over technological agendas even academic ones. This ontological view has guided the epistemological design of this project from the beginning and it seems appropriate to me that my writing voice should reflect these views. The thesis is written as a narrative of my research experiences but in a way that allows the reader to have something of their own experience during the reading (see note on interactivity below). It is a phenomenological narrative so it should be understandable in a phenomenological way. This is the reasoning behind the structure of the printed thesis and also for my endeavour to retain some flavour of the messy14 and chaotic nature of the entire project.

"Although there is no compelling reason for structuring a phenomenological study in any one particular way, it may be helpful to organise ones writing in a manner related to the fundamental structure of the phenomenon itself’ (Van Manen 1997, p. 168)

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14 I am using ‘messy’ intentionally to describe a convoluted, undefined and illogical problem, realising it is similar to the term wicked’ used by [Rittel, 1973 #370; Margolin, 1995 #65]
1.4.3 Interactivity

In Chapters Six, Seven and Eight a number of photographs are accompanied with hyperlinks to video sequences which help to support the explanations or activities being described in the text. The thesis text is designed to be read on its own (without using the hyperlinks) however the linked audiovisual files add another dimension to what is being described. If it is convenient, the reader is invited to place the attached CD in their computer disk drive and read from the enclosed digital copy of the thesis which will enable the links to be activated and an interactive experience to be had. This CD also contains all Appendix files and Figures mentioned in the text should a closer scrutiny of any of these be required.

1.4.4 Structure of the thesis

The following dissertation presents a narrative of my four year exploration of the meaning of everyday human experiences. It has been conducted using an evolving ‘trial and error’ exploration process which the following structural outline belies. The structure presented below attempts to ‘logically’ present what has been an otherwise ‘messy’ project. The project did not flow ‘neatly’ nor in exactly the same order of things as they are presented here, but I have presented the flow in this manner hoping that the reader will gain a better understanding of the project outcomes, rather than become mired in a convoluted (though interesting) retelling of the processes by which they were achieved.

Part One – setting the field
- Chapter One sets out the general background and concept of the thesis.
- Chapter Two provides a brief but deeper understanding of the transport question which initially guided the project but which ultimately became secondary to the exploration of experience itself. It sets up the context in which the ‘research vehicle’ (NMV experience) was explored. It is the research ‘location’ in which discussions of current road transport sustainability thinking, current research strategies and future directions are the defining discourses.
- Chapter Three outlines the theoretical framework, philosophies and research methodologies guiding this exploration of experience. It details my ‘interpretations’ of hermeneutical phenomenology that have been used to guide this project. It must be restated however that these interpretations were developed progressively over the entire timeline of the project and did not simply arrive before commencing. This chapter is presented not as a critical review of the literature but as a discussion of the most important aspects of the philosophy and methodology literature which were used to guide the research project. It is placed here in Chapter Three in a ‘block’ format rather than interspersed throughout the text so that the interpretations used, can be understood clearly as a unified set of concepts as well as referred to in later chapters to support the way in which these philosophies were used to guide and support the more pragmatic aspects of the research.
- Chapter Four presents firstly, a critical review of literature related to design theory, focussing on what these texts are currently (2007) saying about how designers understand experience, design for experience and conduct experiential research. The second half of this chapter delivers a detailed review of information from many disciplines outside design that I have drawn on extensively to develop my own understanding of how experience might be constituted.
The detailed discussion of experience presented in this chapter has helped me to situate the goals of this research by highlighting the perceived gaps or ‘opportunities’ in current knowledge bases within the many disciplines canvassed.

**Part Two – Empirical Research**

- Chapter Five considers the guiding research goal (understanding experience) and the knowledge ‘gaps’ identified in Chapter Four. Chapter Five describes how the field research for this project was initially designed and prepared for, providing a backdrop to how quickly and significantly these plans changed to meet realities encountered in the field. This evolution of data gathering techniques ‘in the field’ are presented along with many of the lessons learned from this experience.

- Chapter Six describes the first stage of data analysis, that is the approaches used in preparing and analysing the field data described in Chapter Five. It details the writing of phenomenological narratives, the evolving hermeneutic analysis and synthesis which lead to the development of a Taxonomy of the NMV Experience (*ToE*).

- Chapter Seven covers the second phase of the data analysis, where the data which was analysed and interpreted into a Taxonomy of the Experience (*ToE*) in stage one was further interpreted to understand its ‘Superordinary’ essence from a design perspective. This chapter describes the ways in which information contained in the *ToE* were explored, distilled and made visible for design practice. The heuristics of failures as well as successes in this process are discussed in terms of what might be learned from them as well as how they ultimately lead to a set of methods (called *SEEing* methods) for understanding the deepest meanings in the experience.
Part three - Presentation

- Chapter Eight describes the lessons learned from initial trials of the ToE and SEEING methods with students from an Australian and German University Design School. Both pedagogical and student perspectives on using the methods are presented along with recommendations for improvements.
- Chapter Nine presents conclusions about the research project, a summary of its contributions to knowledge and suggestions for further research.
- Chapter Ten contains a detailed list of references used throughout the text and a list of appended material.

N.B. There are no physical appendices as all material has been supplied in digital form on the attached DVD (inside back cover).
CHAPTER TWO

SUSTAINABLE TRANSPORT ISSUES
CHAPTER TWO – SUSTAINABLE TRANSPORT ISSUES

Introduction

This chapter describes the literature I reviewed early in the candidature in relation to sustainable transport. At the outset of this project I believed sustainable transport to be the key field of inquiry, however when the projects orientation later shifted towards social meaning in the form of personal ‘experience’, the subject of sustainable transport became more the backdrop against which my research about experience took place. It is offered here with the intention of helping to set the context of the study and explain why the experience of these vehicles is relevant in this project at all; that is, why a study of this form of transport is relevant to understanding human experience.

2.1 Background to the transport question

During a previous study of scooter riders in Sydney, I had come to a rather curious realisation. There exist currently around the world, a large number of vehicle designs, concepts, technologies and production facilities, which are capable of significantly improving most major road transport issues such as congestion, pollution and safety. In fact each year leading automobile manufacturers commit millions of dollars to concept vehicle development, some even to the point of low volume production runs of vehicles, which are often abruptly ‘shelved’, ostensibly due to ‘lack of consumer response’ {Duffy, 2002 #254}. 
This anomaly continues even while transportation design facilities around the globe strive to cope with increasingly complex transport issues as well as new demands for unprecedented levels of personal mobility. New types of vehicles similar to those in Figure 2.02 above, are being developed in design laboratories in an effort to satisfy demands symptomatic of an environment driven by volatile world politics, uncertain economic conditions, rapidly changing social values and threatening environmental concerns. Transport design appears to be labouring in its attempts to cope with this ‘new mobility’ environment and is looking increasingly desperate for answers. Regardless of the ‘silver bullet’ solutions offered by many new technologies, there is increasing need for a deeper philosophical understanding of ‘the transport consumer’ (us, people, …me).
Transportation research in Australia and the United is dominated by supply and demand-side perspectives. However, research centres in Europe, particularly in the Netherlands, Germany and England, have reported increasing concern for the environmental effects of excessive automobile use [Vuchic, 1999 #52; OECD, 1996 #42; Ebert, 1997 #139]. This may be partially due to the more obvious and visible manifestations of the threat in European countries\(^\text{15}\). In these countries, research into ways to build higher levels of sustainability into transportation vehicles and systems has dominated much of recent transport research work. Many studies have now been completed which provide a clearer understanding of psycho-social aspects of automobile use, particularly its influence on and by social attitudes, activities and structures [Buttner, 1995 #240; Hensher, 1993 #144; Ebert, 1997 #139; Cameron, 2003 #165; Low, 2003 #61]. Many transport strategists believe that there is an overly optimistic expectation that technology will offer a solution, saying that more socially oriented programs are required [OECD, 1996 #42; Hoogma, 2002 #29; Riley, 1994 #45]. In many cases they call for a reduction in the increasing social-mobility dominance of cars, and see ‘car dependency’ as an imperative for policy reform [Vuchic, 1999 #52]. Others suggest that greater diversity in the transport mix is needed than is currently provided by the automobile / public transport dichotomy [Sperling, 1995 #137; Newman, 1999 #40]. To this end, many researchers have suggested the use of smaller vehicles variously described as Sub-cars, Mini-cars, Bubble cars, ‘L’ category vehicles, Hybrid vehicles, Single track vehicles, Two / Three wheelers, Low speed vehicles (LEV’s), Low speed, low mass vehicles (LLM’s), Neighbourhood Electric Vehicles (NEV’s), Personal rapid transports, Single occupancy vehicle (SOV) and so the list goes on. Every new idea seems to generate a new vehicle name suggesting that the field is exploring a new

\(^{15}\) Refers to the effect of acid rain on buildings, soil bacteria poisoning, air, noise and visual pollution in congested cities.
genre or species of transport which has yet to settle on a generic name (Riley, 1994 #45; Delucchi, 2002 #159; Hoogma, 2002 #29; Sperling, 1995 #137). In this paper I refer to this vehicular group in a generic sense using the term, New Mobility Vehicles (NMV’s) (see Terms section for a more detailed description of NMV’s).

2.2 Situating the transport question

My current research into the New Mobility Vehicle (NMV) experience grew out of my initial interest in the paradox posed by the apparent need for these vehicles on one hand and the number of these innovative alternatives to cars, designed and built every year, that rarely survive in the market place.

The answers to this paradox being much too big to be addressed in one project, forced me to redirect the research topic towards a more manageable direction. Understanding the ‘new mobility experience’ is an important aspect of what is still essentially a transportation industry question integral to understanding why certain NMV’s such as the Carver 300 and Twike have succeeded where others such as the Ford T!ink and Daimler-Benz F300 have failed?

I have already discussed this research direction in the introduction; however the transport ‘life world’ context in which these vehicles will be explored needs to be established.
The following review of transport related literature, while not exhaustive, provides a snapshot the more relevant and current issues affecting the personal transportation world within which this research into NMV experience is situated.

2.2.1 Current road transport thinking and sustainability

Interpretations of history often suffer from perspectival inaccuracies but they are generally decided after some consensus enabling at least an acceptable understanding of the prior events to be described. This principle does not apply to sustainable transport. The lack of clear understanding of the level of sustainability of current road transportation is largely due to a lack of consensus on the interpretation of predominantly historical data. The levels of divisiveness range from an optimistic belief that there is no ‘real problem’ [Dunn, 1998 #23] to the pessimistic view, that we are all but ‘doomed’ as a species (Hoogma et al 2002).

The upper end of this spectrum of division, the ‘no real problem’ or ‘business-as-usual’ faction, suggests that there is no scientific basis for the need for any improvement in sustainability and the concept of environmental degradation is a ‘beat up’ by radical environmentalists.

"The automobile system has been nothing if not sustainable for about a century now… Sustainability is not science it is not even a very useful policy goal. Sustainability is rhetoric designed to portray the Vanguards [environmentally concerned individuals] anti-auto preferences…[and] its elitist agenda amongst policymakers and opinion moulders. The issue of global warming is fashionable in the “issue-attention cycle” and is used to push an anti-auto agenda” (Dunn, 1998 #23, p. 173)
Another argument suggests that the concept of Sustainable Transport is effectively a ‘contradiction in terms’, by virtue of the fact that the substantive nature of transport is to consume finite resources and that this aspect alone makes it intrinsically unsustainable [Mees, 2000 #184].

The ‘doom and gloom’ proposition further suggests that the human race may not have what it takes to ‘evolve’ in time to ensure survival of the species.

"...environmental catastrophe may be the only sufficiently strong motivator for change in transport practices" [OECD, 1996 #42, p. 53].

“The central question seems to be whether the human family has the moral and political will to develop new and stringent constraints on mobility patterns. If the answer is no, then we better prepare for auto-geddon” [Hoogma, 2002 #29, p. 3].

But of course these are at the more radical ends of the spectrum and the majority of discussion is more temperate, if no less vocal in its urgings to action. The majority view is by its nature the ‘muddy’ middle ground where almost all the theoretical solutions lie. Here, clarity of thought could be a means to enable action but the sheer volume of conflicting research ensures that the majority’s rhetoric, results mostly in inaction. The end product is an increasing urgency to enact change in an environment where the focus for that change gets more and more unclear.

“...not only is it impossible to foresee how and at what pace this transition will take place, but it is very difficult ’to simply see the present’, i.e. to recognise how it works today and in which way and where ’the new’ is appearing” [Manzini, 2003 #151, p. 1].
2.2.2 Automobile dominance

Approximately eighty per cent of world land transport is performed by automobiles (Hoogma et al 2002) and any discussion of sustainable road transportation will undoubtedly be dominated by references to the automobile. This is an important part of the problem. Automobiles are often seen to be the only solution where in actuality, they are the dominant player, but there are ample alternatives that could be considered [Sperling, 1995 #48]. The automobile’s dominance of land transport is a major issue. It has created an environment where a person may endure social stigma if they do not have a car. The car is no longer a luxury item but has become a necessity, without which many people believe they cannot live a ‘normal’ life [Coombs, 2000 #19]. The car has become a status symbol, a personality statement, and a larger than life extension of the driver’s persona [Redshaw, 2001 #237]. This illusion has been aggressively promoted by commercial interests in their desire to improve market acceptance and consumption [Hamilton, 2003 #164]. The car has also become a social symbol of freedom and mobility. It provides a fantasy of wide-open spaces and unfettered progress towards personally rewarding destinations. It provides the owner with the power to ‘win’ in a highly competitive ‘race’ arena that is often frustrated by the reality of traffic congestion [Sofoulis, 2003 #252; Reid, 2000 #197; Redshaw, 2001 #237]. The car has become a powerful metaphor for an increasingly, illusionary mobility.

“Consumers, manufacturers and car sales people have a firm idea of what a car is and is supposed to do” (Hoogma et al. 2002, p. 13).

If other mobility alternatives are to be considered in the transportation mix then they will require a very different ‘image’ and must represent different values, even a different concept of mobility [Riley, 1994 #45]. However, scepticism is strong. When car drivers evaluate new transport technologies
they ‘judge’ the new option in comparison to their entrenched perception of what a ‘car’ is. The car is the ‘dominant technology’. The question in their minds then becomes, is this new alternative, better than a car option? (Hoogma et al. 2002)

2.2.3 Social values

Increased mobility has come at a high price for society. Auto-mobility has contributed significantly to the promotion of urban sprawl, which has brought with it other problems. The automobile on the one hand, provides a sense of independence, as people feel they are free to come and go as they please. But paradoxically, this creates a growing dependence on the very means by which this is accomplished. Society17 is largely dispersed, people work farther from home, travel longer distances to shopping and entertainment. This change in social structures increases car dependence for those who have the means and social isolation for those who do not have the means to satisfy their car dependence [Dowling, 2000 #22].

Over the last few decades there has been a steady increase in the incidence of depression in many communities. This phenomenon can be at least partially linked with changes in mobility patterns and their detrimental effect on community based activities, localised social networks and community closeness. (Hamilton, 2003).

[The excessive dependence on cars has] “… atomised urban life and stunted peoples capacities to nurture and value shared forms of life: family, community and civic life” (Sperling et al. 1995a, p. 3).

Access to auto-mobility has also impacted on the family unit with work choices and availability often determined by distance from home and

17 In this kind of general description I am referring to ‘Western’ Society, particularly Australia, the United States and Europe.
transport access. Parenting quality is effected by the ability to participate in activities and entertainments accessible only by car. The car is used as a 'management tool' in the performance of complex daily, domestic routines and has even become a measure of 'good parenting' [Dowling, 2000 #22]. The issues of automobile dependence, social equity, and community fragmentation are very much issues of social sustainability. To achieve more sustainable transportation, in the changing social environment, there is a need to not only make significant changes to the technology we use [Mees, 2000 #167] but perhaps with more difficulty, to change the way society views their mobility. The emerging battle line is not so much in the automobile factories or car yards as in the minds of people. A new mobility ethos needs to be developed and imprinted onto a sustainable social structure. This will require much greater understanding of the ways people think about their mobility needs and indeed how they view themselves in transport terms. This will require more research and understanding.

[The lack of awareness] “… underlines the need for further, culturally aware, research on motor vehicle use and of the difficulties facing the development of successful sustainable transport policies” (Dowling 2000, p. 1).

The link between personal and cultural awareness and transportation choices has now been well established. Further research is now needed to bring those elements together in design solutions that show how better transport options can be developed to help repair the damage to our culture, social networks and environment.
2.3 Current road transport research

Transportation research does not suffer from any shortage of interest. Around the world and particularly the western industrialised nations, thousands of organisations devote enormous resources to the study of modern and historical transportation. Just a few of the larger Government bodies involved in this work include the World Bank, Organisation for Economic Cooperation and Development (OECD), European Union (EU), United States Transport Research Board. These are joined by hundreds of academic transport organisations, institutes and schools active in sustainable transportation research.

2.3.1 The research knowledge pool

Research conducted by these eminent organisations covers a wide range of sustainable transportation research topics and the depth of knowledge continues to grow every year, in line with the worlds deepening environmental concern. In some quarters, the concept of sustainable transport is itself considered simply a passing fad [Dunn, 1998 #23]. Fortunately, there are many academic and practice based disciplines embracing the problem and working actively towards solutions with some urgency. Most agree however, that much more work needs to be done. A brief look at the key areas of research in the last ten years featured in this review, suggests a pattern of largely quantitative, scientific, empirical approaches to the myriad of topics being researched under the banner of Sustainable Transport. Even with this wide coverage of topics there is dissent as to how best to move transport knowledge forward in the search for solutions to a problem of such a global scale. The societal, technical, economic and environmental
demands of a rapidly changing transportation system have prompted a move away from traditional scientific theoretical approaches to more pragmatic, qualitative methodologies (Reid, 2000).

2.3.2 Scientific models

It has been argued that a feature of transport research lies in its ability to repeatedly analyse that which has been analysed before, leading to little or no progress. One conference presenter referred to it as ‘paralysis by analysis’ (Dobinson 2003). Far too many research resources are occupied with quantitative analysis of safety statistics, driving distances, traffic interventions and travel behaviour patterns [Feitelson, 2001 #26; de Rome, 2002 #195; Nilsson, 2000 #125].

2.3.3 ‘New Mobility’ models

Thankfully, not all researchers follow the scientific model. A number of European researchers have been busy in the last few years developing alternative transportation models. Their work has involved large-scale action research in community projects such as the ‘Mendisio experiment’ (Hoogma et al. 2002). This project was productive but failed when participants instead of evaluating one mobility behaviour pattern with another, tended to compare vehicle types. This meant that the focus of the project was ‘high-jacked’ in that it was changed from a social change project to a technology comparison. Changes in mobility behaviour did not result but changes in vehicle type did. The research presented in this paper is designed to address a socially focussed agenda by studying the lived experiences of the participants. The vehicles involved in the project while they are still relevant are only so because they provide the social context for engagement with a
unique technology. It is in no way a technological comparison as eventuated in the ‘Mendisio experiment’.

"What we need is experiments and experimental designs that help us to discover ways in which the two dimensions - technical design and social organisational arrangements - work in harmony towards the goal of sustainable mobility" (Hoogma et al. 2002, p. 194).

This focus on the vehicles themselves highlights one of the most important biases affecting the clarity of the ‘middle ground’ of transport research; the lack of attention paid to the anthropological side of the socio-technical transport relationship. The unbalanced focus on technological components of the mix will continue to yield data on an already well-defined set of problems. However, if research is to begin to seriously address sustainability solutions then more human oriented understanding is needed.

"Technology experiments...have contributed little to social learning and to processes of co-evolution. We are arguing therefore, for experiments that are linked to visions and oriented towards social learning...There is a need for further articulating this vision and acting upon this, which requires investment” (Ibid, p.202).

2.3.4 Socio-technical models

A proposal from the University of California considers the role society plays in transport modelling. The title of their work asks the question, “How we can have safe, convenient, clean, affordable, pleasant transportation without making people drive less or give up suburban living” [Delucchi, 2002 #159]. The revolutionary idea proposed in this work is that a parallel system of roads be designed into new cities in order to separate ‘Low speed, low mass vehicles’ (LLM’s) from ‘Fast, heavy vehicles’ (FHV’s). The importance of this type of work is that it breaks new ground and pushes transport research thinking in new directions. By envisioning new transport vehicle types, new
infrastructure concepts and new social behaviors, it proposes answers in areas little explored, instead of revisiting the same ground as has been the case in most engineering based research in the last twenty years.

2.3.5 Policy Models

Researchers have also developed models to assist transport policy change. A team from the Free University, Amsterdam uses a scenario-building program called Scenario Explorer 1.0 to develop their CEST (Co-Evolutionary Socio-Technical) scenario method (Feitelson 2001). However their technology agenda is very strong and proposes formula for the possible success of various market scenarios that are discussed in terms of auto-mobility use not social-mobility needs. The shortcomings of this type of approach are that again the car is assumed to continue in its present technological form with variations in propulsion and fuels systems. There is little change to social mobility behaviour and choices. The methods developed in this thesis could play a role in this process by providing an information base of ‘lived experiences’ to fit into models of this nature. This facet of social modeling is missing in most research methods of this type.

2.3.6 Marketing models

Another research group from the Netherlands have developed a more action research oriented, design/marketing approach to policy reform, which they call Strategic Niche Management (SNM). SNM deals with setting up ‘experiments’ or case studies in order to facilitate theoretical insights. It focuses on currently available technologies that might be considered ‘under-utilised’ in terms of their contribution to sustainability (Hoogma et al. 2002).
This supports the transport concepts researched in this thesis proposing that there are existing transport technologies (i.e. NMV’s), which are ‘underdeveloped’ and could offer significant opportunities for social and environmental enhancement. Their central claim is that, "SNM is a policy tool that can contribute to successful niche creation for new technological options" (Ibid, p.29).

They also argue there are two key sustainability ideologies available at the moment. The ‘Technical-fix’ ideology, which presupposes that technology will provide greater positive benefits than its negative environmental effects. Secondly, the ‘Cultural-fix’ ideology theorises that real solutions will come from social and cultural change (restricting mobility by using control mechanisms such as pricing as well as managing technical change through standard setting).

The SNM system recommends the use of both ideologies in a simultaneous and coordinated manner with the goal of 'socially embedding' the changes rather than simply creating superficial short lived change.

"The co-production of technical and social change has not been recognised well enough in the transport debate … Hardly any policy instruments try to exploit and work upon the socio-technical features of transportation systems" (Hoogma et al. 2002, p. 3).

Hoogma’s work recognises the value of social behavioural change and the role that new, less environmentally intrusive technologies can play in this. More importantly they highlight the need to ‘socially embed’ new technologies as a key ingredient in long term social change. The design research methods presented in this thesis are well positioned to enhance the kind of design thinking required in this type of change.
2.3.7 Methodologies and Disciplines

The scientific model
The nature of much of the information guiding current transport research and the infrastructural decisions it informs, is determined by the type of quantitative epistemic thinking employed in Statistics, Architecture, Planning and quite a few Engineering disciplines. ‘Soft science’ approaches from Sociology, Psychology, Social Geography and Philosophy are less often employed to inform these types of decisions. It is impractical to represent here the diversity of views arising from these somewhat opposing epistemic stances, but it is evident from the agendas of recent transportation research conferences [BTRE, 2007 #267] that the focus of information gathering in the last ten years, has been largely dominated by scientific, empirical, statistical research with a heavy reliance on historical data analysis. The broader research community is beginning to realise the narrowness of this predominantly quantitative approach [Dobinson, 2003 #245] and leading researchers have vigorously debated the value of these methods [Newman, 1991 #74; Pund, 2001 #105; Litman, 2000 #161].

2.3.8 Creative ‘Visioning’ or Futures modeling

An example of the type of creative research methodology that might break the current strangle hold of quantitative methodologies, comes from Ezio Manzini\(^\text{18}\) from the Milan Polytechnic; presenting his scenario-building tool, DOS (Design Oriented Scenarios) [Manzini, 2003 #151].

The creative approach proposed by this method can be seen in the nature of the questions asked:

\(^{18}\) Director of CIRIS (an interdepartmental Centre for Research on Innovation for Sustainability)
- Vision: How the world would be like if...?
- Proposal: What has to be done to implement that vision?
- Motivation: Why this scenario is relevant?

This blend of future scenarios and reverse engineering methods combines the benefits of far-sighted envisioning with down-to-earth pragmatism.

Dutch researchers have developed many creative ‘mixed-methods’ transportation research methodologies. The ‘Mendisio experiment’\(^\text{19}\) (mentioned earlier) combined the disciplines of Social History and Technological Sciences (Hoogma, 2002). The Free University, Amsterdam combined Economics, Planning and Transport to develop their futures based ‘Spider Model’ [Nijkamp, 1997 #41].

As with Manzini’s DOS method, the Dutch Spider model also utilises Scenarios as a key tool. Scenario building has been increasingly used in the last few years as transport researchers and strategists endeavour to see more clearly into a future that appears to be arriving more rapidly.

Many of these types of research are based on a fundamentally economic premise, one which acknowledges that the share of car traffic (in Europe) is so large that even a small change in transport modal splits (the percentage each transport mode contributes to the whole system) will have a large impact on the collective transport system [Nijkamp, 1997 #41].

This idea further supports the argument that virtually any and all efforts to reduce car dependence can have profound effects on the total transport system and subsequently the general environment. The current \textit{NMV} research project was conducted within the context of this argument and it is

\(^{19}\) An action research project by Remco Hoogma, Johan Schot and Rene Kemps from the University of Twente (Hoogma 2002).
hoped it will contribute the type of new knowledge, which might be useful in the process of bringing about such important ‘small changes’.

2.4 Summary

Considering the history and technological progress of road transportation it can be seen that in comparison to other fields of engineering advancement, automobiles and individual mobility choices have not come a long way. A century of transport design and development has provided a legacy of global environmental degradation, pandemic health effects and social inequity which researchers, government and industry have yet to find ways to overcome. Now is a good time to deeply reflect on the concept of personal mobility design, not by continuing a natural science approach with repeated analysis of historical data but from a socially oriented, ecological, ‘human science’ perspective. What do individuals and society want for their mobility choices in the future? What do they really want now? What could the experience of new mobility be like and how would we understand it? These are the types of questions this project probes by studying the lived experiences of people who are using NMV’s now.

So what is the question?

The information and questions related to transport described above, while they may have provided the direction for the early phases of this thesis, did not provide any specific insights for improving the social impacts of transport decisions. The noticeable lack of qualitative perspective in transport research literature could be seen as motivation enough for more human oriented approaches. Existing research into the social impacts of transport appeared to be missing the fundamental human perspective contained in everyday experience. This suggested that the direction this
research needed to take was to consider ways to answer this type of question: what is the NMV experience? How can we understand this or any other experience? How can this understanding be made useful in the design of more socially sustainable vehicles?

Chapter Three begins this process by considering the philosophical and methodological perspectives necessary to even begin to understand these questions.
CHAPTER THREE

PHILOSOPHY & METHODOLOGY

APPLIED IN THE PROJECT

Figure 3.00: Gardeners shed-Caesars Palace, Rome, Italy
CHAPTER THREE – PHILOSOPHY & METHODOLOGY
APPLIED IN THE PROJECT

Introduction

Chapter Two described the somewhat ‘false’ start to this project, that is the early literature research through which I explored the relationship between sustainability, the production of NMV’s and their almost certain demise. I determined through this initial investigation that the project would be better focussed on understanding the experience of those people already involved in designing and using NMV’s. My initial exploration of what is presently known about experience soon separated into two key themes. The knowledge and understanding of experience from a theoretical and philosophical perspective and the more pragmatic perspectives held by Design theorists and other disciplines.

The understandings developed along both these lines of inquiry were achieved over the four year candidature and whereas this information might usually be interwoven throughout a ‘narrative style’ thesis, such a presentation decision would inhibit the flow of later chapters and detract from their focus on the knowledge derived from within the empirical research. Instead, I have chosen to present each of these two areas of knowledge separately in contiguous chapters (Three and Four) so that even though the information contained in them was acquired over the length of the project, they are presented here together on the understanding that they are a body of knowledge which progressively informed the research as it developed during all its stages. Presenting the philosophy, methodology and
theory informing this thesis in this block-like manner, is done so that it can provide a central source of reference in later discussion of the field research and analysis; especially how this information guided and supported decisions throughout those stages. It is hoped that through my discussion of these two chapters the reader will have a clearer understanding of the thinking which guided all of the research development presented in Parts Two and Three of the thesis.

Paradoxically, the philosophy and methodology literature review discussed in this chapter, undertaken in a continual process of reading and interpretation, was used to understand, guide and reinforce directions the research has taken almost by its own volition. The phrase ‘by its own volition’ is intentionally dramatic. It is intended to highlight the manner in which the entire research project (including the literature reviewed) evolved from beginning to end; possibly due to the lack of a clear research ‘question’. Driven by the goal of understanding experience and guided by the practical needs of the research, the direction followed was at all times decided through feedback from the research, that is, what it was ‘saying’ about where it wanted or needed to go.

"when people ask me what philosophy is, I say philosophy is what you do when you don’t know what the right questions are yet. Once you’ve got the questions right, then go answer them and that’s typically not philosophy, that’s one science or another” (Winton, 2002 #189).

The literature reviewed in this chapter addresses the philosophical and methodological underpinnings of the substantive line of inquiry directing the thesis: how can we understand experience? The review which follows has been heavily filtered by considering only those topics that advance
understandings of ‘life-world’ experiences. Studies of experience by their nature blur the boundaries between philosophy and methodology. It should however be understood that in this chapter and in this review, the philosophical and methodological facets of hermeneutical phenomenology, while they are necessarily discussed separately, are not considered discrete areas of knowledge, they are at all times and particularly in practice just different facets of the same thing.

The philosophy of hermeneutical phenomenology studied and used in this project has guided decisions at every level from methodology through to methods and techniques. Thus philosophy and methodology (deeply intertwined) are used to understand the meaning of experience in the context of this research project (the NMV experience). A second review of design and other literature (Chapter Four – Design theory and Experience) describes explorations of individual (personal) experience from the perspectives of designing, design research and interdisciplinary determinations of what experience is. To facilitate the study of experience in this project it was important at the outset to adopt a philosophy and methodology which, not only values experiential understandings, but also provides valuable guidance on how to go about gaining this understanding. Very early in the project Phenomenology was considered because it is a philosophy that offers experiential understanding from a Constructivist-Human Science genealogy. That is, at its core, it holds a high regard for the value of individual human experience (Erlebnis).

By also applying principles of interpretation drawn from the hermeneutical branch of phenomenological studies, it was expected

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20 The pre-given basis of all experience, the ‘world’ of experience as it is encountered in the moment of encounter, before it is reflected on, considered or interpreted (Gadamer 1975; Van Manen 1997). “… life-world i.e., the world in which we are immersed in the natural attitude, that never becomes an object as such for us, but that represents the pre-given basis of all experience” (Husserl in Gadamer 1975, p. 23).

21 The German word for ‘lived experience’ that is experience as we live through it and recognise it as a particular type of experience (Van Manen 1997).

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that greater insights might be gained into the deeper ‘essences’ \(^{22}\) of the experiences being studied.

In what may appear to be a reversal of normal research practice, in this project, methods \(^{23}\) were developed first. Methods were considered that would enable the research to make close contact with and reach ‘into’ the ethereal nature of experience in order to develop a preliminary understanding of it. From this initial understanding the appropriate methodological and theoretical framework asserted itself over time. The first two sections of this chapter present a discussion of the core philosophical values and principles of methodological engagement that have guided the ‘interpretation’ of this research project. These values and principles have helped to define the nature of the project, intuit a way to conduct it, accept its lack of predefined goals and ultimately understand the value of its ‘soft’ outcomes.

"A certain openness is required in human science research that allows for choosing directions and exploring techniques, procedures and sources that are not always foreseeable at the outset of a research project (p162). … a rigorous human science is prepared to be "soft", "soulful", "subtle" and "sensitive" in its effort to bring the range of meanings of life’s phenomenon to our reflective awareness" (Van Manen, 1997, p. 18).

\(^{22}\) The term essence derives from the Greek ousia which means the inner essential nature of a thing, the true being of the thing. The Latin essentia from esse meaning ‘to be’ (Van Manen 1997, p. 177).

\(^{23}\) The specific methods and techniques applied in the field research phase of the project are discussed in detail in Chapter Five.
3.1 THE PHILOSOPHY OF EXPERIENCE

3.1.1 Constructivism and experience

This dissertation will not benefit from a lengthy discussion of constructivism but as a requirement of advanced degree research it will be briefly mentioned here in order to establish the theoretical framework within which the project was conducted.24 Higgs provides a convenient overview of the alternative research paradigms in which this project could be situated [Higgs, 1997 #379].

1. The Empirico-analytical paradigm - Positivism - the scientific method
2. The Interpretive paradigm – Idealism - whose derivatives include constructivism, hermeneutics, phenomenology, grounded theory and ethnography
3. The Critical research paradigm - Realism - how our thinking is socially and historically constructed and how this limits our actions

The goal of this project was to understand individual lived experience, a recognisable personal and qualitative agenda – this suggests that an Empirico-analytical paradigm with an emphasis on ‘facts’ and ‘truths’25 might be limiting and objective. Similarly, as the project was about understanding an experience and not changing it, a Critical research paradigm26 appeared equally unsuitable. Considering the nature of the inquiry once again (understanding experience) the Interpretive, Idealist

24 All subsequent deeper discussions of methodology and philosophy in this chapter also reside within this framework.
25 The scientific method is where "Knowledge is discovered (i.e. universal and external truths are grasped) and justified on the basis of empirical processes which are reductionist, value driven, quantifiable, objective and operationalisable" (Higgs 1997, p. 6).
Information presented in the last chapter highlighted the dominance of quantitative methods in transport research.
26 The critical paradigm was considered unsuitable for this project due to its orientation towards changing, reforming or reducing existing limitations on individuals or situations (Higgs 1997).
constructivist paradigm, appears to offer the most appropriate path to achieving the goals of the research. This choice is further supported by acknowledging that the research goal is to understand one of the most fundamental of all methods of human understanding; how people ‘experience’ the world.

[Constructivist philosophy is] “concerned with how people individually make sense of their world and how they make personal systems of meaning that guide them throughout their lives” (Higgs 1997, p. 7).

‘Definitions’ of Constructivism from English, Sociology and Philosophy dictionaries are surprisingly varied and unhelpful27. However, Psychology offers an interpretation which is useful in this project. It says, “the essence of all constructivist theories is that perceptual experience is viewed as more than a direct response to stimulation. It is instead viewed as an elaboration or ‘construction’ based on hypothesised cognitive and affective operations” [Reber, 1985 #372, p. 151]. These ‘constructions from sensory and other cognitive information inputs’, are what are referred to in this project as ‘experiences’ and these are what determine a persons ‘reality’. ‘Experiences’ of life therefore, form the basis for individual constructions of a mental image, of what reality is for each person [Crotty, 1998 #101].

“In the constructivist view our perceptions, appreciations and beliefs are rooted in worlds of meaning that we come to accept as reality” [Schön, 1987 #318, p. 87].

This is not to say that this constructed reality is reality, or is the same reality as others have constructed for themselves, but it is the individual’s perception of the information presented in the situation and the personal ‘interpretation’ they have placed on it [Law, 1999 #61].

27 Most dictionaries deal with Constructivism in terms of the early twentieth century art movement of the same name [Websters, 1989 #373; Theodorson, 1970 #374; Honderich, 1995 #381].
Colin Wilson [2006 #339] refers to the seventeenth Century British philosopher John Locke (1632-1704) who argued that we do not know anything that does not come from our own experiences. Solipsistic28 views aside, Locke suggested that we cannot know anything (in mind) unless we have sensorially experienced it first. He supports a view that says humans are born with a mental ‘blank slate’ and that through a gradual procession of experiences, build or ‘construct’ a reality or knowledge of the world.

Glanville presents a more simplified view of how we ‘construct’ reality, arguing that there are three main traditions in western philosophy dealing with ways of interpreting existence.

- Firstly there are Realists, who “hold that there is a real world that exists independent of us, that we have to find out about”.

- Secondly there are Idealists, who “hold that the world is a product of the intelligence observing it”.

- A third view proposed by Glanville, extends the second, Idealist concept by arguing that Constructivists go beyond mere observation and interpretation of the world and are in a way responsible for their own co-creation within it.

The co-created ‘image’ is all that can be known of the world as it becomes the ‘reality’ of the observer.

“we cannot know whether or not there is a world independent of us, for all our knowledge comes through interaction, and we are always present. What we can know is that we have understandings and we construct them (together), and hence we create an image of our world: which is as close as we can get. The responsibility for this lies with each of us” [Glanville, 1998 #128, p. 3].

Understanding socially constructed realities (the everyday experiences of individuals) is the goal of this research project, but these are not objects or

28 “The theory that only oneself exists and can be proven to exist” (Honderich 1995) also the position that “… the only thing that one can be certain of is one’s own experiences and that one’s experiences represent all of reality, the outside world existing as an object of one’s consciousness” (Reber 1985).
entities that can be numerically tabulated and thus provide defined meanings.

A qualitative construction of these realities is required and only a humanistic orientation will enable the research to approach close enough to the reality of experience to develop a reasonable understanding.

"Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is being studied and the situational constraints that shape the enquiry" (Denzin, 2000 #10, p. 8).

Therefore, moving beyond the research foundation offered by the constructivist paradigm, to achieve my goal of understanding human experience, a humanistic orientation is further suggested. This is beginning to bear the epistemological hallmarks of a ‘Human Science’ approach.
3.1.2 Human Sciences and experience

A renaissance in the Human Sciences came about in the late nineteenth to early twentieth century when the prevailing dominance of ‘Cartesian’ thinking in science and research was strongly challenged by early phenomenologist’s, who proposed that metaphysical aspects of everyday ‘natural’ living, were not only relevant but essential to any comprehensive understanding of it. These were the early days of a new hermeneutics and a revolution in the status of social science as an epistemology.

“Heidegger challenged the basic modernist metaphysics introduced by Descartes; a metaphysical dualism that sharply separated an autonomous subject or self from an objective world. Contrary to this metaphysical dualism, Heidegger maintained that humans must be understood to exist fully within this world, not as detached and autonomous spiritual minds” (Feldman, 2000 #180, p. 54).

The distinction between the epistemology of natural science (Empirico-analytical paradigm) and social sciences including human science (Idealism - constructivism) can best be understood in the objects of their study. In the natural sciences the objects of study are usually ‘things’, particularly how they exist and behave in the world. Husserl lampooned the naivety of scientific thinking and its focus on objectivity, which he said unnecessarily excluded all forms of subjectivity, including experience. He berated the scientist “who is blind to the fact that all the truths that he acquires as objective, and the objective world itself that is the substratum in his formulas, is his own life construct that has grown within him, is, of course no longer possible when Life comes on the scene” (Husserl in Gadamer 1975, p. 240).

“Experience as ontological foundation: the phenomenological-existentialist idea of experience as the unsurpassable horizon of being, vs. objectivity understood as a detached view from nowhere” (Feenberg, 1999 #140, p. 4).

*Hermeneutics which was once part of traditional Philological approaches to scriptural and other theological studies was brought into and made foundational to mainstream human science (Gadamer 1975, p. 157).*
The focus in social science and human science research is on people. While social sciences try to understand the underlying structures governing behaviour within societies (Reber 1985) human sciences focus more closely on a person's individual interactions with their everyday world. Van Manen (1997) lists the attributes of these interactions, which human science studies as “mind, thoughts, consciousness, values, feelings, emotions, actions and purposes” (p.3). These interactions might also be referred to as ‘experiences’. Gadamer (1975) refers to them as “enduring units of significance”. They are, he says, expressions of real life, and in this way, “life constitutes the real ground of the human sciences” (p.221). If life then is the real ground of the human sciences, what methodologies might then be useful to study life? Heidegger, along with Husserl, Dilthey, Schleiermacher and others before them, built phenomenology into the foundations of a new human science. Gadamer (1975) took these developments (particularly Heideggers) further, announcing that “in the nineteenth century, the hermeneutics that was once merely ancillary to theology and philology was developed into a system and made the basis of all human sciences” (p.157).

As a way of setting the philosophical tone of the current project, I have drawn upon a compilation of Max van Manens (1997) comments which describe the relationship between these two philosophy/methodologies. He says, "Hermeneutics and phenomenology are human science approaches which are rooted in philosophy; they are philosophies, reflective disciplines (p.7). [secondly] …Human science research is the phenomenological and hermeneutical study of human existence … Phenomenology because it is the descriptive study of lived experience (phenomena)...hermeneutics because it is the interpretive study of the expressions and objectifications (texts) of lived experience in the attempt to determine the meaning embodied in them (p.38) [and lastly] …the ‘data’ of human science research are human experiences” (Van Manen 1997, p. 63).
These statements establish a clear agenda for the philosophical-methodological progression of this project. For a Human Science research project with the goal of understanding human experience, hermeneutical phenomenology must be considered as an appropriate methodology.
3.2 PHENOMENOLOGY AS METHODOLOGY FOR RESEARCHING LIVED EXPERIENCE

*Introduction*

In this section I will discuss how in order to study experience using phenomenology as a methodology. Firstly, I found important to establish what phenomenology understands ‘experience’ to be. Secondly, I needed to understand which (of many) facets of phenomenology would be most helpful in guiding this project. Lastly, I found it useful to briefly clarify certain fuzzy distinctions between the methodological concepts of phenomenology and ethnography in order to clarify the choice of phenomenology as the most appropriate methodology to use in this particular project.

### 3.2.1 Defining ‘experience’

This section addresses how experience can be understood from a philosophical and phenomenological standpoint. A discussion of experience, from design and neuro-physiological perspectives is discussed in Chapter Four – Design and Experience.

Firstly, a definition from sociology suggests that experience is something that “an individual can at a given time remember, organise and verbalise. Conscious experience includes inner feelings and thoughts as well as overt behaviour of one’s self and others” (Theodorson 1970, p. 72).

A more specific understanding is given by Martin Heidegger (1962), if not as the father of phenomenology, then through his refinement of Husserl and others earlier work. He is often considered to be the ‘master’ of this branch of philosophy. In his 1927 opus *Sein und Zeit*, he repeatedly refers to aspects of
experience but not in a manner that easily translate into English. He uses the
German terms Erlebnisse (referring to experiences), Erlebnis (referring to
conscious experiences felt deeply and lived ‘through’) and erfahrung (everyday
experience). Gadamer also uses these terms but expands on their meanings
by explaining that Erlebnis is an experience that is had, while erfahrung is an
experience that is undergone. In most discussions both Heidegger and
Gadamer are principally concerned with the concept Erlebnis (personally felt
experience) as an event that fully encompasses the experiencer\(^30\) and has a
profound effect on him/her.

“something becomes an experience [Erlebnis] not only insofar as it is experienced,
but insofar as its being experienced makes a special impression that gives it lasting
importance” (Gadamer 1975, p. 53).

Van Manen (1997) continues Heidegger’s thought by saying that experience is
not only something that is lived through but also something that we
“recognise as a particular type of experience” (p.177). This statement
suggests another layer exists beyond the immediate experiencing; one that
contains some form of reflection or mental ‘value construction’. This
reflection cannot take place during or within the experiencing event but adds
subsequent layers of complexity, after it is processed into memory (Ibid,
1997).

Gadamer (1975) commented that, “if something is called or considered an
Erlebnis [experience] that means it is rounded into the unity of a significant
whole” (p.58). I have taken the wholeness he describes to refer to the greater
complexity attributed to the experience after the event. The manner in which
it “constitutes itself in memory” (ibid, p.58) that is, the way it grows in

\(^{30}\) The term User is strongly linked to the interactive and functional aspects of product use very often associated
with marketing and consumerism. The term Experiencer draws attention to the whole person having the experience
of a product, service or event as well as to the experience as an entity in itself.
stature, develops a lasting quality and has an inexhaustible depth of meaning. This establishes the internal ‘processing’ of experience as a rich and valuable source of information which might be plumbed for ideas and thinking. Heidegger described human experience as a ‘unitary phenomenon’ of Dasein (being there) or being-in-the-world, referring to the experiencer (the self or I) as having a ‘practical’ quality of involvement within the experience taking place. That is the experiencer is not just an observer, but is fused within the experience. There is no experience without the experiencer (Feldman, 2000).

In order to understand experience (as is the focus of this research) the life-world in which experience takes place cannot be simply observed, it must be experienced. Putting experience at the centre of observation is, according to Glanville, the only way to understand the life-world in a “truly human way”.

"Phenomenology wants to slow the researcher down and hold his or her gaze on the phenomenon itself - the lived experience of some activity. It does not seek to locate a phenomenon in an abstract matrix by saying how its abstract structure might be similar to others, but rather to illuminate its specific quality as an experience” (Willis, nd #105, p. 6)

The primacy of personal experience is thus raised as an epistemology of inquiry, enabling the researcher to understand the system of life, ‘from within’. If the life-world is comprised of experiences within which humans live, then the starting point for understanding human life-worlds must lie in understanding individual experiences [Bunbury, 2005 #242; Glanville, 2006 #288]. Phenomenology, as a philosophy entwined with understanding individual experiences, is ideally formulated for nurturing this kind of understanding.
3.2.2 A partial history of ‘Phenomenology’

This section considers the role phenomenology as a philosophy and mode of practice that has in informed the essential focus of this thesis, which is to understand experience. To begin with, I found it helpful to understand some of the history that has shaped this philosophy\(^{31}\) and when the key contributors, to whom I most frequently refer, had lived in relation to each other.

The beginnings of Phenomenology are often attributed to the work of Edmund Husserl in Germany in the mid-1890s, but a great deal of earlier development must be credited to philosophers such as Immanuel Kant (1724 - 1804), Wilhelm Dilthey (1833 -1911) and Friedrich Schleiermacher (1768 – 1834), among others (see Figure 3.01 below). The early nineteenth century was a time of scientific revolution. In the post-romantic period the ‘German school’ were doing battle with proponents of the logical, positivist, (and much earlier) natural science philosophies of René Descartes and Isaac Newton. Many of the earliest scholars in this movement had their foundations within religious occupations such as scriptural interpretation and translation\(^{32}\).

Philology had enjoyed a long established tradition in biblical studies and it was beginning to be used in, what were at the time, quite radical new interpretations of what had been considered until then, sacred and unambiguous texts (a process begun by Martin Luther). The earliest of these

\(^{31}\) The mention of partial history acknowledges my lack of completeness in the description offered, realising that many other great minds also contributed to the history of phenomenology; their individual contributions would take another volume to adequately describe. A much better job of this can be seen in (Moran 1999). The reference to partiality also refers to how the nature of what is presented here as history, has been flavoured by the direction in which I have read. Not all aspects of phenomenology were covered equally; it was selectively covered and oriented towards the goals of the research project. Names not mentioned but acknowledged for their contribution to the thinking of those who were mentioned, include Kant, Brentano, Schiller, Hegel, Marx, Nietzsche, Jaspers and others.

\(^{32}\) An interesting concept considering that the final goal of analysis in this project (Chapter Seven) is to develop the superordinary or spiritual (though not religious) aspects of experience.
new interpretations tended to focus on the original authors views as mediated by the social conditions at the time of writing, sometimes referred to as the authors historicality33 or historicity. However, an even more radical view of textual interpretation adopted an orientation that considered the meaning to be engendered in the ‘reader’s’ understanding of the text. This view proposed that the meaning taken up by the reader of a text was actually a truer meaning, regardless of the author’s original intention. This is one of the key differences that lead to Husserl’s descriptive phenomenology and what Heidegger developed further into interpretive phenomenology. In less than fifty years, Phenomenology went through a number of developmental stages; from Husserl’s Descriptive phenomenology to Realistic to Constitutive to Heideggers Existential phenomenology, established in 1927 with his seminal work *Sein und Zeit* (Being and time) [Embree, 2005 #251; Heidegger, 1962 #97]. Heidegger’s phenomenology split into two main streams of advocacy; those that followed existential phenomenology, with champions such as Hannah Arendt, Maurice Merleau-Ponty, Simone de Beauvoir, and Jean-Paul Sartre; and those who pursued hermeneutical phenomenology; its champions included Hans-Georg Gadamer and Paul Ricoeur [Embree, 2005 #251] (see Figure 3.02: Genealogy of Phenomenology). Phenomenology subsequently spread as a philosophy and a mode of methodological practice throughout the western world and has been called the most important philosophical movement of the twentieth century. Hermeneutical phenomenology with its roots in early twentieth century social science philosophy and its accent on interpretation of text has had a

33 Refers to the points of view that an author, researcher or interpreter brings to and influence his approach to a project that are significantly effected by the nature of the times s/he lives in, their location, personal and social surroundings and other attitude defining influences.
major effect on the way modern social science research is conducted (Embree 2005)
FIGURE 3.01: A COMPARATIVE TIMELINE OF WESTERN PHILOSOPHERS RELATED TO PHENOMENOLOGY

Sources: [Stanford, 2007 #384; Kemerling, 2007 #383; Britannica, 2007 #387]
Modern concepts of phenomenology and hermeneutics were largely inspired by and based on studies of classical Greek texts especially those of Plato (427-347 BCE) and Aristotle (384-322 BC)

**Edmund Husserl**
(1859 – 1938)
Developed Descriptive Phenomenology
Mid 1890’s to 1910
This became Constitutive phenomenology
1913
Sometimes called Realistic

**Wilhelm Dilthey**
(1833 - 1911)
History of Hermeneutics.
Method for all social sciences

**Friedrich Schleiermacher**
(1768 – 1834)
Father of modern, theological, ‘general hermeneutics’

**Martin Heidegger**
(1889 - 1976)
Existential phenomenology
1927
Fused Husserl’s Descriptive Phenomenology with Dilthey’s Hermeneutics into, Hermeneutical Phenomenology
(saying existence is interpretive).
Seminal work - *Sein und Zeit*

**Hans - Georg Gadamer**
(1931 – 2002)
Hermeneutical Phenomenology
Studied under Heidegger
Also Paul Ricoeur

**Hannah Arendt**
(1906-1975)
In the 1940’s and 50’s (post 1945)
Existential phenomenology became popular in France.
Described perceptions and lived body
Also Maurice Merleau-Ponty, Simone de Beauvior, Jean-Paul Sartre and Jacques Derrida

Sources: [Stanford, 2007 #384; Kemerling, 2007 #383].
3.2.3 Phenomenology and this project

Moran refers to phenomenology as a “radical\textsuperscript{34} way of doing philosophy” and a ‘practice’ rather than a methodological system [Moran, 1999 #297, p. 4]. In doing so he is describing the way in which phenomenology is often adopted as a life-altering philosophical way of viewing the world and the reasons why phenomenological researchers lean towards seeing it this way.

"The mind directed toward self-knowledge regards itself as alienated from the ‘positive’ [positivism] and must reconcile itself with it, seeing as its own, as its home” (Gadamer, 1975, p. 341).

Phenomenology is the study of phenomena - ethereal, insubstantial and ephemeral instances of life. In phenomenology, phenomena, or lived experiences, are believed to contain the essences of life, and more, to hide within them, the essential meanings of life.

"Phenomenology is in a broad sense, a philosophy or theory of the unique; it is interested in what is essentially not replaceable” (Van Manen 1997, p. 7)

Phenomenology is a deep searching for the true nature of everyday experiences. It goes beyond the surface exploration and probes the intrinsic meanings within that which is presented. It asks the question ‘what is this experience like?’ It wants to know the answer to this question not from an external ‘objective’ standpoint but from an ‘inside-looking-out’ view. It not only employs this personal view but adopts it as its own, using it as a base point for further exploration of the depths of that view (Gadamer 1975). This can only be accomplished in retrospect and not from introspection, so that phenomenology is always looking back on experiences to understand their essences (Van Manen 1999).

\footnote{34 Radical - “marked by a considerable departure from the usual or traditional” [Merriam-Webster, 2007 #386].}
The goal of this research has been explained as an understanding of the essence of the NMV experience. This was done, in this project, by deeply exploring specific NMV experiences in the context and timing in which they occurred. In a phenomenological sense then, the choice of focus in this research is appropriate, as it questions "the essential nature of a lived experience: a certain way of being in the world" (Van Manen 1999, p. 39). Further it uses what Willis (nd) refers to as ‘empathic’ phenomenology. That is, I, as the researcher (who has also become an experiencer) looked beneath the phenomenon as it became more visible and looked more attentively within my personal experience for structure and meaning {Willis, nd #105}

"Empathic’ phenomenology focuses on the meanings and significances given to an experience by those experiencing it” (Willis, nd. P. 9).

The empathic phenomenological approach has been beneficial in that it has helped to “name the experience in terms of the subjectivity it evokes in those who experienced it”. The NMV experience was ‘named’ by my acting as both researcher and participant (Willis, nd, pp. 9-10). This means that I deeply understood the experience to the point of being able to identify (name) its structural forms in language (terms) drawn from the ‘essential nature’ of the experience. Phenomenology is useful in examinations of the structure of subjective experience {McDonough, 2002 #155}. Ultimately, this project has established such a structure in order to enable designers to understand experience and to design for it.

This then is the fundamental phenomenological thesis offered in this research. It says in essence, that if a particular set of experiences is explored and an understanding of the structure and essences that lie within them is developed, then this structure and these essences might be useful for forming the basis of a broader understanding of similar experiences.: this constitutes a
sound new basis for designing (see Chapter Seven - Developing a ‘Taxonomy of Experience’).

"Phenomenology is the systematic attempt to uncover and describe the structures the internal meaning structures, of lived experience. A universal essence may only be intuited or grasped through a study of the particulars or instances as they are encountered in lived experience" (Van Manen 1997, p. 10).

It is this depth of exploration and understanding that provides a fundamental differentiation between phenomenological thinking and that offered by methodologies such as ethnography. Recently it has become increasingly common to hear these two methodologies referred to as if they were similar or in some way interchangeable terms [van Veggel, 2005 #293].

Creswell (2007) clarifies this confusion by describing ethnography and phenomenology as quite different approaches to qualitative research. The first derived from an anthropological heritage the second originating from the phenomenological branch of human science philosophy. A key differential between the two approaches according to Creswell, is the nature of the ‘object’ studied. In ethnography the object of study is to record, analyse and reconstruct (re-story) the various manifestations of culture with the group.

"Ethnography is a qualitative design in which the researcher describes and interprets the shared and learned patterns of values, behaviours, beliefs and language of a culture-sharing group" [Creswell, 2007 #429]
In contrast the object of study in phenomenology is an understanding of the essence of the phenomenon itself. This essence of the experience of the phenomenon is distilled from the meaning contained in various first hand accounts of individual participants in the experience

"a phenomenological study describes the meaning for several individuals of their lived experiences of a concept or phenomenon…the basic purpose of phenomenology is to reduce individual experiences with a phenomenon to a description of the universal essence" Ibid. p.57

A brief discussion of ethnographic practices in current design research is presented in section 4.3.2.1 User centered research methods. Also, Appendix 3.02 presents a selective comparison of comments from design discourses relating to the similarities and differences between phenomenology and ethnography as methodologies. It is by understanding these that the choice of phenomenology and not ethnography as the most suitable methodology for this project, became clearer. As this comparison is not essential to the purposes of the current project, it is presented as an appendix only.
3.3 HERMENEUTICAL PHENOMENOLOGY – UNDERSTANDING LIVED EXPERIENCE

Introduction

Phenomenology and its sibling hermeneutical phenomenology as explained in section 3.2.2 above, evolved out of Heideggers Existential Phenomenology in the early part of the twentieth century. The champion of this new direction in phenomenology was Hans-Georg Gadamer, a former student and disciple of Heidegger. This section will discuss firstly what hermeneutical phenomenology and particularly hermeneutics are and secondly, the different features of this philosophical methodology that were applied in researching lived experience in this project.

3.3.1 A brief history of hermeneutics

In the early nineteenth century, the nature of the hermeneutics that was until then known and practiced in theology and philology, underwent a significant change. It became much more than a collection of the traditional methods of scriptural interpretation it had been up until then. Martin Luther (1483-1546) had begun this process through his controversial adaptation of classical rhetoric into scriptural interpretation, calling his processes ‘the universal principle of textual interpretation’. This was the beginning of the new universal hermeneutic principle of understanding parts (*contextus*) and whole (*scopus*) (Gadamer 1975).

The history of hermeneutics and hermeneutical phenomenology is a study in itself. Many scholars contributed and shaped the philosophical methodology which is used in hermeneutical phenomenology today. Kant, Schleiermacher, Hegel, Marx, Dilthey, Nietzsche and Husserl among many others, built
progressively on each other’s work. These many contributions lead to traditional hermeneutics undergoing its most significant change with the work of Schleiermacher (1768 – 1834) and Dilthey (1833-1911).

“Schleiermacher (1768 - 1834) advanced hermeneutics from its focus on the interpretation of classical, biblical and legal texts to an examination of understanding itself. ....With Dilthey came the beginning [of] ontological and historical dimensions of hermeneutic philosophy. Dilthey perceived understanding as contextual, existential and situated within time and place. He saw experience as existing before subject and object and so the world and our experience of it were together” [Geanellos, 1998 #176, p. 159].

While historically he tends to have been somewhat sidelined due to his focus on descriptive phenomenology, Edmund Husserl is commonly credited with beginning the modern development of interpretive or hermeneutical phenomenology which Martin Heidegger (1889 - 1976) was to finesse in Sein und Zeit (1927) [Heidegger, 1962 #97]. In this work, the relationship between the study of human existence (phenomenology) and the interpretation of this existence (hermeneutics) is cemented in Heideggers understanding of Being. Hans-Georg Gadamer a student of Heidegger, took these concepts, and developing them further, published his seminal work Wahrheit und Methode (Truth and Method) in 1960 [Gadamer, 1975 #9]. Thus hermeneutical phenomenology became the philosophy for understanding the texts of human existence, that is, human ‘experiences’.

3.3.2 Defining hermeneutics and hermeneutical phenomenology

The term hermeneutics comes from the classical Greek expressions hermeneutikos (of interpreting), from hermeneuein (to interpret), and from hermeneus (interpreter) [Roberstons, 2007 #382]. It is also associated with the character Hermes from Greek mythology. Hermes was a messenger or herald who delivered information to the Gods. Gadamer (1975) alters this
interpretation by referring to the way hermeneutics ‘frees’ information that is locked in text, as “the unlocking and mediating spirit that we, like the Greeks name after Hermes: the messenger of the Gods” (p.157).

Underlying hermeneutic’s Greek roots, meaning ‘to interpret’ or ‘to understand' are the more complex notions of ‘saying’, 'explaining' and ‘translating'; there is an implied assumption in these notions that they are referring to ‘something deeper’. Something that is “strange, separated in time or place, or outside of ones experience, with the purpose of rendering it familiar, present and intelligible" [Crotty, 1998 #121, p. 88].

Hermeneutics and phenomenology are philosophies of human science (Van Manen 1997). Therefore, hermeneutical phenomenology brings together two aspects of philosophy, phenomenology with its focus on descriptions of lived experience that allow things to ‘manifest themselves in themselves’; and hermeneutics which interprets these expressions and objectifications of life in terms of their deeper meanings (Van Manen 1997). If phenomenology delivers experience, then hermeneutics provides a means to understand it.

While hermeneutics and phenomenology are both understood as philosophies, hermeneutics, especially with its roots in scriptural, philological reflection, is also considered a ‘science’ of textual interpretation [Crotty, 1998 #121; Geanellos, 1998 #176].

It is because it has this hard-edged ‘method-like’ character that it is sometimes mistaken for a research technique or tool. This is why Gadamer referred to hermeneutics as having the “character of a technique”. It has a functional, practical usefulness that serves the art of understanding in the same way that “rhetoric tries to serve the art of speaking, and 'poetics' the art and appreciation of poetry” (Gadamer 1975, p.179).
"All speech and all texts are basically related to the art of understanding, hermeneutics, and this explains the connection between rhetoric (which is a part of aesthetics) and hermeneutics; every act of understanding is for Schleiermacher the inverse of an act of speech, the reconstruction of a construction. Thus hermeneutics is a kind of inversion of rhetoric and poetics" (Gadamer 1975, p. 188).

Whether hermeneutical phenomenology is considered a technique for textual interpretation or a philosophy of existential understanding; either provides a useful way for the researcher to get closer to understanding the argument contained in an individual pathos within the greater social logos (Van Manen 1997). It is through language that this takes place, through the texts of lived experience.

"Hermeneutics is a universal aspect of philosophy, since the whole of human experience is encapsulated within language and is essentially in need of interpretation" (Gadamer (T&M) in Moran, 1999, p. 279).

The goal of this research project is to understand lived experience. Consequently, understanding the life-texts contained within NMV experiences is vital to its success. The language of life-texts is the language of experience. The next section discusses how these ‘languages’ can be learned then used to hermeneutically interpret life-texts and so understand lived experience.

3.4.2.1 Speaking the language of experience

Hermeneutic phenomenology involves the interpretive ‘illumination’ of essences hidden within lived experience. The ‘hidden essences’ buried within language (texts) are illuminated by understanding the language within which they are concealed. This section discusses issues related to language that influenced how this research project was conducted.
"The object of human science research is essentially a linguistic project: to make some aspect of our lived world, our lived experience, reflectively understandable and intelligible" (Van Manen 1997, p. 125).

The complexity of language can be understood in its ultimate individuality. Each person uses language in a unique way whether or not they use a common regional language for speaking and thinking. Hermeneutics allows that there is universality within the language of experience that exists regardless of individual and cultural differences. Gadamer (1975) explains this universality as describing the concept of Being itself.

"In language the world itself, presents itself. Verbal experience of the world is 'absolute'. It transcends all the relative ways being is posited because it embraces all being-in-itself. ...Our verbal experience of being of the world is prior to everything that is recognised and addressed as existing" (Gadamer 1975, p.447).

Critics of hermeneutics point to the subjective nature of phenomenological descriptions and argue that they cannot fully represent the experience being described. This point of view is partially reflected in Peter Downtons (2003 #144) reference to the digitisations of analogue experiences. His comments refer to where a phenomenological description, due to the gaps in description, becomes analogous to a ‘digitised’ description of an analogue event. Languages either natural (live recordings) or artificial (post-description, anecdotal) introduce such gaps into their digitisation. In this way he argues, language is insufficient to describe analogue events particularly those involving emotions, visual or aural imagery. This of course holds some truth, in that words themselves, used in language and at the level of words, grammar and sentence construction, do not reveal their essences immediately or readily. But Downton’s comment does not consider the phenomenological perspective, that it is the essence of matters that is important to understand in regard to experience, and that this is precisely
what is revealed in textual descriptions of experience through hermeneutic interpretation.

In the hands of a suitably experienced hermeneutic interpreter (one who knows the language) the structure of an experience-ers description of an experience becomes clearer. Getting to know the language in phenomenological research terms means that the researcher must come close to the experience to the point where it is understood almost as well as the experiencer understands it.

“The phenomenologist wants to be reflectively aware of the extent to which ‘my’ experiences could be ‘our’ experiences. …To be aware of the structure of ones own experience of a phenomenon may provide the researcher with clues for orienting oneself to the phenomenon. … In ‘Close observation’ the "researcher tries to enter the life world of the persons whose experiences are relevant study material for his or her research project” (Van Manen 1997, pp. 57 & 69)

Having reached the closest point, a researcher can be said to ‘understand the language of the experience’ and thus be able to hermeneutically ‘converse’ with it in its textual form, and ultimately to translate it. Familiarity with the language of the experience means the researcher develops an ‘ear’ for what grammatically ‘sounds’ right and what ‘sounds’ wrong (xx Van Veggel, 2005). A conversation of this nature requires a patient iterative approach where the researcher repeatedly returns to the description of an experience; to consider its multiple meanings most of which are not immediately understandable.

"The circular movement is necessary because ‘nothing that needs interpretation can be understood at once’. For even within one’s own language it is still true that the reader must completely assimilate both the authors vocabulary and, even more, the uniqueness of what he says. …the aim is to understand the writer better than he understood himself [which is] .... the whole problem of hermeneutics” (Gadamer, 1975, p. 191).
3.4.2.2 Dealing with ‘fore-structures’

In any attempt to interpret text or language it is in the very nature of the task that someone (a human being) is doing the interpreting and that this someone has a past history of human experiences (both personal and social) that have moulded them in a unique way, making them who they are. This is a person’s personal fore-structures and social history. The nature of a person’s fore-structures and their ‘historicality’, determines to a large degree, ‘how’ they will interpret the text, and subsequently, what influences they will have on the understanding they develop from this interpretation.

“Heidegger made it clear that we understand in terms of what we already know because without that there would be no understanding at all” (Geanellos, 1998 #176, p. 160)

Heidegger (1962) refers to Fore-structures as including Fore-having (Vorhabe), Fore-sight (Vorsicht) and Fore-conception (Vorgriff) (Heidegger 1962, p. 195 also Moran, 1999).

- **Fore-having** - refers to background practices from the life-world which make interpretation possible.

- **Fore-sight** - refers to background practices that carry with them a point of view, from which an interpretation is made.

- **Fore-conception** - refers to background practices, which create expectations about what might be anticipated in an interpretation.

(Geanellos 1998a, p. 155).
From the perspective of the current research project I have interpreted these as:

- **Fore-having**, being the understandings I developed during the submersive or close-observation research in the pilot study undertaken prior to the field research, as well as understandings developed during the field research itself. Both of these periods of personal NMV experience allowed me to get closer to the experience of the experiencer and to learn the language of the experience.

- **Fore-sight** then relates to the nature of the interpretation arising or derived from the application of my *Adiva* and field research, ‘fore-having’ knowledge. This determined what could be ‘seen’ hermeneutically due to my particular collection of fore-having knowledge.

- **Fore-conceptions** are the interpretations that I might anticipate, expect or even induce under the influence of my fore-having knowledge, but through being aware of these influences (by establishing my fore-structures) I was able to resist the urge and instead make a better determination of what the text was saying.

Considering the depth of my experiences riding the Benelli *Adiva* in the pilot study and my experiences with NMV drivers\(^{35}\) in the field research, I naturally started to form some opinions about what might be expected from the forthcoming interpretations of texts. These are the experiences which shaped my fore-conceptions and that had to be resisted or at least not allowed to influence or inhibit interpretations from emerging from the text itself. An indicator of the truth or validity of an interpretation can be found by considering whether what is found in the interpretation is new or predictable. Not that this is a foolproof test of fore-conception, as things that

\(^{35}\) See field research - Chapter Five.
could have been predicted can still emerge as genuine findings out of an honest interpretation. The level of truth in the interpretation is determined by the validity with which fore-having knowledge is applied, which in turn affects the level of influence that fore-conceptions are allowed.

“In every case it remains open in principle whether the new will prevail, that is, will truly become experience or whether the old, accustomed, predictable will be confirmed in the end” (Gadamer 1987, p. 88).

It is generally understood that a fundamental requirement of hermeneutics or indeed any methodology is to establish or make clear the assumptions that the researcher brings to the research [Crotty, 1998 #101; Denzin, 2001 #90; van Veggel, 2005 #293]. In the case of hermeneutics this is raised to the level of obligation. What is not clear is what form this should take or what level of exposition is needed to adequately reveal or make known a researcher’s fore-structures prior to interpretation.

“If such and interpretation, as Interpretation, becomes an explicit task for research, then the totality of these ‘presuppositions’ (which we call the hermeneutical situation) needs to be clarified and made secure beforehand, both in a basic experience of the ‘object’ to be disclosed, and in terms of such an experience” (Heidegger, 1962, p. 275).

‘textual interpretation must begin then with the interpreter’s reflection on the preconceptions which result from the hermeneutical situation in which he (or she) finds him (or her) self’ (Gadamer 1987, p. 130).

Ultimately this must come down to an individual value judgement on the part of the researcher; usually reflected in the desired level of rigor in the research. The researcher must of course be fully and openly aware of their tacit understandings36 of the phenomena before the interpretation begins

36 These tacit understandings are not to be completely dismissed or suppressed as they are highly informed and contemplative. They should be considered to be ‘guiding’ the interpretation and used as a sounding board against which the researcher reflects on their own experience of the experience and those of the experience. Gadamer warns against overzealousness in dismissing all prejudices, “overcoming of all prejudices ... will itself prove to be a prejudice” (Gadamer 1975, p. 277).
(fore-having) and to be so aware of these and wary of judgements influenced by these (fore-sight) that they will not pre-judge and ‘anticipate’ interpretations based on their fore-conceptions.

“To not engage in the process of addressing fore-structures/ pre-understandings places the researcher at risk of confirming their own truth (foreknowledge, assumptions, biases, beliefs) rather than revealing the truth of the phenomenon under investigation” [Geanellos, 1998 #178, p. 238].

It is this dialectic interplay between what is presented, what is known (in the interpreter) and subsequently what is revealed, that is the essence of ‘understanding’ in hermeneutic interpretations. Understanding is the goal of hermeneutics and understanding takes place ‘within’ the interpreter through the process of hermeneutic interpretation.

### 3.4.2.3 Interpretation

In the hermeneutic interpretation ‘process’ the interpreter acts as a mediator between the phenomenologically descriptive, experiential text and the ‘hidden’ meanings within the text. The goal of this project is to understand the hidden meanings and structures within selected lived experiences.

“Hermeneutic interpretation is, an attempt to recreate meaning through the understanding of a text… it seeks to reveal, illuminate or discover that which is hidden, fragmented or alien … in time, a new (or different) understanding comes into being” [Geanellos, 2005 #179].

The mediation between text and researcher, takes the form of a ‘third (alien) meaning’, an ‘understanding of the understanding’, one that is different from that which the author may have intended and different again from that

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37 To describe a lived experience it needs to be described in experiential terms, focusing on a particular situation or event, giving a direct description of the experience as it is without offering causal explanations or interpretive generalisations of the experience” (Van Manen 1997, p. 54).

38 The experiences selected relate to designers and users experiences of driving an NMV.
which the interpreter might have brought to the interpretation - his fore-structures (as discussed above). They co-mingle and in this way make sense, because they come from the same source, the lived-experience (life) that is the subject of interpretation.

"What has to be understood ... is a totality of meaning which... has the same detachment from the person understanding it. It is always an alien individuality that must be judged according to its own concepts and criteria of value, but can nevertheless be understood because I and Thou are of the same life" (Gadamer 1975, p. 197).

The third or ‘alien’ meaning develops or is negotiated at Gadamers ‘fusion of horizons’; a meeting point in the interpreter’s consciousness, where the author’s original meaning and the interpreter’s previous (historical) understandings meld and are transformed into a third entity. This is what Gadamer refers to as ‘historically effected consciousness’ or the way in which an interpreter puts aside (effects) his ‘projected’ preconceptions and looks at the text from another standpoint. This putting aside is what is sometimes referred to as ‘distanciation’ (putting something at a distance) {Geanellos, 2000 #260, p. 113}.

"In the process of understanding, a real fusing of horizons occurs - which means that as the historical horizon is projected, it is simultaneously superseded. To bring about this fusion in a regulated way, is the task of what we called historically effected consciousness” (Gadamer 1975, p. 306).

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39 That is consciousness (thinking) effected by historical personal prejudices, fore-structures, preconceptions, bias.
3.4.2.4 Distanciation and Appropriation

Distanciation is built into many facets of hermeneutic interpretation allowing the interpreter to place more distance between his own thoughts and those that are coming out of the text. It allows the interpreter to step back, letting go of the text, as it were, to better ‘hear’ what the text is ‘saying’.

Geanellos mentions four forms of distanciation:

1. Fixation into the written word; where phenomenological descriptions of experiences are recorded as text and meaning becomes more important than the actual words.

2. Eclipse of the author’s intention, where the text becomes autonomous from authorship, opening itself up to unlimited reading and interpretation.

3. Emancipation of the text, where the text is freed from the context of its creation and able to be read within different socio-political, historical and cultural traditions.

4. Differences between spoken and written words, where spoken dialogue, observation material, non-verbal communications etc. overcome normal ‘media’ limitations and become available when converted to written form (see Chapter Six, dealing with verbal and non-verbal aspects of interviews and contextual studies).

(Geanellos 2000, p. 113).

As a counterpoint to distanciation, Geanellos refers to Gadamers concept of appropriation of the ‘alien’. This is where the interpreter ‘takes up the text’, getting as close to it (in terms of developing an understanding) as possible to the point of ‘appropriating’ it. In this process, in order to reach a point of deeper understanding, s/he also lets go of their own historical (personal) and traditional (social) views and while also letting go of the author’s views,
appropriates the ‘alien’ text as their own - “the alien is appropriated” (Gadamer 1975, p. 244).

“When interpreters appropriate the meaning of a text, it is no longer alien, it becomes familiar. Accordingly, appropriation and distanciation provide a dialectic of interpretation, between the near and far, the familiar and unfamiliar, between the known or foreign” (Geanellos 2000, p. 114).

The concepts of appropriation and distanciation are closely interlinked in a rhythmic taking up and letting go of concepts and thoughts, of possible interpretations of what is presented (veritas). It is an ongoing dialectic ‘conversation’ between what presents itself in the text and the meaning the interpreter intuits from that presented (sensus orationum) while at the same time juggling a mindfulness that is alternatively regarding and disregarding what is already known (Gadamer 1975).

“it does not matter whether what is meant corresponds to our insight since we want to know only the meaning of the statements (sensus orationum) but not their truth (veritas). For this we need to exclude all prepossession, even those of reason (and of course, especially those generated by our prejudices)” (Ibid, p.182).

3.4.2.5 Circularity and the Hermeneutic ‘circle of understanding’

The dialectic described above plays a pivotal part in the fundamental hermeneutic concept of ‘circularity’. It describes the manner in which an interpreter must repeatedly approach the text and the meanings derived from it in a cyclical ‘conversation’. This circularity is required according to Gadamer because “nothing that needs interpretation can be understood at once” (Gadamer 1975, p. 191). This conversation with the situation is referred to as the ‘hermeneutic circle’ in which the interpreter comes to the text and its presented meaning is changed by what he encounters in it and thus he ‘sees’ the text in a new light. From this new standpoint the interpreter
approaches text once again and re-interprets it according to his new perspective. This process has no true starting point according to Geanellos (1998a) because “understanding of the whole presupposes understanding of the parts, in the same way that understanding of the parts presupposes understanding of the whole, even though such understandings may be preliminary” (Geanellos 1998a, p. 159).

The iterative conversation between parts and whole is a foundational aspect of hermeneutics and indeed all forms of experiential learning. Through these iterations the understanding in the interpreter expands as does the hermeneutic circle of understanding of which it is a part. He applies his greater understanding in re-iterations and so it continues (Gadamer 1975).

The concept of circularity as a path to deeper understanding is not new or unique to hermeneutics. It is referred to in design, cybernetics, scientific as well as dealist, interpretive thinking.

In Design, Downton refers to circularity in this way,

"...designing is a reflective conversation with the situation. [The designer] shapes the situation in accordance with his initial appreciation of it, the situation 'talks back' and he responds to the situations back-talk" (Schon in Downton 2003 p. 49).

In Cybernetics,

"Cybernetics discovered that circularity, if modeled adequately, can help us to understand fundamental phenomena, such as self-organization, goal-directedness, identity, and life, in a way that had escaped Newtonian science" (Heylighen, 2001 #268, p. 9).

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40 See (Andreson, 2000 #325), Experience - based learning. Experience based learning techniques were used extensively in the validation trials described in Chapter Eight.
In Positivist, scientific thinking,

"scientific knowledge develops through cycles of analysis and synthesis" [Ritchey, 2002 #276, p. 2].

In Idealist, interpretive thinking,

“There is a repeated return to data, (the process is circular, iterative, spiral) extraction of themes, theorisation, interpretation of texts and artworks” [Higgs, 2003 #106].

In simple terms, the circular process described in all the spheres mentioned above is a not-quite-circular (possibly linear) interaction between an interpreter (researcher) and a research situation containing information [Krippendorff, 1995 #351]. What differentiates hermeneutic circularity is the manner in which the interpreter becomes a part of the circle, at the same time distancing himself from the circle while through this process becoming reconstituted by the circle. The concept of hermeneutic circularity takes its ‘form’ from the experience of understanding itself, that is an understanding beyond what is to be understood and the person doing the understanding. Hermeneutics provides the manner of understanding but circularity provides the form of the experience of it.

"Philosophy, then, is a conversation leading towards mutual understanding, a conversation, furthermore, where this very understanding comes as something genuinely experienced. Moreover, the practice of phenomenology is the best way to access properly and describe the experience of understanding itself" (Moran 1999, p. 249).

The next section discusses the nature of this ‘experience of understanding’ and the manner of its experiencing. It is an important concept to grasp in terms of this project as it helps to define the level of engagement with the textual data that is necessary if deeper layers of meaning are to be found in the analysis. These are the deeper layers that expose the real essences of the experience.
3.3.3 Hermeneutic ‘understanding’

"Understanding is always interpretation and hence interpretation is the explicit form of understanding" (Gadamer 1975, p. 306).

To be clear, what is being talked about when referring to hermeneutic ‘understanding’ is not simply something that is derived or deduced. It is not the kind of information ‘obtained’ from research into or about a situation that holds a specific focus of interest (Erklären or explaining- typified in many of the spheres where references to circularity are used – see list above). It is research which creates a deep, holistic understanding (Verstehen) binding the researcher into a close relationship with the source of the understanding. What is being described in hermeneutic ‘understanding’ is a transformative human ‘experience’ that becomes a part of the researcher to the point of fundamentally and significantly altering the researcher; it is an experience of understanding itself (Moran 1999).

"if we make understanding the object of our reflection the aim is not an art or technique of understanding ….understanding [is] not what we do or what we ought to do, but what happens to us over and above our wanting or doing” (Gadamer 1975, pp. xxii – xxvi).

The hermeneutic experience of understanding becomes understanding as ‘third party’, as an entity in itself and is the ‘object’ of research desire. Beyond simply finding, it becomes knowing. It is this kind of understanding that was sought and accomplished in the interpretation of phenomenological narratives derived from the NMV field research. It was this kind of ‘third entity’ which was developed as an integral part of the SEEING methods described in Chapter Seven.

\[41\] The German terms "verstehen (to understand a phenomenon from the inside, intuitively) and erklären (to explain a phenomenon from the outside, analytically)" [Findeli, 1995 #269, p. 50].
The interpreter as ‘spectator’

Gadamer (1975) poses the question "does being understood belong to the meaning of a text just as being heard belongs to the meaning of music? Can we still talk of understanding if we are as free with the meaning of the text as the performing artist with his score?" (p.157) This question explores the role of the spectator in art, performance and music and by implication text. It questions the validity of all interpretations drawn from any sources other than the interpreter’s own (the scientific method). Gadamer answers these doubts saying that a ‘spectator’s’ (the interpreter) situatedness as a spectator, orients them towards a level of participation that automatically alters their perspective, preparing the way for a change of consciousness. This adds to the view that an interpreter (researcher) ‘slips’ during an ‘experience of understanding’ into an altered state of consciousness. An alteration that describes a heightened intensity in the relationship with the text, engendering a form of disembodied consciousness (forgetfulness) in the researcher, allowing a free exploration of presented meanings unfettered by previous ‘embodied’ thinking (fore-structures).

[In regard to] "... the true being of the spectator ...being present has the character of being outside oneself ...being outside oneself is the positive possibility of being wholly with something else. This kind of being present is a self-forgetfulness, and to be a spectator consists in giving oneself in self-forgetfulness to what one is watching. Here self-forgetfulness is anything but a private condition, for it arises from devoting one’s full attention to the matter at hand, and this is the spectator’s own positive accomplishment” (Gadamer 1975, p. 122).
Forgetfulness is essential for the interpreter to hermeneutically ‘see’ what lies within the text. In this state of ‘forgetfulness’, old understandings and prejudices meet with concepts presented in the text, new meanings subsequently form a horizon of understanding in a space made available by the condition of forgetfulness.

*Universality in interpretation*

In a discussion which reflects the fundamental hermeneutical theory of ‘parts and whole’, Gadamer (1975) proposes that "All historical phenomena are manifestations of universal life, to share in them is to share in life...to understand is to participate immediately in life, without any mediation through concepts" (p.208). This idea of universality suggests that life itself is formed by intelligible entities (patterns of experiences) which are the product of the experiences of individuals. Thus life is a universe of individual experiences whose meaning might be understood through interpretation of individual manifestations of experience.

..*life presupposes a unity of meaning that is expressed in all its parts*" (Gadamer, 1975, p. 219).

Gadamers proposition further suggests that when individuals are shaped by their own experiences and the conditioning effects of their social environment (historicity) they become a product of their environment just as much as the environment is a product of their interactions in it. What emerges from this interaction “…is not a mere consequence of the causal factors nor to be understood only in terms of these causes, but it constitutes a unity that is intelligible in itself, a unity of life that is expressed in every one

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42 “… a fundamental principle of [hermeneutic] understanding - that the meaning of the part can be discovered only from the context - i.e., ultimately from the whole” (Gadamer 1975, p. 189).
of its manifestations and hence can be understood in each of them”
{Gadamer, 1975 #9, p. 220}.

Gadamer uses the inter-relationship between personal and social historical understandings to explain the richness of all human understanding. By including individual ‘private experience’ in the sum total of human understanding (the Historical world) he is saying that it provides the foundations for an “inner totality and infinity of mind” (Ibid, p. 226). Understanding individual, human experiences is therefore the key to understanding the ‘productions of life’, the life world or lived experience on both a personal and social scale.

"as with the unity of a living organism, we can certainly examine and analyze it from the outside, but can understand only if we go back to its hidden roots ...Thus too, the intelligibility of the subjects comportment to the world does not reside in conscious experiences and their intentionality but in the anonymous ‘productions’ of life”  (Husserl in Gadamer 1975, p. 240).

Parts and whole

The ‘parts and whole’ hermeneutic contains two propositions that directly influence the outcome of this project.

- The first proposition holds that an understanding of the parts gives an understanding of the whole and that understanding of the whole is only possible through an understanding of its parts  (Gadamer 1975).

- The second proposition extends the first into a more universal realm, by saying that any ‘essential’ meaning developed from the parts (a bit like a person’s DNA) will always retain a relationship to the universal meaning of the whole. In this project the meanings developed out of the parts of my and others NMV experiences were reconstituted in a new
understanding of the whole NMV experience. The new (whole) experience was thus legitimized by its origins being drawn from parts of the earlier experiences.

This assumes that this fundamental hermeneutical perspective on ‘parts and whole’ is applicable to the understanding of NMV experience developed in my research.

To put this another way, the experiences of NMV experience-ers were gathered and broken into understandable parts, meanings drawn from them were used to illuminate the whole experience. The whole experience can therefore be understood in terms of the individual meanings drawn from all of the parts.

But beyond this first step (proposition one above) the hermeneutic meanings drawn from interpretations of the parts were in this project (using the SEEing method) further interpreted in a series of hermeneutic interactions (proposition two above) in order to reconstitute a new understanding of the whole.

Chapter Seven describes the development of an example of the second hermeneutic proposition, where the parts from which a meaning is interpreted by virtue of their being a part of a (universal) whole, will carry with them an essence of the whole in each of their parts; such that the meanings drawn from these parts coming from the whole, will in subsequent interpretations and developments of meaning continue to reflect the essence of the original whole.

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43 SEEing is the term used to describe the process of making visible the Superordinary Essence of Experience – separating the metaphysical (Superordinary) aspects of the experience from the physical (form and function) components. The SEEing methods are described in Chapter Seven: Stage Two - Design development

44 See Chapter Six Analysis Stage One - Preparation and analysis, and Chapter Seven Analysis Stage Two - Synthesis and design development.
3.3.4 Summary of the phenomenology and hermeneutics section

“Hermeneutics is an art not a mechanical process. Thus it brings its work, understanding, to completion like a work of art” (Gadamer 1975, p. 190).

Arguably, the ‘art’ of hermeneutics and hermeneutical phenomenology began with Martin Heidegger in the 1890’s. Since then it has become a powerful tool in the philosophical and methodological understanding of human experience in the form of text. In research terms, phenomenology provides a way to access lived experience and hermeneutics provides a way to understand its meaning.

Hermeneutic meaning is developed through a process of firstly understanding the ‘language’ of an experience, secondly correctly balancing the influences of personal and social fore-structures and thirdly, interpreting lived experience in relation to the first two. Hermeneutic interpretation brings a third entity into being; a version of the experience that reflects a fusion of the horizons between the experiential texts meaning and the researchers ontological conditioning.

This entity is brought into existence through an ‘effected consciousness’, which becomes the experience of understanding itself. This is the experience of the ‘hermeneutic circle’, the taking up and letting go; the appropriation and distanciation of information and ideas; a discursive conversation with the text that arrives at new understandings and meanings. New understandings (Verstehen) that are not simple re-representations of previous information, but new beginnings.

“A hermeneutics that regarded understanding as reconstructing the original would be no more than handing on a dead meaning” (Gadamer 1975, p. 160).

In hermeneutic interpretation lived experiences become, not the experience of the original experiencers, not the experience of the interpreter, but understandings of experience that are part of a holistic understanding of
what it is to be human. In the manner of ‘parts-and-whole’, understanding in this way provides a way to understand an individual experience; the realisation that this is always and already a universal aspect of life itself.

3.4 chapter Summary

This chapter has set up the theoretical framework from within which, what was subsequently done in this project fits – that is Idealist-constructivism. From my preceding exploration of methodological literature it appears that hermeneutical phenomenology offers an appropriate philosophical and methodological foundation for providing ongoing support for the professed goal of this research project; to understand the lived experience of NMV users.

In this chapter I discussed not all but at least many of the key aspects of hermeneutical phenomenology that I found to be particularly helpful to draw upon for ways of exploring my research question. For example, I found that phenomenology as methodology was useful in suggesting ways to access and make best use of the experiences being studied. Bringing in hermeneutical concepts such as distanciation, appropriation, parts and whole, the hermeneutic circle and the fusion of horizons, has provided valuable inspiration in my struggle to interpret ways into the NMV experience during analysis.

In this chapter, I have also endeavored to establish that the subject of the study ‘experience’ as a philosophical entity is approachable, attainable and understandable.

- The following chapter will discuss the concept of experience from more pragmatic perspectives, by critically exploring the ways it is understood within the field of design and also through the eyes other disciplines.
CHAPTER FOUR

DESIGN THEORY ...AND EXPERIENCE
CHAPTER FOUR – DESIGN AND OTHER THEORY RELATED TO EXPERIENCE

*Introduction*

This chapter presents a critical review of literature with perspectives on the relationship between ‘design’ (as occupation), ‘designing’ (as activity) and the experiences which result from the actions of design or designing. A quite broad discussion is presented of recent discourse from design practice as well as design research on topics related to user experience. While I have endeavoured to restrain my discussion to those topics relating directly to the project at hand, it has been difficult to do so as the topic of experience touches so many areas within the field of design, and outside of it.

A meta-view of the bank of knowledge about experience has been intentionally adopted in order to initially grasp a wide perspective on the growing interest in variations on old, and experimentations with new, design research methods related to understanding experience. The meta-view also necessitates limiting the selection of material in order to counter the diverse volume of writing now available from traditional and non-traditional sources on this area of research interest. As if to illustrate this, Michael provides an example of how diverse these sources of information have become, describing himself as ‘hypodisciplinary’ or ‘infradisciplinary’ even ‘cryptodisciplinary’ (His writing covers psychology, philosophy, social sciences, and sociology) [Michael, 2000 #46].

The information media explored in this review of design research discourse relating to experience, are extensive but not exhaustive. An important codicil to this review lies in its restriction to those topics that discuss the research or practices related to ‘experiential design’ or ‘design for experience’. This
review is focussed on the variety of methods that are relevant to advancing its substantive goal, that is, to understand what is already known about previous research related to the experience of the ‘user’ or ‘experiencer’.

The perspectives presented are from many different methodologies, including empirical researchers [van Rompay, 2005 #249; Brezet, 2001 #169], theoretical academic perspectives [Feenberg, 2000 #139; Glanville, 1999 #22; Fry, 2006 #310] and those that blur the horizon between theory and practice [Norman, 2004 #193; Schmitt, 1999 #82; Zaltman, 1997 #84]. The range of methods and lines of thinking discussed in this chapter, help to showcase the variety and diversity that expand daily in the design community’s vigorous search for understanding in what remains a relatively new area of knowledge development.

The literature presented includes research contributions from many different disciplinary backgrounds. Perspectives on design research topics have been developed by specialist authors - authors with mixed-discipline backgrounds and increasingly within hybridised, cross disciplinary, multiple-authored collaborations between such diverse disciplines as psychology, ecology, mathematics, architecture, health, social science, physiology, linguistics, philosophy and others. This further blurring of professional boundaries begins to raise questions around who or what is a designer? What constitutes designerly thinking? And even, what design itself has become? These questions provide a regular and ongoing debate within the design community. It is why it is addressed in this section of the thesis, because if this is to be a design thesis then it should at least consider what design is. The following section addresses these questions of identity by considering

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45 Considerable evidence of this can be seen in online design forums such as the PhD Forum phd-design@JISCMAIL.AC.UK and ID Design IDFORUM@YORKU.CA.
what design research and practices are shaping what design is currently understood to be.
This is important to this study as it helps to define the field in which this particular research might be useful, possibly within the current design paradigm or a newly emerging form of 21st Century design.
4.1 DEFINING DESIGN AND DESIGNING FOR EXPERIENCE

Introduction

In this paper I use ‘design’ as a noun (naming an occupation or activity), not to be confused with design as a verb (as in, to design something). The activities of design I commonly refer to using the verb ‘designing’. In this section the terms ‘design and designing’ are defined more fully, especially in the way they are used, but particularly in relation to their roles in current methods of design research. In this discussion the verb ‘design’ (as in, to design) is very often interchanged with ‘designing’. The noun concept of design is used to address the collective activity of ‘designers’ (in the field of design) or their engagement with designing (as in ‘with designs’).

4.1.1 Defining what design means

In a recent hearing with a US government research organisation46, the American Institute of Graphic Arts (AIGA) was invited to help define the standard occupational classification for ‘designer’. They testified that they had been pursuing this reclassification for ten years and that the classification had not been changed for more than twenty years. Designers were still classified as commercial artists. The Australian Federal Government in its current version of the Designs Act (1906) uses the following definition of design:

"design" means features of shape, configuration, pattern or ornamentation applicable to an article, being features that, in the

46 This information about promoting a new standard definition for ‘designer’ was listed in the announcements section of the online journal, Design Studies, Vol. 27, Issue 5, Sept 2006.
finished article, can be judged by the eye, but does not include a method or principle of construction” (ADO, 2006 #332, p. 2).

Fortunately while this reflects an archaic and superficial view that persists in some areas of government and enterprise about the purpose of design, it does not reflect a very contemporary view of it. It does however, highlight the continuing lack of understanding about what it is that designers are or do. The following discussion is a collage of current discourse used to ascribe meaning to the various terms used for design (as outlined above). Herbert Simon (, 1969 #284) is a good place to begin the discussion. His often-quoted definition of design describes it as “the conception and planning of the artificial” (p.52). The key concepts contained in this statement are ‘conception and planning’ which might collectively be referred to as ‘intentionality’; the second of Simons concepts being ‘artificial’. The next section begins with the second of these two premises – the artificial.

4.1.2 Designing - the artificial

In design terms the ‘artificial’, represents the goal of design; that is its efforts to develop something outside of man or nature be it real or virtual. A vibrant discourse on the human-artificial, socio-technical relationship has engaged many academic minds for many years and will continue to do so while the fascination (battle) between man and machine continues to flourish.

"as the artificial’s incursion into the natural domain of our lives advances, we may lose part of our humanity. In the face of such a prospect, there is no choice but to fight back. " (Margolin, 2000 #278, p. 10).

For the moment, my discussion will focus on how the artificial can be seen as an integral and intrinsic aspect of design as an entity. In this discussion, I have employed a liberal understanding of the term ‘artificial’, one which includes the broader notion of ‘technology’ (as in techne) - that which is man-
made with art and skill (artefacts) and also in the mechanical ‘machine’
sense. The mechanical properties of the ‘artificial’ parallel Louis Sullivan’s
modernist concept of ‘form and function’ [Michl, 2000 #270]. So it can be seen
that the artificial component of the entity called design is brought into
interaction with the human realm through an act of design. This provides an
ongoing source of friction between the two worlds of man and machine.

Victor Margolin (2000) draws attention to this contentious zone between the
human side of designers intentions and that which is artificial or ‘designed’,
calling for a ‘meta-narrative’, requiring less attention to the surrounding
(socio-technical) rhetoric and more to the discovery of ways to address
designs lack of humanity. This is one of the driving forces behind this study,
to understand the deeper relationship between everyday experience and
human metaphysics or ‘spirituality’.

"A meta-narrative of spirituality can help designers resist techno-rhetoric, which
sanctions the continuous colonization of the natural. It can provide instead a more
profound and conscious reflection on the artificial as a subject which has yet to be
explored with any depth by designers and technologists” (Margolin 2000, p. 9).

Within the first part of Simons (1969) definition of design mentioned above,
the joint concepts ‘conception and planning’ might also refer to designs
‘intent’ or design’s orientation towards future goals as if designing by
definition also refers to purpose, moving toward something new or future
satisfying.

“[Design] ...is concerned with how things ought to be, with devising artifacts to
attain goals” Simon in [Bousbaci, 2005 #283, p. 3].
4.1.3 Designing - Intentionality

Any understanding of what design is, must include some consideration of its intentionality towards the artificial. This means any a priori goal, for which the design is considered, i.e. its ‘intention’, is therefore teleological or purposeful. In terms of the part of this research project ‘designed’ to study the experience of Users of NMVs; the experience of use is the ‘purpose’ of the design, however, from this perspective; intentionality is often confused with functionality. The idea of purpose or intentionality should not be aligned with the intended functionality or ‘mechanical’ properties of an artefact. From a Users perspective, intentionality is also the effort a user chooses to direct towards the satisfaction of some purpose. Heidegger referred to this effort of intentionality as ‘directedness’ or ‘self-directedness’, that is “the manner in which we direct ourselves towards things” (Heidegger in Moran 1999, p. 231). It can be said that the act of purposeful thinking (intentionality) is inseparable from the direction the thinking takes. So that designing, using and thinking, “researching, questioning- theorizing”, all become in this way intentional and purposeful acts. (Willis nd). Van Manen refers to this as the ‘principle of intentionality” (Van Manen 1997, p. 6).

“thinking is always, thinking something …the very act of thinking is an act that affirms the union that exists between the thinking subject and the object of thinking” (Willis nd, p. 7).

So then if design is an ‘intentional’ act, then design can be seen to be ‘thinking something’ with an intention to act. Simply put, design becomes thinking with intent. This then raises a question about the ethical nature of this purposeful intent. Is it positive or negative, good or bad? Of course all of the above assumes that there is a priori intention in design in the first

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47 A theme explored in *Design predicts the future when it anticipates experience* [Morello, 2000 §302]
instance. If intentionality is not considered an integral part of what it is to design, and designing takes place that is for the sake of the designer alone, then it is entering the realm of art⁴⁸ (Gadamer 1975, p. 192). But assuming there is intent, then this intentionality must come at a price. Both animals and humans can be said to have intentionality, however only humans can decide to intervene in their environmental circumstances involving intentionality. So only humans have the consciousness (the thinking ability), that allows them to choose to redirect their pattern of behaviour through self-reflection. This is the price intentionality exacts; it requires design to assume responsibility for its intentions [Huitt, 1999 #89].

Csikszentmihalyi’s [1991 #195] views agree with Willis (nd), in saying that all conscious thought is intentional. The way “we see, feel think and desire”, he says, is information that we “manipulate and use” in an intentionally ordered way to construct our reality (p.28). Tying this into the corporeal world he goes further to say that “all physical activities must involve a mental component if they are to be enjoyable” (ibid, p.118). This suggests that if design is seen as the intentional act of a conscious mind then it must consider ways to “see, feel, think and desire”, it must therefore address not only the senses, but stimulate affective and cognitive levels of experience [Csikszentmihalyi, 1991 #195].

⁴⁸ This mirrors Gadamer’s reference to Schleiermacher’s paradoxical formula saying about art “it is not the authors reflective self interpretation but the unconscious meaning of the author that is to be understood” (Gadamer 1975, p. 192).
These ‘levels’ are arguably important to the intention of designing experiences but the question remains, how do they help designers to understand the responsibility this intentionality engenders so as to design better human experiences with designed artifacts? Is this a valid way to understand designs intentionality or simply another way of making design outcomes more predictable or even worse, for post-rationalising the manipulation of design experiencers for commercial reasons?

“How praiseworthy is the intention to develop approaches, techniques, and theories in order to facilitate the design of products that make people feel good, when the outcome is techniques that are used to manipulate unsuspecting consumers?”

(Desmet, 2006 #333).

Green argues that there are few ways to insightfully predict the outcomes of design, otherwise, more of them would be successful [Green, 2001 #218]. This is debatable if the current model of predicting design intention (sales success) is considered. There are many quite successful sales prediction models, however if design intentionality is actually based on predicting positive experiences of the design, then Green is correct, design intent is highly unpredictable. There is growing concern that design intentionality is actually becoming more about predicting users reactions or experience with a product or service and using these predictions as ‘techniques’ for promoting the artifacts ‘fit’ to customers, measured in terms of sales response. Developing an experiential knowledge base from which to launch a design intention focused on a more positive customer experience is still predictive, but based on spiritual rather than economic goals.

"the intention to design the user experience is but the latest in a progression towards the user becoming the subject of design. With its ambition to create a tight fit between object and user, this development seems to point to a situation where we are trying to optimise fit on the basis of predictions rather than knowledge”

(Redstrom, 2005 #289, p. 2)
The idea that designing an experience in order to gain a better user ‘fit’ has gained some momentum in the last few years with change agents Pine and Gilmore, spearheading current thinking that experience based design will be vital in a ‘service based economy’ [Pine, 1999 #309; Forlizzi, 2005 #255; Forlizzi, 2000 #215].

[Pine & Gilmore claim] “consumers unquestionably desire experiences.” The mark of success, for them, is the ability to wrap products and services with deliberately designed, engaging experiences that command a fee. …an experience occurs when a company intentionally uses services as a stage and goods as props, to engage individual customers in a way that creates a memorable event” (Pine and Gilmore in Forlizzi 2005).

However, an indication of just how superficially this concept might be interpreted is evidenced on Pine and Gilmore’s company website. There it states, “success awaits those who gain an understanding of what’s real and what’s fake, [and this is the aspect that sounds somewhat concerning] … or at least what elements contribute to forming such consumer perceptions” (Strategic Horizons, 2006 #334). The implication here is that consumer perceptions of what are real or fake are not as important as how they might be understood in order to better manage (manipulate) their sales potential (success).

This highlights an ongoing quandary in design research which asks, if the intention of the research is actually to discover information that can lead to positive improvements in the customer experience or is it really about finding information to use to persuade the customer to buy more product; and finally, do these two forms of knowledge have to be exclusive? This introduces a third factor which defines design; the type of knowledge that helps to constitute the nature of a design or which simply allows designing to take place.
4.1.4 Designing knowledge

In the preceding section, I discussed how Simon and others have defined design in terms of Intentionality and Artifact. The following sections explore how different types of knowledge and the manner in which they contribute to designing for experience are also seen to define design as an entity.

"design knowledge consists of the knowing and knowledge designers have and use concerning design and how to do it" (Downton 2003, p. 93).

According to Downton and Findeli these different areas of design knowledge can be understood in these different ways;

1. knowledge for designing purposes,
2. knowledge about designing as an activity and
3. the embodied knowledge contained within a designed object.

[Downton, 2003 #144, p. 18; Findeli, 2000 #347].

The first type, knowledge for design, is in most instances derived from information gathered by a designer from outside sources. Knowledge for design comes from either direct access to information at hand or from research supplied by others. Findeli refers to this type of knowledge as ‘R&D’ because it “has no scientific recognition (...), since there is usually no discourse attached to it, no intention of generalisability except technological, and no accumulative effect in the theoretical realm” [Findeli, 2004 #346]. This type of knowledge is often gathered by marketing or research sources or sometimes the designer himself, with a view to guiding the design project towards commercially effective ‘solutions’. It can contain demographic, psychographic, geographic, and other types of data, gathered and presented as a picture of an intended audience, in order to inform the design intention for that audience.
“Research ‘FOR’ that enables an individuals design in a general sense….Either at the commencement of a particular project or during more general and not project-specific designing, designers undertake research to inform themselves, to learn, and to enhance their abilities and knowledge as designers” (Downton 2003, p. 18).

The second type of design knowledge is drawn from studies about what design itself is about. How it is done, why designers behave in certain ways, how they operate and how they know what they know?

“Research ‘ABOUT’ design ….The central plank of research about design is formed from enquiries of an epistemological nature. What is design, What is it about? What is it for, and why do we have it?” (Downton 2003, p. 18).

This area of understanding can also develop into knowledge in the doing; that is to say, during the process of doing research for a design, knowledge about designing can also be generated.

"In testing, experimenting, and investigating what is going on in an effort to achieve a desired end, each designer is conducting research”[Downton, 2003 #220, p. 18].

Lastly, considering the embodied knowledge contained in an object that has already been designed, Downton suggests there are three ‘classifications’ within this kind of knowledge.

1. Knowledge embodied in the work and available through scrutiny of the product or design content.

2. Knowledge intentionally incorporated into the work by the designer

3. "Knowledge the designer attempted to incorporate unsuccessfully, or which was embodied according to the designer but is not intelligible to others” (Downton, 2003a, p. 106).
Extending this thinking a little further, suggests that other classifications might also be considered, for example, knowledge that is unintentionally embodied by the designer, but which becomes intelligible to others (This paradox can be seen in the commercial failure of NMVS and yet their ready acceptance by experiencers). And possibly another by reversing the last classification, that is, the knowledge the designer does not have and others (experiencers) do have, which can be made intelligible to the designer, and incorporated into their work (a form of reverse design). This explains the area of design where ‘cool hunters’ or ‘trend spotters’ have been so successful in recent years.

The types of design knowledge embodied in the objects of design can also inform the practice of designing (design praxis) thus becoming embodied in the designers themselves. This aspect of design refers once again to the second type of design research, which is research about design. Occasionally in design practice, when designers confront design obstacles with the knowledge available to them, new things are learned in order to overcome these obstacles, and if this new learning is recognized and reflected upon, it can become ‘new’ knowledge [Downton, 2003 #144; Schön, 2003 #148]. This reflective interaction forms a nexus between design practice and design research. A number of eminent design writers suggest that a designer’s purposeful interaction with obstacles to his designing, constitutes a ‘conversation’ with the situation. This supports the view proffered by Schon (2003) that the conversation needs be reflective if it is to be instructive. Reflective practice or “reflection in action” as Schon refers to it is similar in effect to the hermeneutic cycle of understanding described by Gadamer (1975). In this view, through

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49 See [Gladwell, 2007 #394].
interaction with a situation a person (the designer) is changed and so sees the situation differently. They again interact with the situation from their new standpoint, they see it in yet another way and so the conversation with the situation continues. Glanville and others see the conversation taking place within the medium of pencil and paper with the designer conversing with another, or with himself acting as ‘the other’, through progressive design iterations [Glanville, 2005 #353]. This type of conversation forms a knowledge platform similar to the co-authored understandings established when a designer speaks directly to an ‘experiencer’ about a common experience.

“There's no such thing as a designer who isn’t a user and there is no such thing as a user who isn’t a designer….then you have the conversation that goes through the object” [Glanville, 2005 #353]

The nature of what has traditionally defined design knowledge is changing. Design practitioners and design researchers are increasingly required to employ a multi-disciplinary approach to knowledge generation and sourcing. As an example of what is happening, Green says there is a “merging of the processes and methods of ergonomics, with its base firmly in the biological sciences, aesthetic design with its base in functional art and engineering which has relied on the physical sciences for much of its fundamental data” [Green, 2001 #218, p. 3].

This pressure to understand designs role from multidisciplinary perspectives is contrary to the way design has been customarily perceived. To Norman (2004), design has been commonly seen as “a practical skill, a profession rather than a discipline” (p.104). Fundamentally, according to Rourkes (1988) design’s role as a discipline or profession has not changed and still requires it to “make ordered that which otherwise would be formless or undifferentiated” (p.71). In other words these disparate views continue
designs portrayal as a largely aesthetic discipline cobbled together solutions to strategically defined, commercial problems.

The diversity of knowledge types available presupposes that a designer also has the capability to use or effectively reflect on the information streams provided. It assumes that designers are capable of absorbing the information in such a way as to turn it into knowledge that is usable in an intentionally productive way.

Carrying this thought forward and reconsidering the three kinds of knowledge proposed by Downton (2003b) the first suggests that the gathering of information for design is not knowledge, until it is used in designing. The second, information about design, is also not useful, unless the designer is capable of turning it into knowledge he is able to use. And thirdly, the embodied information which might be drawn from a designed object is useless if the designer is incapable of recognizing it or turning it into usable knowledge.

The three types of knowledge above, suggest a fourth type of knowledge may exist - a ‘designerly’ knowledge; one that enables any or all of the three sources of information to become knowledge that is meaningful and useful. Downton refers to this as the “knowing of design”.

"The implied model of design as a user of previously established and tested knowledge does not address the knowing of design that is necessary for someone to effectively design, nor does it consider the knowledge brought into being through design.” (Downton 2003b, p. 2).

Gadamers hermeneutics refer to a similar kind of knowledge that might be seen as especially applicable to designers. Among his discussions of types of
knowledge he refers to ‘moral knowledge’ or the kind of knowledge that is inherent in the knower in contrast to technical knowledge of the kind that has been learned or observed as techne. This is the kind of knowledge that ‘governs action’ or guides a designer in the manner in which he ultimately decides to apply, in a practical manner, the other forms of knowledge he has gained (Gadamer 1975). This is particularly important if it is focused on sustainable design considerations where it is the kind of knowledge that might influence a designer’s attitude towards offering what he knows to be more ethically sound but less commercially justifiable design alternatives.

"Moral knowledge, as Aristotle describes it, is clearly not objective knowledge - i.e., the knower is not standing over against a situation that he merely observes; he is directly confronted with what he sees. It is something he has to do “(Gadamer 1965, p. 312).

Gadamer argues that Moral knowledge (phronesis) relates to the Human Sciences and theoretical knowledge (episteme) being based on proof, relates more to Natural sciences. (Gadamer 1975, p. 312).
4.1.5 Design Definition - Summary

It is important in establishing the field within which this project fits to understand how the field currently sees or attempts to define itself. While it is a vibrant source of academic and professional discourse, there is no generally accepted or definitive definition of the field of design. Seen through the commonalities found within the literature discussed above, there appears to be a usable definition discernable in the general processes of designing.

Design has an intentionality or purposefulness that is most often directed towards the development of something artificial within the natural world. While it is easy to see that intentionality in design is guided by the purpose intended in the design, it is less understood that this purpose need not always address the artificial and might just as relevantly address a spiritual or metaphysical goal (Margolin 2000). This can be seen to be at the heart of the current high level of interest in designing for and research about experience.

Design is not only defined by its intention and the nature of its doing, but also by the knowledge required and acquired in the doing. It is no longer simply enough to design in order to be called a designer. The demands of a changing world require design that comes from a broader base of knowledge; not only from designs traditional and historical sources, but one that draws on the accepted knowledge practices of many disciplines. This places new demands on a designers ability to understand, assimilate and act capably on new types of knowledge, in a ‘designerly’ way. Design is therefore increasingly called upon to understand the moral and ethical aspects of its engagement with the problems at hand (Fuad-Luke, 2006). This engagement will require another kind of knowledge; knowledge of the self and particularly the designer’s personal ability to interpret, adopt and work within, a personal moral standard.
"The legacy of the existing design paradigm, design in collusion with government and commercial interests endorsed by billions of consumers, is alarming. The design community has, largely, satiated its creative instincts within the boundaries of economic models, it has, largely, ignored its responsibilities to a world beyond economics" (Fuad-Luke, 2006, p.2).

In the current globalised economic and environmental climate, as the boundaries of designs responsibility become increasingly blurred, the way it is fundamentally defined must also become increasingly blurred. If Design is to continue to be defined by intentionality, the artificial and the knowledge it uses, then important existential problems are raised for design itself. For these three cornerstones of design to be maintained in a sustainable world, they must somehow be rapidly and emphatically applied in the opposite direction to the one that has typically defined design practice (that is to blindly make new, make different, make more). This raises important questions about what design is now and how it will be defined in the future. If it is defined by what it does and how it thinks, how will it change so fundamentally and still be called design?
4.2 LITERATURE RELATING TO DESIGN PRACTICE, DESIGN RESEARCH AND AN UNDERSTANDING OF EXPERIENCE

4.2.1 Design practice ...and experience

Introduction

In the first part of this review, I will discuss the hegemonic tendencies of current design practices which form a backdrop to the second part of the chapter, which considers the current ‘state of the art’ in design research methods employed in the wider design research field. This picture is presented from within the convenient framework provided by Elizabeth Sanders (2006) ‘Topography of design research’. These two broad reviews of design practice and current design research establish the background to the third section in this chapter, which focuses on the specific research methods relating directly to designing for experience (experiential design). The research described in this thesis lies within these relatively new research areas.

The final section in this chapter discusses input from many other disciplines on what they consider is essential to understand what experience is, psychologically and physiologically. This last section is an intentionally light presentation of the vast amount of information available on this topic. I present only an overview of what I have taken from these sources that has enabled me to build a broad understanding of what constitutes experience from many natural science sources. To begin with, in order to establish the research context within which experiential design is situated, the following discussion will provide a
snapshot of the current, predominantly linear, design practices, followed by the most common research methods informing these practices.

4.2.1.1 Linear design and Re-design practices

Traditionally and until quite recently, design process has adopted a mostly linear, problem-solution approach. Schon (2003) refers to this approach as a somewhat narrow, sequential search for best ‘fit’ that involves intuitively identifying what is a ‘bad fit’ and through a series of blind ‘rear-view’ modifications an acceptable result is achieved. In many cases, he says, what defines a ‘good result’ from a ‘bad’ one, is still not clearly understood (p.52).

Recent efforts to evaluate\(^\text{51}\) alternative directions in design processes have identified Problem, Solution or Radical based design approaches. While problem based design traditionally looks to iteratively solve a defined problem, Solution based design, establishes a desired end position and tries to design a way to get to it. The Radical design approach, proposes new, radical departures from what has previously been tried. These all require a traditional ‘design iteration’, a cycle involving steps such as establishing a design intent – pre-design research - designing - evaluation - redesign – post-design research – re-evaluation etc. While the process is traditionally referred to as cyclical, the resultant path might be viewed as more linear in terms of its sequential progression of iterations, its logical developmental process, proceeding by incremental improvement, from A-Z. At no point is there a radical review of position ‘A’ and usually no intention to radically depart from the sequence at any point.

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\(^{51}\) Refers to research conducted by Kruger and Cross into the efficacy of “Solution driven versus problem driven design” in Design Studies, V27, Issue 5, pages 527-548, Sept. 2006 - see also [Nelson, 2003 #399].
"the principle of mechanisation excludes the very possibility of growth or the understanding of change ... mechanisation is achieved by fragmentation of any process and by putting the fragmented parts in a series ... there is no principle of causality in a mere sequence. That one thing follows another, accounts for nothing. Nothing follows from following, except change” (McLuhan, 1964 #165, p. 24).

Redesign is also a process of incremental change by which according to Michl (, 2000 #270; , 2002 #206), nearly all design takes place. This is of course true in the sense that, ever since Homo Habilis first used a shard of stone to cut his meat, designers have been improving on this adoption of technology for human extension, in an evolutionary fashion. In this sense all design (at least all linear design) takes place after or builds upon the work of others. Extending this kind of thinking suggests that Radical design therefore must also be a form of redesign because, regardless of whether an idea is new or a radical departure from the linear path, whatever is used in the process of bringing it to actualisation, must have been at least partially based on work by others. Michl suggests that using the term redesign expands “the notion of design” however the reverse could be understood if the notion of radical design is not exempted from the description.

"redesign has been used ... in the sense of changes to existing products and systems - in contrast to the term design used in the sense of devising products or systems that do not yet exist”(Michl 2000, p. 3).

By suggesting that all design is redesign, the notion of radical or new design is made redundant. For radical design to exist, redesign must be constrained to refer to designs that are reworked or enhanced from previous design. In this way the concept of redesign is little differentiated from another iterative stage in the linear design process described above.
4.2.1.2 Design After-effects

A lack of forward thinking or generally misguided intentionality particularly noticeable in transport design, have contributed significantly to current problems associated with environmental degradation and unsustainability. Design issues become even more serious when their responsibility for large scale deaths and injury due to the after-effects of poorly conceived products is considered [Banister, 2000 #133; Low, 2003 #61; OECD, 2002 #169]. It may seem unjust to attribute this kind of responsibility to designers however, if intentionality is a defining aspect of design, then the resultant outcomes of a designs intention, whatever they may be, intentional or otherwise, must be the responsibility of the designer. Responsibility for the after-effects of design must therefore be considered an integral part of design thinking.

"Most human error is, in actuality design error" (Norman 2004, p. 229).

Designers as originators of the artificial play a significant role in shaping the kind of after-effects that are felt. Injuries to people and the environment must therefore be accepted as part of the responsibility of designers. The general acceptance in design circles of a sense of fatalistic detachment from the impacts of design (just following orders) has cultivated a culture of distanciation\(^{52}\) between design and responsibility for the way in which society (which it strangely does not see itself as a part of) is impacted by the design.

"Most people ... still cling to what I call the rearview-mirror view of their world. By this I mean to say that because of the invisibility of any environment during the period of its innovation, man is only consciously aware of the environment that has preceded it... thus we are always one step behind in our view of the world."

(McLuhan, 1969 #239, p. 3)

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\(^{52}\) ‘Distanciation’ is a term used by Gadamer and Ricoeur, referring to ‘putting a distance between’ oneself and the meaning within something else. (Geanellos 2000).
The success of design is increasingly measured against the effect it will have, not only on the people who use designed objects, but also the world in which it is used. This is evidenced in current European efforts to heal the corrosive effects of over a century of consumer excess and environmental abuse (OECD, 2002 #25). Design’s responsibility lies in accepting that it has an integral role in shaping future history and with that responsibility comes an increasing necessity to ‘get it right’. One of the ways this type of thinking can change is for designers to acknowledge that their role is more than superficial.

4.2.1.3 Aesthetic design or re-design

The continued force-feeding of consumers with technology thinly disguised with design ‘aesthetics’ continues the outdated perception of design as ‘window dressing’ that still flourishes in some fields (McDonagh, 2002 #186; Fuad-Luke, 2006 #345). The automotive industry is an interesting case in point. Here a continuous search for incrementally new technology has created a design culture where this technology is used to ‘dress up’ products by designers simply to extend sales on the present model or to improve on last year’s sales target (Richardson, 2006).

“The task of the automotive designer, in my experience, is not to push boundaries in technological advancement, but to develop a desirable skin around a predetermined package using existing technology, materials and manufacturing methods. There is often some opportunity at the beginning of a program for design to influence product direction, however, it is rare for it to dictate the process” (Richardson 2006).

Under the guise of satisfying consumer needs, technology has become a greater driving force for design direction than the actual needs of consumers. Feenberg (, 1992 #141) warns that designers risk losing touch with reality if they continue to be seduced by the efficiencies of technology into thinking
that the addition of an improved technology need only be dressed-up to constitute an improved design.

In interactions with technology, people over time, reinterpret designs in their own way slowly effecting change in the product and essentially redesigning it. This type of market driven design change meshes with Michls (2002 #206) view of design being re-design. In this case redesign becomes a sequence of incremental design changes brought about by the addition of minor improvements to technology or form, ostensibly in response to market (read as marketing created) demands for something ‘new’. This continual feeding of consumer addiction to change, supposedly initiated by market forces, becomes self perpetuating, by marketing the addiction and then using this addiction as a rationale for continuing the production cycle.

The cycle is initially begun by designers who follow the lead set by industry ‘innovators’. The nervous, unquestioning acceptance of minor and unnecessary design modifications or slavish emulation of a competitor who is leading the prevailing design trend, has lead to a safe pattern of incremental design alterations and inevitable technology creep (Norman 2004; Fuad-Luke 2006).

“Most automotive designers I know would prefer to develop something new. However, the automotive industry’s well established manufacturing infrastructure essentially prohibits the mass production of countless new ideas, technologies and materials. The basis of a vehicle is usually derived from its predecessor and only incrementally adds new content with each update. Many “all new” vehicles carry over a high percentage of components from previous models to save cost” (Richardson 2006).

Responsibility for design ‘after effects’, requires design to look beyond the superficial levels of form and basic functional requirements. The greater responsibility required of design in the age of global environmental change, demands vision beyond the current context, beyond the comfort and
economic practicality of linear design; it requires innovation that does not come with environmentally adverse ‘side effects’.

"If designers continue a 'business as usual approach' they will continue to serve interests which control the economic model. In short, designers will continue as enablers of industry, the adjective ‘designer’ will be synonymous with ‘stylist’” (Fuad-Luke 2006, p. 2).

There are many other aspects of design research/practice that I have not discussed and while relevant to design in general, are not particularly relevant to this paper and so, need not be mentioned here. The particular selection of design practice issues presented in the preceding discussion, were chosen for their relationship to practices impacting particularly on designing for the experience of Users. The following section discusses the most relevant research methods that have also helped to shape and inform these design practices and the artifacts they have produced.
4.2.2 Design research in 2006 – and its relationship to experience

A recent article in Design Research Quarterly from Elizabeth Sanders (2006) provides a concise, meta-view of the different and sometimes conflicting research methodologies informing design practice today. Sanders’ ‘Topography of Design Research in 2006’ offers a clear and helpful picture of the state of Design Research at this point in time. I will use this framework as a basis for a brief review of the field. Included in the article are most of the dominant categories of design research interest and while the individual contributions, size and positioning in the topography (Figure 4.01) might be questioned (as Sanders concedes) it offers a good starting point and a useful framework for a discussion of who is doing what in design research and how answers to this might advance my goal to understand experience.

Figure 4.01: Topography of Design Research (Sanders 2006)
A critique of Sanders’ topography or a discussion of the elements she has included or not included is not helpful here, but the topography is useful as a framework for a critical discussion of design research methods; so in this thesis I will be focusing on the larger research categories shown in Figure 4.01 - User Centered Design, Design and Emotion and Participatory design. Sanders’ article very helpfully provides a clear understanding of what these methodologies are and how they are used, (the exception being Design and Emotion which is not discussed) so there is no need to cover the functional aspects of the methods any further here. Notably she does not mention Design for experience in the article at all. Perhaps, like many others, she considers designing for experience and Design and Emotion to be much the same field. (This issue is discussed in section 4.2.2.2 Design and Emotion)

The following sections present a critical discussion of some of the key methodologies Sanders mentions in relation to their contribution to design practice and more specifically, how they influence design practice’s ability to understand user experience.

In the beginning of her article, Sanders sets up an interesting perspective for readers by describing the ‘fuzzy’ nature of current thinking in regard to design research,

“*The market-driven era is finally giving way to the people-centered era. What this means for design and design research is that:*

- people who are not educated in design are designing;

- the line between product and service is no longer clear;

- the boundaries between the design disciplines are blurring;

- the action now is in the fuzzy front end of the design development process with a focus on experiential rather than physical or material concerns;

- the action in the fuzzy front end is all about new ways to understand and to empathize with the needs and dreams of people” (Sanders, 2006 #341, p. 1)
4.2.2.1 User centered research methods

One of the largest areas of research methodology mentioned in Sanders’ topography (Figure 4.01 above) is that which draws on product or service ‘Users’ for information. User centered and Usability research, utilizes mostly traditional qualitative and quantitative research methods and techniques imported from the social sciences, market research and more recently ethnography. The continued popularity of these techniques is reflected in the way companies rely on ‘marketing oriented’, user research supplied by internal and external research facilities [Vieweg, 1999 #237; Zaltman, 1997 #84]. Regardless of advances in research methods and attempts to broaden the understanding developed out of these facilities by including ethnographic methods, many remain shallow and internally focused.

"traditional marketing focusing on factual mumbo jumbo presents an engineering driven, rational, analytical view of customers, products, and competition that is full of untested assumptions. It is not a psychologically based theory about customers and how they view and react to products and competition” (Schmitt 1999, p. 20).

User studies have been traditionally focused on product or service functionality, usability and human factors including ergonomics, but increasingly explore the boundaries between the physical and the psychological reactions of Users. A common influence on this methodology is the legacy of cognitive science thinking, which guides the choice of data gathering techniques and the interpretation of results.

"The field of usability design takes root in cognitive science - a combination of cognitive psychology, computer science and engineering, an analytical field whose members pride themselves on scientific rigor and logical thought” (Norman 2004, p. 8).

The natural sciences approach finds a comfortable fit in the economically driven world that design needs to satisfy in order to survive in it. Methods that provide statistical and other quantifiable data provide safe and readily
accepted, justification and support infrastructure for sometimes questionable design decisions.

Car manufacturers often use this type of manipulatable data in ways that statistically justify design decisions that affect millions of people and costing hundreds of millions of dollars.

"the [Mercedes] F300 Life-jet also incorporates an element of research into sociological trends as its concept is based on the responses to a customer survey on the theme of tomorrows individual mobility ... "Scientists from the research department 'Man / Vehicle Interface' had surveyed car drivers opinions. The results showed that 71% would like to use the F300 Life-jet and described it as an ideal leisure vehicle. And in response to the question of why they would like a spin in the Life-jet, 92% of those surveyed shared the same answer: because driving should be fun" (Vieweg 1999, p. 72).

Objectifications of product and service ‘Users’, provide convenient and comfortably rationalised personas\(^{53}\) that fit well with modern business practices but do not give sufficient credence to the complexity of the user as a human being. Redstrom , 2005 #289 in his essay on user design supports this argument, suggesting that the user becomes objectified by his interaction with an object; design then accepts this by defining him in relation to that object. Jordan further supports this view of the Users objectification; saying,

"the problem with usability based approaches - they tend to encourage the view that Users are merely cognitive and physical components of a system consisting of the user, the product and the environment of use ... Usability - based approaches then encourage a limited view of the person using the product. This is - by implication if not intention - dehumanising” (Jordan, 2000 #211, p. 7).

The objectification of people (as ‘Users’) as things to be studied, gain insights about and then use these insights to persuade ‘them’ to do something that satisfies commercial goals, is a methodology increasingly aligned with ethnography \{van Veggel, 2005 #293\}. Ethnographic approaches consistently

\(^{53}\) Fictitious characters developed from generalizations of research data and used in decision making for best ‘fit’. [Olsen, 2004 #286].
assume the researcher, the designer and the User to be inconsistent entities, subsequently missing the deeper commonalities they might contain (van Veggel 2005). This approach sets up a perpetuating scenario where a superficial interaction between researcher and User, leads to equally superficial researcher findings, prompting a flow-on shallowness in the designers interpretation of the findings.

"... as ethnographers study people that are unlike us, they can question presumptions designers might have about the application, or product, and thus contribute to product development truly focused on Users." (Van Veggel 2005, p. 11).

4.2.2.2 Design and Emotion

In Sanders’ (2006 #341) topography (figure 4.01 above) a central position is occupied by the ‘Design and Emotion’ (D&E) branch of design research activity. Remarkably Sanders does not mention this group in her later discussion, so her views on this research category are not available for inclusion here. Sanders places this group mid way on the ‘Y axis’ (the ‘experts’ – ‘participants’ driven parameter); suggesting it is relatively neutral in terms of its consideration of where the information comes from (Experts draw their information from subjects while Participants provide information in the research process as partners). More interestingly, D&E is placed quite high on the ‘X axis’ suggesting that it is strongly design-outcome oriented rather than research-outcome oriented. This orientation is reflected in much of the work done in the research side of the Design & Emotion category in recent years in their efforts to ‘understand’ emotions. My qualification of the word ‘understand’ comes from the type of understanding that many D&E researchers appear to have developed. Many published reports of researcher’s efforts to understand emotions fit broadly into two perspectives. The first group appears to agree that emotions are complex human traits,
requiring equally complex ways of understanding them, which so far have mostly proven inconclusive and inconsistent [Hanington, 2000 #210; Ortony, 1990 #100; Richins, 1997 #85].

The second research group, appear to focus their attention on methods that enable the clarification or classification of emotions in such a way that they can be used in designing. However, researchers studying affect or emotions in design usage appear to readily interchange these terms with human ‘experience’ [Desmet, 2007 #393]. (see section 4.3 for a detailed discussion of Experiential Design)

The confusion between studies of emotions and studies of experience lies in their being analogous to each other but quite different in their fields of study [Battarbee, 2003 #355; Holbrook, 1982 #86; Walker, 2003 #246]. This is particularly evident in many Design and Emotion (D&E) research reports which imply that the emotions studied are somehow list-able, separate and distinct entities; that they are in some way, able to be considered separately from any other involvement from the person physically experiencing them; for example, the person’s mental activities at the time and/or the context within which all of the above took place.

D&E conferences in recent years have attempted to address this anomaly by including studies related to experience as an ‘associated’ aspect of emotions. But it appears that much of the D&E research remains focused on emotions as if it has a discrete role in interactions involving human experience.

ENGAGE, the Engineering arm of the D&E society, offer the following understanding of what has been variously referred to as, ‘Design and Emotion’; ‘Design for Emotion’ or ‘Emotional Design’.

[Design and Emotion entails] “...studying the emotional experiences of Users with products, as well as the emotional meanings assigned by users in relation to experience and interaction with products, assessing how emotions vary with
different user characteristics and integrating users’ emotional expectations into the product development. It acknowledges the fact that the emotion is not a feature of the design, but a subjective experience of the user, owner or observer of the product” (Engage, 2005 #263, p. 5).

The ‘product’ orientation of many research projects in this area is understandable given D&E’s orientation towards ‘design lead’ research outcomes (Sanders 2006). An orientation towards commercialisable design tools that enable better (read - more saleable) designs appears to be a strong motivator in a large section of this area of research. As the influence of functional differences wane, commercial interest in design innovation increasingly focuses on emotional ‘hooks’ as selling tools  {Norman, 2004 #193; Pine, 1998 #317}.

A leading D&E website lists “over 70 practical tools and methods that purport to enable design for emotion” {D&E Society, 2007 #352}. Some of these tools are provided free, while others are sold under license. The website further offers “Tools to measure the EMOTIONAL reaction to products”. The key points to note here are the use of the words measure (implying that emotions can be measured) and the emotional reaction to products (further implying that there is a single, identifiable set of reactions to these products). Within the D&E research community a disproportionate number of research projects appear to be focused on developing universal ‘meaning and labeling’ systems - striving to be the first to develop a definitive system that will enable emotions to be categorised, typed, reduced to formula, even ranked, rated and reproduced.

"Not only should one be in a position to identify pleasurable sensations for the Users, but is should also be possible to rate them rigorously, propose them in projects, describe them in the related documentation, reproduce them in the objects and perfect them by comparing the proposals with reality” (Bonapace in Green 2001, p. 198).
Research of this nature is driven by an elusive scenario that suggests that researchers will be able to discover ‘a set’ of emotions in a given situation of product use. They will then be able to ‘give’ these to a designer, who in turn, will somehow encapsulate this set of emotions in designs that regenerate, in the User, the same or similar emotional responses as in the first instance. The overlapping presumption being that this set of ‘given’ emotions will be so universally persuasive, that sales success is sure to follow. This commercial orientation can create doubts about the efficacy of results, particularly when ‘success’ is linked to funding from vested interests. Outcomes are made further suspect through manipulation, partiality and delivery pressures resulting in over-zealousness by some researchers, desirous of being the ‘first’ with ‘breakthrough’ results.

“Being a new, rising field of knowledge, no documented efforts have been made so far to make a holistic arrangement of the different disciplines involved or related to Emotional Design. Partial, skewed approaches are not uncommon” (Engage 2005, p. 2).

Being the first to develop a ‘formula’ for understanding emotions has strongly motivated design research in recent years. Many of these are showcased on the D&E website mentioned above and the list below shows a few of the ‘formulaic’ approaches available. In {McDonagh, 2002 #186},
- Cupchick
  - Two theories of emotion - action oriented and experience oriented
  - “emotion = intensity + direction or = arousal + cognition” (Ibid, p.3).
- Desmet
  - Five classes of product emotions
  - The Product and Emotion Navigator
- The Product Emotions Measurement Instrument: (PrEmo)
- Reavley - "five ways in which products could be designed to be more emotional" Ibid, p.380.
- Jordans – Four pleasures of product interaction

In {Richins, 1997 #85},
- Ritchins - Consumption Emotion Set
- Plutchik - Eight ‘primary’ emotions
- Morris Holbrook et al - three adjectives for each emotion
- Izard - series of ten emotions expressed in facial muscle responses

In {Green, 2001 #218},
- Seunghee et al. - Personal Kensei; the structure of emotions beneath human behaviours
- Lina Bonapace - The sensorial Quality Assessment Method - SEQUAM

...and still other methods that offer a ‘formula’ for human reactions to products or other designed stimuli,
{Schlosberg, 1954 #197}, 1964 – three dimensions of facial expressions relative to emotion.
{Schütte, 2005 #262} - Nagamachi’s synthesis stage of Kensei engineering.
Lakoff & Johnson’s - Image Schemas in {van Rompay, 2005 #249}.
{Walker, 2003 #246} - Auto-portrait machine, utilizing galvanic skin response.

An important attempt to cohesively understand the research field related to designing for emotion, resulted in the ENGAGE\textsuperscript{54} Report of the state of the art

\textsuperscript{54} ENGAGE is a group associated with the Design & Emotion Society in the exchange of ideas and cross promotion of their separate agendas. The D&E Society, “Raises issues and facilitates dialogue among practitioners, researchers and industry in order to integrate salient themes of emotional experience into the design profession” (D&E Society
in 2005 (Engage 2005). Effectively ENGAGE is a vehicle for disseminating and cross-promoting the use of the research outcomes of members of the D&E society and others associated with it. The ENGAGE website carries the warning, “Methods for capturing the emotional needs of consumers, incorporating them into the design process and measuring consumer’s emotional response are not yet properly developed, and certainly not standardised” (Engage, 2005).

The Report of the state of the art purportedly “contains a diagnosis of the current situation in the field of Design for Emotion” (Ibid, p.1) The report provides a light representation of the current ‘state of play’ in Design for Emotion research; the data being generated by polling existing consortium members. Mostly in point form it includes a helpful glossary of keywords and terms, a short ‘strength and weaknesses’ analysis of the whole of the field (two pages), another short look at future developments (two pages), concluding with a list of methodologies and tools currently used by responding members in their present research projects. This type of presentation serves to highlight the pioneering state of research and knowledge generation in relation to emotions and more generally experience. Adopting positivist, mechanical, ‘measuring’ types of approaches to research of this nature, suggests that understanding a highly complex human trait like emotion, can be achieved by reducing it to an extreme of simplicity. Solutions of this nature seek a universally applicable answer to a question that philosophers and psychologists have debated for centuries; that is, how to understand the nebulous and ethereal nature of the human way of knowing the world, their experiences.

2007, p. 1); while the ENGAGE aim is to, “provide EU industry with the means to design with full consideration for consumers’ subjective and emotional lifestyle needs” (Engage 2005, p. 1)
“at a general level we know little that provides predictively useful insights to enhance the design process. If this were not the case then every product would be an unqualified success.” (Green 2001, p. 4)

It appears a foolish project for some (superior) human beings to construe a device that reduces the understanding of ‘all’ humans to such a simplistic point that it can be effectively used to manipulate other more ‘basic’ human beings [Ortony, 1990 #100]. This manipulation-for-profit motive while it may appear attractive to those looking for new ways to create sales, in many cases does not stand up to closer scrutiny.

"Emotions are not elicited by product characteristics as such, but by construals based on these characteristics... searching for general rules in a stimulus-response manner is a fruitless approach” (Desmet in Green 2001, p. 67).

Simply stating that a product has emotions or that emotions have been ‘designed’ into a product, does not make it so. Cynical, marketing exercises offering ‘emotional’ colours, ‘emotion’ eliciting material finishes, ‘emotional’ service packages, are baseless, fraudulent and undermine the legitimacy of research in these areas. Specious claims of this type, cannot be substantiated by any solid evidence to support their development out of any planned or controlled approach. Recent claims to include emotions in designed products have been largely based on loose interpretations of outdated psychological profiling methods which predict standard responses to aesthetic elements such as colour, shape, texture.

“…an early prototype of an emotionally expressive car. [the Toyota Pod] Such a product prompts many questions, including: Should the car express emotions?” (Bartneck, 2004 #213, p. 1731)
4.2.2.3 Participatory design

In the last and potentially largest section of Sanders Topography of design in 2006 (Figure 4.01 above) is a developing new area of design research, referred to as Participatory Design. Sanders broadly describes this area of research as, “attempts to actively involve the people who are being served through design in the process to help ensure that the designed product/service meets their needs” (Sanders 2006, p.7). This ‘involvement’ is most often done through the use of various research ‘tools’ such as Cultural probes and Generative tools. Creative, participant interactive, research techniques of this kind have increased in popularity as a means of generating design ideas and wide ranging information with which to stimulate design. It is the unpredictable and spontaneous that is sought through the application of these methods. They are designed to prompt reactions from their target so that unplanned and potentially valuable information and ideas may be generated.

Hutchinson [2003 #170] refers to the use of ‘Technology probes’ and the more widely known ‘Cultural probes’ first developed by Gaver and Dunne (Gaver, 1999 #171; Hemmings, 2002 #152; Dewsbury, 2003 #154]. Technology probes are useful for developing closer designer - User relationships and to gather technology related information on in-home Usage and User perspectives on future product possibilities. Cultural probes are designed more to “inspire Users to reflect on their everyday activities in different ways” [Hutchinson, 2003 #170, p. 2].

Generative tools of this nature could be helpful to experience research (as in the project described in this paper) by helping to bring a designer and a participant closer together, using ‘primes’ as mnemonic devices to help

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Also referred to in Engage 2005, as Cooperative design, Inclusive design, Universal design even User-centered design, describing a “Philosophy for designing with the involvement of designers and Users on an equal footing” (Engage 2005, p. 4)

Primes is a term used by Sanders to describe generative tools used to prepare (prime) people for creative research sessions.
stimulate exchange of information [Lidwell, 2003 #338]. If Probes on the other hand, are as Sanders says, simply kits that are mailed or forwarded back to the researcher then this would not expand the possibilities for experience research as the event would not be captured and/or shared. These are all methods that contain elements that might be explored further in experience research but that currently stand alone.

New and interesting participatory methods are continuing to be explored, where participants and Users are included into the research process. Their common thread is that they apply a range of techniques that are designed to bring the designer and end User closer together to enable better understanding of each others experience of usage. New methods such as Video ethnography, Experiential Sampling, and Cultural inventories take a slice of life approach, developing meaning from ‘samples’ of peoples lives usually supplied by them in the course of everyday events [Hanington, 2000 #210]. Others advocate more ‘inclusive design’ practices where designers and User are brought together in a process of co-design [Jordan, 2002 #217].

Another new approach called ‘open design’ involves Users in the design experience ‘after’ the design process is semi-complete. The designer creates, “a basic framework, within which the occupants [Users] would be able to give a more or less free rein to their own ideas” [Bousbaci, 2005 #283, p. 13].

Many of these methods support calls for more design outcomes which encourage Users own creativity (Forlizzi 2005).

And lastly, there is increasing interest in the ‘provocateur’ type of design methods associated with Anthony Dunne and Fiona Raby. These researchers encourage designers as well as Users to explore more radical directions in their designing. Methods of this kind are often included in the category of ‘critical design’. They promote new ways for design thinking which push the boundaries of current linear design methods, potentially opening up new
opportunities for creative exploration and development of new ideas [Gaver, 1999 #175; Dewsbury, 2003 #154; Dunne, 2001 #331; Seago, 1999 #292].

“We often act as provocateurs through our designs, trying to shift current perceptions of technology functionality, aesthetically, culturally, and even politically” [Gaver, 1999 #175, p. 25].

4.2.2.4 Summarising Design research in 2006 – (the Sanders framework)

All of the design research methods discussed above and within Elizabeth Sanders’ research topography are designed to broaden the scope of traditional research sources, either bringing the designer into closer contact with the receiver of their designs or at least into a closer understanding of them. All are in a way, endeavoring to achieve a deeper understanding of the basic unit of human life - experience. User centered research, concentrates on the ‘usage experience’ of a design, in order to learn something from it that will enable design improvements. Design and emotion looks closely at the Affective component of experience within a design; seeing it as a key driving force for all other aspects of User behavior. Participatory design invites Users into an interaction framework with the designer, with the aim of creating a closer relationship between the two that enables better understanding of Users experience, all assuming that better designing will come out of this. All of these methods point towards a desire for greater understanding of specific aspects of human experiences (emotions, psychological behavior, consumption patterns, etc.). While not all but many research groups are oriented towards commercial or ‘outcome based’ aspects of experience, another group has a broader interest in experience as it relates to design. The next section deals with the research methods applied and developed in design research specifically focused on understanding ‘human experience’ in its meta-sense.
4.2.3 Research methods specifically related to ‘designing for experience’

4.2.3.1 Introduction

The broader research methods discussed in the preceding sections form the context within which this next section sits. The research category discussed in this section is the closest to the substantive line of inquiry pursued throughout this thesis57; how can we understand experience? Discourse in this area of design research focuses largely on three main theoretical questions, what experience is, how research on it can be done and how it can be used in design? These questions mirror the secondary line of inquiry guiding this thesis. The following section presents an overview of the leading research thinking related to answering these theoretical questions. It considers the current direction this research sector is moving in, the progress that has been made on it and a summary of gaps or opportunities available in the knowledge base in this area. These opportunities have been instrumental in guiding the design and implementation of the empirical research presented in Part Two of this thesis.

4.2.3.2 Defining experiential design research

In the overview of current Design Research presented in section 4.3.2 above, some of the broad categories of design research discussed adjoin the ‘Design for Experience’ field and are sometimes confused with it. Experiential Design research is treated in this paper, as quite differentiated from other

57 It is timely to re-establish the location of this research within the many research orientations described earlier that are related in varying degrees to understanding user experience. This research being based in hermeneutical phenomenology utilises the ‘researcher as instrument’ concept to its fullest. This methodological stance differentiates this research from Co-design and Autoethnography approaches in two important ways. While it works with and interprets data received from users it does not look for new design directions or inspiration from users as is often the case in ‘co-design’. It is primarily designer based research of user experiences. Secondly it recognises that the perspectives of the researcher are instrumental and valuable to (though not bracketed out of) the interpretation of data, so it could be said to have a strongly autoethnographic component in this sense but where ethnography looks to the generalisable social meaning phenomenology searches for the specific experiential meaning
design research interests such as User centered research, Emotions research, and the various participatory research approaches previously described. So, knowing what it is not, introduces the discussion of what it is.

ENGAGE (2005) defines Design for Experience, as also referring to Experience Design, Experience-centered Design, User Experience Design and Customer Experience Design. In this paper, it is referred to mostly as Experiential design or Design for Experience.

"Experience is perhaps the most evident term used to describe the new focus in user-based design research. The term has become a dominant force in both corporate and academic literature, whether in reference to philosophy of approach or specific research methods" [Hanington, 2000 #210, p. 3].

In an attempt to define this interest in experience, two questions are immediately presented. What is experience as an aspect of human existence? and how is this different from the experience to be understood in designing? Firstly, Ranulph Glanville {, 2006 #288} has said that "what we live in is experience, and therefore, that experience is what we need first of all to acknowledge and act with" (p.3). This suggests that experience is a fundamental part of every day conscious life that we need to understand in its own right, over and above those events that involve the experience of designed things. Another aspect of experience is that it is not simply something that we are unconsciously ‘given’ or are passively involved in. It is something that we engage with, in ways that help to define who and what we are [Feenberg, 1999 #140]. This not only means that understanding experience as a whole will help us to understand how it relates to design but also how we experience a design can help us understand experience itself.

“… the whole logic of cybernetic thinking suggested that the human should be centre stage. Humans did not really observe systems, they experienced them. To put that experience at the centre of observation …, is the only way to understand the world ‘in a truly human way’" (Glanville in Bunbury 2005).
Some confusion still exists within design research circles, about the goal of understanding experience itself on one hand, and understanding experiences resulting from interactions with design on the other. The latter, could be a reluctance to let go of natural sciences approaches, which tend to focus on understanding how something is used, in order to control it.

The former goal, understanding experience itself, requires a more abstract, human science approach, which argues that it is more important to understand how an experience itself, in all its complexity, takes place in and around the social intervention resulting from a design interaction.

By focusing research on deriving insights that will enable design improvements distracts many from a more productive approach, that is, to understand the interaction experience …and only then, to apply this understanding to design something better. Certainly there are lessons about experience to be learned by studying design usage, but this can distract researchers from focusing on the broader tableau of experience within which the usage takes place.

"Experience is a dynamic, complex and subjective phenomenon. It depends upon reactions to multiple attributes of a design - for example its behavior, logic, sound, mass and texture, look and smell - that are interpreted through filters relating to personal, social and cultural significance" (Green 2001, p162)

As an example, product usage experiences always take place, not in isolation, but within an entire milieu of life experiences with each of these experiences impacting to varying degrees on each other simultaneously.

"What is unique to design research relative to understanding experience is that it is focused on the interactions between people and products, and the experience that results. This includes all aspects of experiencing a product - physical, sensual, cognitive, emotional, and aesthetic"( Forlizzi, 2004, p.261).

Note: While I agree with the essence of Forlizzi’s comments above, I suggest that a simpler view has ‘physical, sensual and aesthetic’ aspects of experience
as being generally derived from somatic inputs, which leaves cognition, emotion (affect) and context (not mentioned) as the remaining fundamental components of experience (see discussion of components of experience section 4.4).

Only in experimental situations can researchers even begin to study a product experience in isolation, but of course the artificiality of this situation would then negate the reality of the experience. This underscores one of the fundamental problems of experiential studies. To fully understand an experience in its natural setting, the researcher must take into consideration all the other aspects of the experience that surround and impact on the experience being studied; but these are infinite so how can something so nebulous be understood?

“…a singular experience is made up of an infinite amount of smaller experiences, relating to contexts, people, and products” (Forlizzi, 2000, p 420).

"While issues of safety, comfort, and intuitive use are no less important, the totality of experience is now recognized as the domain of responsibility for designers” (Hanington, 2000, p.3).

4.2.3.3 What experiential design research is, and how it is currently done

Jodi Forlizzi has contributed significantly to experiential research discourse over many years [Forlizzi, 1999 #212; Forlizzi, 2000 #215; Forlizzi, 2004 #185; Forlizzi, 2004 #216; Forlizzi, 2005 #255]. In her various writings she differentiates between a number of ‘types’ of experience.

1. An experience: as a short duration, definable event with a significant effect on the participant and possibly their surroundings (Forlizzi, 2004 #185).
An experience might also include the experience of an event with another; what Forlizzi calls Co-experience. That is an experience shared with and involving another at the same time. [Forlizzi, 2004 #216]. Due to the presence of the other, the nature of the Co-experience is generally changed from that which either would have experienced had they been alone.

2. Experience: as a longitudinal “stream” of experiential events that occur during “moments of consciousness” in everyday life [Forlizzi, 2004 #185]. This involves, “the constant stream of ‘self-talk’ that happens while we are conscious” [Forlizzi, 2004 #216].

3. Experience as Story Telling: This is the subjective aspect of the experience that people use to internally describe the experience to themselves and also when they communicate with others about the experience [Forlizzi, 2000 #215].

These ways of dividing experience into manageable ‘chunks’ developed by Forlizzi and others, are helpful in enabling a simpler view of an otherwise nebulous question, however they do not provide an understanding of ‘an’ experience in itself. Labeling components or aspects of an experience might clarify it to some degree, but does not bring me much closer to making my own experiences understandable or for understanding the experiences of others.

"the positive experience of use is more than a sum of useable parts; it is an integrated whole that seeks to make a connection to the person as user, personally, emotionally, socially, culturally.” (Hanington 2000, p. 4).

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* Evidence of this can be seen in the Validation section - Chapter Eight / UTS trials summary / Question Five – how their perspectives were changed by working in teams.
Forlizzi’s work is again helpful in gaining a more concise view of the research that has been done in this field. In her notes from the conference, ‘Towards a Framework of Interaction and Experience As It Relates to Product Design’ [Forlizzi, 2005 #255] she provides a useful summary of other researchers who she considers have made “critical contributions in helping designers understand what experience is and if we can design for it”. The following is a brief review of the substantive thread in each of these studies and how their proposition contributed towards my understanding of what is known about experience (Forlizzi 2005).

1. {Alben, 1996 #354} - Developed a set of criteria for assessing quality of user experience in order to judge entries in a Design Award. Assessment criteria fell into categories that ‘directly’ or ‘indirectly’ impacted on user experience.

2. {Battarbee, 2003 #355} – A study of mobile multi-media messaging wherein Users become ‘designers’. The study also explored the concept of co-experience created through sharing an experience.

3. {Cain, 1998 #356} – Introduces Experience-Based Design (EBD). A ‘simple’ business oriented, ethnography based, framework for understanding customer experience in terms of what they think, what they do and what they use. The framework is used to illuminate problems, opportunities and levers for positive experiential change. The results are acted on by applying another model called POSE. (Problem, Opportunities, Solutions and Embodiment (bears much similarity to SWOT analysis))

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59 I acknowledge that in this case I am citing Forlizzi as a secondary source, but contend that the caliber of her work and the focus she has applied to this area of research over many years makes her an expert and credible judge of the papers she has reviewed and presented.
4. {Dewey, 1980 #357} – Discusses **continuity** (aspects of experience as they relate to the individual) and **interaction** (aspects of experience as they relate to the environment). He describes the way in which these different aspects of experiences can combine to change the user and their environment of use.

5. {Forlizzi, 1997 #358} - Working from an Interaction Design perspective, identified two types of experience; **satisfying** (driven by success with a process) and **rich** (a series of satisfying immersive interactions). These guide a subsequent “set of principles for designing rich, immersive experiences”.

6. {Forlizzi, 2000 #215} – An abstract ‘framework’ of experience, intended to help designers understand different ‘**dimensions**’ of experience; Sub-conscious (automatic non-thinking), Cognition (thinking with the intention of acting), Narrative (Interactions with features and affordances) and Storytelling (subjective description).

7. {Jaasko, 2003 #359} - A **framework of user experience** from the perspective of Concept Design. Offering a “holistic view incorporating historic meaning, socio-cultural meaning, marketing and brand, context and environment, and usability”.

8. {Mäkelä, 2001 #360} - From the perspective of digital consumer products they developed a **framework for understanding user experiences**, particularly looking at the *motivations* within present subjective experience, previous experiences and expectations for future experiences. They propose that designers should “support Users creativity in creating new experiences, rather than designing particular kinds of experiences for them”.

9. {Margolin, 1997 #361} - Introduces four ‘**dimensions**’ to the relationship between designer and the User: Social (group values),
Inventive (needs and utility of the product), Operational (simplicity of use), Aesthetic (appearance and meaning).

10. [Hudspith, 1997 #362] Proposes a three dimensional, psychological model of User experience. Utility (How well it does a task), Ceremony (rituals of use), Appeal (ease of emotional bonding).

11. [Pine, 1998 #317] – Conceptualise the ‘experience economy’ - developing a theatrical model involving setting up “services as a stage and goods as props, to engage individual customers in a way that creates a memorable event.” i.e. an experience. They provide five principles for designing memorable experiences: Theme the experience, Harmonize impressions with positive cues, Eliminate negative cues, Mix in memorabilia, Engage all five senses.

12. [Rhea, 1992 #363] – Using the Cheskin cycle of everyday customer experience with products, Rhea applies ‘tools to measure the "the quality of customer experiences" at each of four stages in the cycle of product usage. Life Context (customer background), Engagement (Interaction with product), Experience (ownership and use), and Resolution (disposal and letting go).

Other experience researchers, who might also be included in Forlizzi’s list, who have also contributed extensively to this area of knowledge include,

13. (Norman 2004) – Examines design and User experience from a background in Cognitive science. His understanding is accented towards the Users functional (socio-technical) relationship with products. He identifies three types of design, Visceral (appearance oriented), Behavioral (pleasure and effectiveness of use) and Reflective design (Self image, personal satisfaction, memories). Focusing on Behavioral Design, he strongly links the quality of User/product functional interaction with success, measured in terms
of emotional outcome and particularly “ones self image and ones place in the world” (p.87).

14. (Zaltman 1997) – The Zaltman Metaphor Elicitation Technique: A research tool designed to investigate consumer experiences for marketing purposes. This method or group of methods involves Users, with the guidance of trained researchers, using various pictorial stimuli and mnemonic aids that Users have provided, to develop detailed, written narratives of experiential events in their lives.

15. (Schmitt 1999) Developed two tools for understanding customer experiences from a psychology and marketing perspective. The two aspects of his theory include:

Strategic Experiential Modules (SEM’s) – The personal side of customers experiences, comprising Sensing, Feeling, Thinking, (usually associated with individual experiences) while Acting and Relating are shared experiences.

In the second part of his theory, experiences are ‘provided’ by Experience Providers (ExPros); these include, Visual/verbal identity, Product design and packaging, Co-branding, Spatial environments, Websites and electronic media, People and Communications.
4.2.3.4 Summarising experiential design research – what’s missing?, where are the opportunities?

Opportunities in the question

Previous studies of experience have as an intrinsic weakness, their lack of clear definition or cohesive understanding of what is being studied.

"The term "user experience" is associated with a wide range of meanings, and no cohesive theory of experience exists for the design community" (Forlizzi 2004, p. 261).

What exactly is it about experience that is being studied? What is it that needs to be really understood? Is it the general concept of experience, one of the most fundamental basis of all human understanding? Is it the experience of ‘others’ in general? Of course this cannot be, because fundamentally all experience is discrete and personal. And if this is the case, how can it be studied at all? Whose experience? There is only yours, and mine - certainly not ‘ours’. ‘Our experiences’ as such, do not exist. So how much value then can these current methods hold for studying experience, whatever it is?

By focusing research on a specific object (as in design research) at least the nature (read context) of the experience is focused. But this still leaves the experience-er component. Who’s experience is being studied? The researchers, the participant, their co-experience? Considering the above research methods and theories of experience, they each contribute to a vague and uncertain understanding of what it is being studied, while also struggling with how it should be studied. There is no doubting the level of effort and expertise that has been applied in this area of research, but a cohesive and acceptable theory of human experience is still unavailable; such that how any understanding developed within this theory might be turned to the purposes of design must be equally uncertain (Green 2001). Until an individual experiential event can be understood, as experienced by a single
experiencer, then there is little hope of generalizing this understanding for any wider purpose.

Opportunities in where to look for answers
If this conundrum of perspective is accepted as a starting point for understanding experience in a wider sphere, then the actual starting point for research into a specific experience must start as close to ‘home’ as possible, that is, within the researcher. How can the researcher study something about which he has no knowledge? In order to study an experience with any degree of understanding the researcher must have experience of the experience and in reflecting upon his experience, he might develop an appropriate orientation to the further study of the experience in others. This is a proposition central to phenomenology and a fundamental principle of the methodology used in this project (see Chapter Three) [Heidegger, 1962 #97; Richins, 1997 #85].

Opportunities in the structuring of experience
Phenomenology might address the ‘what’ of experiences but it does not answer the question of how answers to this question might be interpreted or correctly used? The methods presented by Forlizzi and others in the sections above, have provided some clues which point (even thought they are inconsistent and sometimes conflicting) to a number of possible ways experience might be ‘structured’, suggesting that by applying a structure, understanding of the experience must also follow. Does understanding the structure of something automatically also provide access to the true meaning of it as a whole? (A human skeleton comes to mind). How can a researcher determine that the conclusions drawn from a process of structuring an

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60 This is referred to in Lincolns notion of ‘reflexivity’; described as the process of “reflecting critically on the self as researcher, the ‘human as instrument’” [Lincoln, 2000 #119, p. 183].
experience are true and valuable? Especially if the conclusions are being
drawn with the intention of informing a design in such a way that it will
somehow reproduce a similar experience in future Users of the design? The
answer is that they cannot provide answers, they can only provide another
field of inquiry.

**Opportunities in designs humanity**

The discussion above shows that design researchers have (at this stage) left
unsolved many of the deeper questions related to understanding what
experience is or how it can be understood in relation to important human
issues effecting design. Green (2001) calls for researchers to "tune in to
people’s perceptions by engaging or witnessing them directly and thus guide
and inspire design" (p.161).

In the 1960's Marshall McLuhan (1969) warned about losing touch with what
today has become a highly technological environment, adopting what he
calls a 'rear view mirror' approach, that is, recognizing what has been done,
but only afterwards by looking back at it. He also presciently warned of the
dangers of readily accepting a form of ‘slavery’ to technology that continues
in the 2000s to distance people from their own humanity. Manzini suggests
that a way to re-establish our humanity is by reconnecting to the
environment not only in a biological sense but in a humanly meaningful
way.

"We must therefore connect products to their environment, not only on the level of
their physical relations with the biosphere ...but also on that of their relations with
the semiosphere" (Manzini, 1992 #203, p. 2).
Margolin adds to these entreaties suggesting that the way to resist the plethora of technological rhetoric is through a ‘meta-narrative of spirituality’. He invites designers to explore that which is intrinsic to humans and to design from this perspective rather than continue the ‘colonization of the natural’, to the detriment of human experience.

“It can provide instead a more profound and conscious reflection on the artificial as a subject which has yet to be explored with any depth by designers and technologists” (Margolin 2000, p. 9).

If designers can rediscover another way of seeing design, from another, be it ‘meta-spiritual’ direction as Margolin suggests or to see it as McLuhan refers to it as a new ‘medium’, then design can shake off its addiction to old forms of design practice in “a moment of freedom and release from the trance and numbness imposed by them” [McLuhan, 1964 #165, p. 80].

Opportunities in the tools
Many of the researchers discussed in earlier parts of this chapter have developed ‘tools’ or ‘toolkits’ for understanding experience. Instead of tools, Glanville uses the term ‘medium’ when he says that a medium should ‘hit back’, it should change how you think enabling you to think or act in a way you would not normally have thought of; rather than simply a tool that does what it is told [Glanville, 2006 #288]. These ‘mediums’ for change present a gap in the present set of ‘tools’ for understanding experience.

Designing for experience offers such a medium for change. However, much more needs to be accomplished if it is to become a viable system of methods or ideally a design paradigm. The one consistent driving force sustaining this type of research is the desire to improve human experience and enjoyment of life. Whether this is driven by economic or esoteric reasons …it is a noble aspiration.
"Twenty-three hundred years ago Aristotle concluded that more than anything else, men and women seek happiness. While happiness itself is sought for its own sake, every other goal - health, beauty, money or power - is valued only because we expect that it will make us happy." (Csikszentmihalyi 1991, p. 1).

Opportunities in design knowledge

If there is a need for a fresh look at human experience, especially in terms that designers can use, what is it? For instance, what do other research disciplines know about experience? How do they comprise it and what do they say happens when an experience takes place?

"It is my belief that it is of the very essence of every problem that it contains and suggests its own solution. This I believe to be natural law. Let us examine, then, carefully the elements, let us search out this contained suggestion, this essence of the problem" [Sullivan, 1890 in\Michl, 2000 #270, p. 3]

If Michls’ credo is correct, then the essence of the problem of understanding experience will follow from the experience itself. A good place to start would be to understand its structure or form. What then, is the form or the structure of experience? To help understand this structure at a more fundamental level, the last part of this chapter will montage a small portion of the knowledge available from other disciplines. It will discuss a minute amount of the most relevant knowledge amassed by disciplines such as psychology, neuroscience and physiology on this topic over many hundreds of years.
4.3 EXPERIENCE - PERSPECTIVES FROM NON-DESIGN DISCIPLINES

Introduction

This section presents a review of literature from disciplines such as philosophy, psychology, sociology, physiology, and neuroscience; the focus being on, how these many disciplines comprehend the complex concept that is ‘experience’, and what can be taken from their extensive knowledge base that is useful to the current project. This review explores the manner in which these many disciplines understand the relationship between mind and body in which experience is constituted and the physical world in which experience takes place. This exploration further focuses on how these relationships manifest themselves in and to the individual ‘experiencing’ them.

In the process of developing my understanding of what has been written about experience in non-design fields, an early, preliminary mapping exercise (Figure 4.02) was helpful for sorting the information being discovered into some order. I was not able to find this type of structure in any text so found it helpful when considering where new-found information fitted into the developing picture. The structure and flow of this review is based on this ‘section by section’ understanding of experience.
Figure 4.02: Preliminary notes on experience

**Sensory Experience** – Peripheral Nervous system (Thalamus region)

1. Sight (Ocular) Oculesics
   - Sense of speed
   - Looks from others
2. Touch (Tactile) Haptics – Spatial elements Proxemics
   - Cool air / wind on my face
   - A machine between my legs
3. Smell (Olfactory)
   - Fresh cut grass – Baked bread
   - Tilled earth – Fish market
   - Fertiliser
4. Sound (Aural) Vocalics
   - Heightened sensitivity – muffled disconnectedness – alarming
   - Roar of the engine
5. Taste (gustatory )
   - Coffee

**Affective experience** – Autonomic nervous system – (Limbic & Amygdala regions)

1. Emotions (intense, short-lived, highly conscious, meaningful, usually triggered by external stimuli)
   - Cheerfulness – happiness, joy, elation
   - Quiescence – calm, relaxed, serene
   - Agitation – tense, restless, nervous
   - Dejection – sad, gloomy, disappointed
2. Feelings (similar to emotions but more intense, substantial, generalised)
   - Boredom, anxiety, depression tender
   - Pride, jealousy, envy warmth, love, lust, ecstasy
   - Disgust, frustration, greed, guilt friendly, cheerful
   - Sadness, sympathy, bitterness, shame awe, joy, elation, positive,
   - Hate, fear, anger, rage expressive, effusive
3. Moods (Low intensity, diffuse, long lived, non-specific)
   - Positive – negative valence

**Cognitive experience** – Conscious and Subconscious (preconscious + unconscious) (Neocortex region) Concerned with the processing of information for use immanently (internally) or to be processed for storage in memory. (affective recall tags applied) Largely evidenced in relation to acts of Conation

Spatial – proxemics Temporal – chronomics Corporeal - body
Relational – social Aesthetics, hedonism

**Conative experience** (Conation / Behaviour) - The aspect of mental processes or behaviour directed toward action or change including impulse, desire, volition, and striving. The connection of knowledge and affect to behaviour. The goal-oriented, or striving component of motivation. Proactive (as opposed to reactive or habitual) aspect of behaviour (Mendala region and the central nervous system)

1. Connectivity
   - Strange head space
   - Sense of place, relating to situation, attachment
2. Agency (ownership)
   - In control, situation of own making
   - Passion, attachment to activity or artefact
3. Memory triggers
   - Archival memory
   - Sensory / Affective memory
4. Sense of self (Ego)
   - Appearance (dress, hair)
     - Look the part …..Sense
   - Feel the part ……Affect
     - Act the part ……Cognition, behaviour
   - Approval of self and others
     - Self concept
     - Self esteem
     - Self reflection
     - Self determination
   - Sense of outrage, disgust, propriety, humour, wellbeing, foreboding, history, camaraderie, teamwork, occasion, adventure, excitement, common sense, making sense.
5. Sensing (The feeling that something is about to happen without any explicit information)
   - Sense that something is dangerous, wrong, immanent
6. Sensations
   - Immediate awareness of a sense stimuli
   - Altered perspective - Vertigo - leaning into a corner

**Physiological aspects**
- Autonomic somatic responses

**Attitudinal aspects**
- Personality types, traits
- Social influences – race, religion, politics, socio-economic lifestyle
4.3.1 How experience has previously been structured

Since Galileo’s (1564-1642) reduction of scientific thought to that which could be quantified, scientists from many philosophical schools have wrestled with quantitative ways to understand human presence in the world [Capra, 1996 #30]. The restrictive view adopted in natural science approaches has inhibited the inclusion of many qualitatively rich avenues of study from much of the research done in the last century. Studies related to understanding the human world have lost many of the subtle aspects of sight, sound, taste, touch and smell, as well as aesthetics, emotional and social values, quality, soul, consciousness, and spirit. In a post-modern and highly impersonal world Hamilton (2003) maintains that many of these aspects of experience have a higher value with increasing demand and so have an important role to play in any formulation of what experience is. In the exploration of primarily natural science knowledge about experience that follows, it should be clear that the type of ‘experience’ referred to, is personal and not general in nature. This discussion, adopts an internalised view of experience rather than a description drawn from observations of others presented as ‘their experiences’. I am referring to ‘an experience’ as an internal event from which a person emerges ‘changed’.

"As a practice engaging all the faculties of the subject, experience is a process the subject undergoes rather than a sensation or datum it receives. Experience results in neither knowledge nor feeling but in the construction of the subject itself” (Feenberg 1999, p. 3).

It is also important to recognize that the focus of this study is an understanding of experience that is fleeting, ephemeral and insubstantial. For all of this, it remains highly significant to the quality of everyday human life, providing a fundamental platform from which the world is seen and understood.
"Lived experience as a momentary realization is an elusive ideal of unsullied immediacy that stands opposed to the excess of modern reflectiveness and calculation. But experience as ontological foundation is the always already present ground even of reflection itself" (Feenberg 1999, p. 5).

4.3.1.1 A history of ‘triumvirates’

To understand this important platform a simple framework or structure may be helpful that will allow the many disparate schools of thought to be seen in relation to each other. While understandings of experience are drawn from diverse disciplines, there is surprising cohesion in their views on structures within experience. Forgas (2001) begins by referring to Emanuel Kant’s use of the categories of Cognition, Conation and Affect within his philosophical system of experiential understanding. These three terms represent respectively, the knowing (thinking), willing (doing) and feeling functions, and were, he says, also used in early psychological laboratory research by Titchener61 [Forgas, 2001 #63].

Kant’s triumvirate not surprisingly shares a similarity with structures from classical Rhetorical argument62 such as logos (thinking), ethos (doing) and pathos (affect). This link is arguably tenuous but provides another way of advancing a structured way of thinking about experience. Rhetoric is fundamentally the use of words or symbols as stimuli for some desired action (classically a line of argument). Following this thread, from an experiential point of view an experience also takes place in response to some

61 Titchener’s best known works include; Elementary Psychology (1901), A Text Book of Psychology (1910), and Systematic Psychology: Prolegomena (1929)
62 Ethos - the speaker’s power of evincing a personal character which will make his speech credible; Pathos - his power of stirring the emotions of his hearers; Logos - his power of proving a truth, or an apparent truth, by means of persuasive arguments

stimuli, so the similarities in the two ideas can be seen in this way to suggest a form of ‘corporeal rhetoric’.

Psychology also adopts a three-point perspective in its traditional way of studying ‘three components of the mind’.

- **Affect** - referring to the emotional interpretation of perceptions, information or knowledge.
- **Cognition** - referring to the process of coming to know and understand; the process of encoding, storing, processing, and retrieving information.
- **Conation** - referring to the connection of knowledge and affect to behavior; associated with the issue of ‘why’. The personal, intentional, plan-full, deliberate, goal-oriented component of motivation, the proactive aspect of behavior.

[Huitt, 1999 #89, p. 2].

Another three-point perspective worth considering in this search for structure is William Green’s “holy trinity of interaction”. These are the identified skills required for a person to have an interactive experience with designed products (Green, 2001, p.10).

- **Cognitive skills** (Cognition)
- **Perceptor motor skills** (which might be interpreted as Conation)
- **Emotional skills** (Affect)

These three ‘skills’ bear a striking resemblance to the three aspects of experience (knowing, doing and feeling) presented by [Forgas, 2001 #63] and others above.
Still others who present variations on the ‘three-point’ theme include Donald Norman, who refers to three different levels of the brain that human attributes come from (Norman 2004, p. 21).

- The Visceral level - the automatic pre-wired layer
- The Behavioral level - processes that control everyday behavior
- The Reflective level - the contemplative part of the brain

The human attributes that Norman describes as arising from these different levels of the brain, no doubt have an influence on any given experience but because they mainly refer to cognitive influences they can be understood to contribute to an experience, but not to define it.

Normans ‘Visceral level’ does however introduce a so far unmentioned element in previous structures of experience - the senses. Sensory elements in the mind-body equation are to some degree ex-corpus, but particularly in design situations very often provide the original stimuli for many of the elements of experience mentioned so far. Senses are foremost in Schmitt’s ‘phenomenology of experience’. His interpretation provides another structural view of experience by referring to three different regional systems of the brain that can be stimulated during an experience (Schmitt 1999, p. 62).

- The Perceptual or sensory system – Thalamus region
- The Affective system – Limbic and Amygdala regions (principally)
- The Cognition system – Neocortex
The introduction of ex-corpus stimuli opens the discussion to just what constitutes ex-corpus or outside stimuli. Senses are the immediate interface between the body (including mind) and the ‘outside world (context) in which the experience takes place. While senses are definable and quite well understood, the borders that might be placed on an outside world or context are limitless and much less easily understood. Both are necessary to developing a structure of an experience. Schmitt (1999) further considers aspects of time and relationships to others in his marketing orientation to experience. This raises the feasibility of including a full range of existential parameters in building a general structure of experience. Employing all four existential factors would allow consideration of the widest range of possibilities that an experiential context might present (Ibid 1999).

4.3.1.2 Summary: Suggesting a structure of experience

Within the similarities and differences in expert theories of experience discussed above, a degree of commonality can be seen that allows a preliminary structure of experience to be proposed. Including the essence of all these theories and standardizing a language for their expression, I developed a preliminary structure for presenting the following deeper discussions of experience. This structure suggests that an experience will contain some or all of the following aspects, presented from the most distant to the most innate.

1. Existential / Contextual aspects (time, space, body and relationship)
2. Senses / Sensorial / Somatic aspects
3. Affect aspects (including emotions, feelings and moods)

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Van Manen 1997, p.104. lists four existential factors; Spatiality, Corporeality, Temporality, Relationality or Communality p104.
4. Cognition / Conation aspects (thinking and doing)

The material presented in the next few sections, will be structured within this ‘experiential framework’. N.B. As a qualification to this discussion it is acknowledged that each component in this framework of experience is a vast area of specialist knowledge in its own right, which cannot be adequately covered within this thesis. The following discussion therefore addresses these components from a design point of view, or the way in which they might specifically impact on or affect the personal experiences of people for whom a design is intended.
4.4 CONSIDERING AN INITIAL FRAMEWORK FOR STRUCTURING EXPERIENCE

Introduction

This section will look more closely at the individual components comprising the proposed experiential framework introduced in the last section. The discussion is not intended to be exhaustive, but will consider those aspects of literature from non-design disciplines which contributed to the current study of experience from a design perspective.

4.4.1 Contextual aspects of experience

Consideration of the nature of experience must begin by understanding that for an experience to take place, it must be located within a life-world context. As individual and private as most experience is, it still must be located in space and time for it to exist at all. This discussion of a framework for understanding experience begins from the widest point (the context) and works inward towards the most intimate functions of an individual mind (conscious and subconscious mind). The widest point is taken as the world around and within which the experience takes place. The widest point of context has been variously described by terms such as ‘existentials’, existential space, the ‘life-world’ or the context of experience. All these terms will be used in this discussion as interchangeable.

‘Existentialism’ is a term often attributed to and used by phenomenologist’s in the late nineteenth to early twentieth century. It became a significant aspect of subsequent existential phenomenological philosophy and modern psychology {Heidegger, 1962 #97; Van Manen, 1997 #28; Embree, 2005 #251; Geanellos, 1998 #176; Valle, 1989 #109}.
Literally *Existential* means ‘pertaining to existence’ (Websters, 1989 #373) but in phenomenology it is used more specifically to describe ‘four dimensions’ of existence that act effectively as coordinates for locating human experience. These include space, time, the physical body and its relationships to other people. Experiences taking place in the world can be thus located and given meaning within these coordinates.

Existential factors related to individual experience are differentiated from broader meta-contextual global factors such as environmental, legal, economic, social and cultural. These impose their influence from a wider radius and can be considered separately from existential factors, which have a more immediate impact on an individual experience.

A simple and useful explanation of the four ‘existentials’ reads as follows,

1. Lived space *Spatiality* - the nature of the space in which the experience takes place and its quality of meaning, that is, a space good for reading. Spatiality can be altered by, framed by, facing towards, broken by, sitting in, space itself, distance between, one to one, direction faced or joined by.

2. Lived body *Corporeality* - refers to the condition of being bodily in the world. This is the way in which a person is in the experience and physically interacting with it. This includes, motion, standing, moving, sitting, body movements, loud voice, joyful voice, eye scanning and attentive ears.

3. Lived time *Temporality* - is subjective time as against clock time or objective time. It is also a temporal way of being in the world (as a young person looking forward or aged person looking back). Considerations of past, present and future, including timetables, times for, time running out, time given, taking your time or taking up time.

4. Lived human relation, relationality or communality – this includes the interaction experiences had with ‘others’ that impact on the appreciation of a particular experience. These can include reactions to others and reactions
from others, a network of formal and informal relationships as well as major and minor relationships plus age and gender relationships. [Van Manen, 1997 #28; Willis, nd #105].

In summary, the existential factors comprising Space, Time, Body and Relationships, are referred to throughout this thesis and were used extensively in the field research. They provide a useful framework to begin shaping a context in which specific experiences might be studied. They are a set of parameters within which an experience takes place, forming a basis for understanding the next level of experience, the horizon where context meets the corporeal self, through the senses.
4.4.2 Sensorial aspects of experience

(a) Senses

Experiences are most often considered to be an ‘outcome’ of sensory stimuli. In other words experience as ‘reactions’ to things interacted with {van Veggel, 2005 #293}. This way of viewing experience would of course limit experience to that which is felt by the body (somatic responses) and not include experiences of a purely cerebral nature. Never the less, much of what is experienced is initiated by sensory interactions with the world that are subsequently interpreted in many different ways. Within the experiential framework discussed in this section, the five senses of the human body are considered in the order of their magnitude of contribution to an experience. This means that sight is first, then sound, touch, smell and taste (The senses order of magnitude is an oblique reference to Penfield’s Homunculus64. see Figure 4.03).

Sight is commonly said to provide around 70% of sensorial stimuli which in turn influences different types of thinking such as image associated memory and affective responses from visual memory (Zaltman 1997). The importance of sight is further highlighted if it is accepted that up to 80% of communication between people can be non-verbal. According to Zaltmann this important alternative communication system is conducted using ‘cues’ given out in the form of touch (Haptics), non structured language (Sounds, Vocalics), spatial signals (Proxemics), time relativity (Chronomics), various

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64 Penfield’s homunculus is a caricature depiction of the outer sensory features of a human being, drawn in proportion to the brain activity required to operate them [Merriam-Webster, 2007 #386].
eye movement and appearance interpretations (Oculesics - see Schlosberg, 1964). Also highly important, but not mentioned by Zaltman, are the roles that smell (Olfactory) and taste (Gustatory) play in non-verbal communications, especially between people in a close relationship.

A discussion of the operational functionality of individual senses is something for medical specialists to discuss and not useful here. However there are some particular aspects of individual senses that are worth mentioning in relation to understanding experience. Sight is arguably the strongest single sense, and is the only sense that allows us to detach from, and according to McLuhan (1994) does not physically involve us in our experiences. This is an interesting point considering the strong focus on appearances and aesthetics in many areas of design.

Sensory similarities exist across disparate cultures. Musical sounds, facial expressions, as well as a multitude of different types of textures, tastes and smells, produce experiential responses which may be considered universal (Zaltman 1997).

Not all of the senses are in balance all of the time. Synesthesia can occur when one sense is damaged or its functional capacity is reduced. The cortex allocates more of the cerebral cortex to compensate for the damaged sense (Green 2001). McLuhan (, 1964 #165) referred to this condition as the body’s ‘sense ratios’, arguing that if one of the senses is inhibited or diminished for any reason the body will adjust to maintain the balance of sense ratios at 100%.

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Synesthesia – “transfer of perceptions from one sense to another and / or integration of the senses” (McLuhan 1964, p. 566) - also, a neurological condition in which a stimulus to one sense triggers another [Hyperdictionary, 2007 #22].
(b) Sensing

Most levels of sensory interaction are passive, simply supplying input from surrounding activities. ‘Sensing’ is a non-passive sensory activity that goes beyond supplying a basic functional understanding of stimuli. Sensing refers to the intensity and degree with which a sense is experienced. It describes the depth and shade of a colour, how rough or smooth a material is, the clarity or not of visibility, the richness or disturbing quality of a smell [Lingis, 1996 #53]. McDonagh [, 2002 #186] refers to this type of response as the ‘perceptor’ skills needed by an experiencer or the perception generated in interactions with the products of design. These product perceptions can be influenced by ‘shape and size, texture, weight, balance, temperature and various material properties’.

(c) A Sense of

Beyond Sensing (perhaps ‘entering the realm of the metaphysical), is a level of sensitivity, sensuality and sensation interpretation that can occur within an experience and which communicates a unique quality to the experiencer. This ethereal quality might be understood in a sense of impending danger, a sense of euphoria, a sense of melancholy.

"To sense something is to catch on to the sense of something, its direction, orientation or meaning. Sensibility is sense perception, apprehension of sense. But to sense something is also to be sensitive to some thing, to be concerned by it, to be affected by it. It is to be pleased, gratified, contented, and exhilarated or to be pained, afflicted and wounded by something” (Lingis 1996, p. 77)
In summary, it is quite well understood that the senses of sight, sound, touch, smell and taste, are vital to our experiencing the world. However the role of senses in experience are not confined to simple interpretations of the stimulation of nerve endings; and may include more complex concepts such as ‘sensing’ and ‘sense of’ situations. Within experiences, there are many complex ways that individuals interpret and understand their reactions to sensory stimuli and these must be considered in any exploration of designing for experience.

(d) Beyond senses - aesthetics

The manner in which sensorial stimuli are interpreted for enjoyment by experiencers in their interactions with products, is commonly referred to as the ‘aesthetic’ aspects of the experience. The term is used to describe the nature or form of their reaction to the things that stimulate senses in the first instance (Green, 2001) for example, the smell of fresh bread, the gloss on a red Ferrari, the feel of silk. Aesthetic appreciation is an individual trait in that response to these stimuli may be quite different in different people. Some people detest the smell of fresh bread.

“ aesthetics refers to whether an object is aesthetically pleasing and sensually satisfying...cohesively designed and whether its spirit and style are in consistency”
(McDonagh 2002, p.379).

The dictionary\(^\text{66}\) describes aesthetics in two ways; “a branch of philosophy dealing with the nature of beauty, art, and taste and secondly as a particular theory or conception of beauty or art; a particular taste for or approach to what is pleasing to the senses and especially sight”. Aesthetic appreciation is popularly understood in the saying ‘beauty is in the eye of the beholder’.

\(^{66}\) (Merriam-Webster, 2007 #386).
Aesthetic aspects of experiences with designed products, are considered vitally important to their commercial success (Green, 2001 #218).

Understanding that aesthetics is not simply a matter of sensorial reactions is therefore very important to understanding their role in designing for experiences.

“sight, touch, taste, smell hearing, balance, movement and muscular effort, all help to form an aesthetic appreciation of a product or environment” (Macdonald in Green et al. 2001, p. 113).

Pleasure based approaches to machine design suggest that experiencers reactions are largely hedonistic, that experiencers are responding to influences from a wide variety of pleasure sources which shape and direct their aesthetic reactions to experiences (Jordan, 2000 #211). Jordan catagorises these pleasure sources in the following way;

- Physio-pleasure (sensory based)
- Socio-pleasure (from relationships involving others)
- Psycho-pleasure (mental and emotional)
- Ideo-pleasure (from individual sense of taste, values and aspirations) (Jordan 2000, p11).

There is much evidence to suggest, as Holbrook et al. (1982) do, that the aesthetic appreciation of a product might generate such strong responses, particularly emotions, that they can even start to override appreciation for the products functionality.

“The criteria for successful consumption therefore are essentially aesthetic in nature and hinge on an appreciation of the product for its own sake, apart from any utilitarian function it may or may not perform” (Holbrook, 1982 #86, p. 138)
This level of aesthetic appreciation over-riding the rational appeal of functionality can be easily seen in relationships with automobiles, where aesthetic qualities are used extensively to mask logical contradictions in economy, reliability, efficiency and many other, functional aspects of a vehicle (Richardson 2006).

The above complex interpretations of aesthetics, contrast with Norman’s concept of Visceral design. Here the concern is mostly about appearances. Norman’s Visceral design deals with a primary level of ‘sensory’ experience saying that, "Visceral design is about the initial impact of a machine, about its appearance, touch and feel" (Norman 2004, p.37). This appears to undervalue the complexity of aesthetic appeal expressed in Jordan’s (2000) pleasure series.

In summary, it can be said that aesthetic experience is an integral and important part of human experience of the world. Aesthetic experience originates from but is not limited to aspects of the appearance or material qualities (including all sensory inputs) of a designed object, which have an impact on a Users perceived experiential pleasure, or aversion to the object. These impacts must be considered in developing an understanding of designing for experience in this project.

(e) Beyond senses - Human factors / Ergonomics

All of the sensory and aesthetic aspects of use mentioned above merge with concepts of functionality within the field of Human Factors or ergonomics. This field has become increasingly blurred in the last few years with Human Factors venturing beyond its traditional purview (concerned with levels of comfort and discomfort in product use) into studies of how comfort levels effect various mental aspects of the usage experience (Green et al. 2001).
Green also suggests that a merging of ergonomics, aesthetics and engineering into a new Human Factors is also taking place. The research interests of Human Factors practitioners have been closely aligned with those involved in user research; that is the investigation of design improvements in terms of physical ‘fit’ and user comfort levels. The primary aim of this type of research is to improve the performance of products in terms of raising positive acceptance of new products and reducing negative reactions to old ones [Hanington, 2000 #210]. This top down approach was a hallmark of the older ‘ergonomic’ approach. Human Factors have in recent times adopted a more ‘bottom up’ approach by investigating not only the physical effects that occur during use but the way in which the body interprets these effects cognitively and emotionally [McDonagh, 2002 #186].

Man’s relationship to artifacts in many forms has also altered in the scale of their understanding. In the recent past, a person could relate on a one-to-one scale with the machine they were controlling. With improvements in the efficiency of technology the relationship has increasingly become one of ‘controlling’ machinery and components that the person can no longer comprehend in scale or function [Manzini, 1992 #202]. In many cases the control is over components and machinery that cannot be seen (Drive-by-wire is a good example of this). The physical interaction required to operate many products does no longer relate directly to their mechanical properties. To push a vehicle’s brake pedal takes an amount of physical force, which is not proportionate to the amount of breaking power required to slow the car. The relationship between the action and outcome is no longer relative to an understandable human scale and is increasingly an unconscious ‘act of faith’. When the functional mechanism is no longer apparent or understandable then ‘faith’ is required that the action taken will somehow translate into a
desired outcome [Verbeek, 2005 #280]. Users are more often upset when a machine fails to operate according to plan because of the faith invested in it. ‘It is supposed to work and doesn’t [Jordan, 2000 #211]. This lack of understanding of the actual functional process intensifies feelings of vulnerability in Users if a product fails to work as expected, leaving them feeling frustrated and angry.

Human factors are being increasingly understood in terms of ‘good’ or ‘bad’ experiences [McDonagh, 2002 #186]. What constitutes good or bad is however, poorly defined and difficult to measure. In individual terms Users (if asked) can describe what attributes they consider ‘bad’ however most cannot interpret in advance, what will be ‘good’. This is the failing often attributed to User-based research, which asks Users to participate in order to try to predict improvements. Improvement traditionally happens over time in an iterative process of refinement after customer feedback [Schön, 2003 #148; Lidwell, 2003 #338].

While Users continue to struggle to keep pace with the functionality of the products they interact with, their emotional vulnerability appears to be rising. There is increasing evidence of rising tension in man-machine interactions. Common negative emotions include feelings of vulnerability, frustration, bewilderment, ineptitude, failure and insecurity, among many others. Of course there are many common positive emotional descriptions including, thrill, pleasure, achievement, satisfaction, adventure and romance.

So what are these emotions, feelings and moods all about?
4.4.3 Affective aspects of experience

The third part of the structure of experience to be discussed in this chapter, addresses the manner in which the human mind reacts to stimuli (primarily but not exclusively, through the senses) to create mental states of arousal that are called affective. Affective responses can be considered a primary response system, if the autonomic\(^\text{67}\) cognitive processes evaluating initial stimulus identification are excluded. There is relatively little known about the very important role of affect in everyday human existence and social interaction. Even less is known about its contribution to the structure of experience; the way we fundamentally understand the world around us.

“Emotion is at the heart of any human experience...from a design standpoint, emotion shapes the gap that exists between people and products in the world. Emotion affects how we plan to interact with products, how we actually interact with products, and the perceptions and outcomes that surround those interactions” [Forlizzi, 2004 #216].

Much of what is now known about affective states has been learned since the 1980s, mostly from studies of social cognition, neuro-psychology and psycho-physiology [Forgas, 2001 #63]. The following is a discussion of what affective states are (definitions), responses to what they do (affective experience) and how they are understood (models of affect).

\(^{67}\) Refers to the instantaneous mental processing required to determine if a situation is safe or dangerous. Autonomic responses are those at a reptilian level often called ‘flight or fight’ response, in which the body prepares for survival, including increased heart rate and respiration [McDonagh, 2002 #186].
(a) Defining Affect

Affective states are generally accepted to fall within three categories; emotions, feelings and moods. The effects of these states vary in intensity (salience) and relevance of their cause for the experiencer (valence)\(^{68}\). Definitions vary in the detail and terminology but generally agree with the following conditions:

- Emotions are short lived, intense and highly conscious, mostly focused on something outside of the experiencer. They form an integral part of most experiences, shaping the way in which we process those experiences into memory. They are responsible for much of the thinking and behavior directed towards designed products, which is at the centre of research into experience.

- Feelings are similar to emotions, less intense but more substantial. They are less fleeting than emotions and take longer to form. They are more or less durable than moods, often describing states of ‘being’ i.e. being in love, upset, angry, lonely, etc. They are often confused with and included with emotions but can be seen to have a broader, less event specific, holistically general level of affective influence.

- Moods are described as low intensity, sustained or enduring states with little cognitive content, mostly focused inwardly.

\cite{Forgas, Forlizzi, Lingis, McDonagh, Norman}

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\(^{68}\) The Hippocampus differentiates between the valence of information by referencing new information against information from past experiences; and the Salience of information, that is how vivid, intense or demanding of attention it is \cite{Schmitt}.
The more volatile and powerful affective states operating in the form of emotions and feelings, are the focus of the following discussion. The role of moods will not be explored any further at this time as they are less often involved or considered in aspects of experience related to design interactions.

There is some conflicting thinking between authors as to whether affective states can exist with or without conscious thought. McDonagh (2002) argues that emotions arise “without conscious effort or reflection” (p.251) and others agree, saying “an individual may come to feel something without fully comprehending the source of those feelings” (Ito and Cacioppo in Forgas 2001, p. 63). Norman (2004) also appears to agree with these perspectives, describing affect as a ‘judgmental’ system, (partially in reference to autonomic responses) with emotions becoming the conscious experience of it. He further suggests that emotions come complete with an understanding of the cause or originating object, but then says that the “affective system works independently of conscious thought” (Ibid, p. 12) and further that “usually you react emotionally to a situation before you assess it cognitively, since survival is more important than understanding (Norman then oddly qualifies this statement), but sometimes cognition comes first” (Ibid, p. 13). The involvement or not of conscious thought in response to an affective state is left unclear. Determining if affective states are the result of conscious thought or conscious thought follows on from affective states is not clear or simple and appears to be strongly influenced by the circumstances of the event in which the experience takes place. Therefore, in order to be helpful, any understanding of the relationship between affect and cognition, especially within experience, must consider both possibilities.
(b) Affective experience

The impact of emotions and feelings on the physical and mental activities of the human body is evidenced in many different ways. Behavior is altered in positive and negative ways depending on the nature of the emotions experienced. Positive emotional states can enhance creative abilities promoting more open, constructive and inclusive thinking to take place. Emotions are linked to memory efficiency. As with pictorial memory, experiential memories are often processed with emotional ‘tags’, which are subsequently used in the cognitive processes of recall. Forgas (2001) maintains that due to the close link in the processing system between factual retrieval and emotion, memory can be emotion dependant. This is not to forget or diminish the role of other ‘memory-tagging devices’ using any of the five senses.

Social interactions require the ability to process rich, complex and emotionally laden information streams. An individual’s ability to process social-emotional data of this magnitude and complexity strongly influences their ability to correctly interpret how to behave socially. Affect therefore plays an important role in a person’s social behavior as well as their individual responses to experiential events.

“When an emotion is aroused it excites other indicators to which it is connected. These indicators include physiological and autonomic reactions characteristic of that emotion, facial and postural expressions, verbal labels for one’s state, a collection of action tendencies, and a set of memories of episodes that had been associated with that emotion in the past” (Gordon & Forgas in Forgas 2001, p. 101).
Psychology argues that affective experience is either ‘good’ or ‘bad’, positive or negative (Ito and Cacioppo in Forgas, 2001). Others believe it has a sliding valence; that is, the better the affect, the more it is valued and vice versa [Forgas, 2001 #63]. Cognitive reactions to negative affect may also be positive (positive reaction to related thrill-fear in fast cars) and negative cognitions might be experienced from positive affect (worrying about the excessive enjoyment of certain foods).

Reactions to emotions generated in an experience can manifest themselves in facial expressions, postural change, verbal self-talk, various action/reaction outcomes and memory recall (Gordon and Forgas in Forgas 2001). Conversely facial reactions and sensorial stimuli can have a significant effect on emotional states [McDonagh, 2002 #186]. The degree to which these reactions are positive or negative partially determine the way in which the experience is subsequently re-viewed in memory, thus how it adds to the individuals longitudinal mass of life experience.

(c) Models of Affect

Understanding what affect is and particularly how emotions can be modeled or structured, has been the source of much conjecture in the last twenty years. Some believe that if emotions can be understood in a usefully structured way, then the cognitive processes associated with these emotions might also be predicted and by corollary, controlled (Forgas, 2001). For example McDonagh proposes that a universal ‘pattern of emotion eliciting conditions’ exists below the level of individual responses elicited in normal design interactions. This pattern involves five classes of product emotions; these being instrumental, aesthetic, social, surprise and interest. This catch-all set of categories is a handy structure within which many individual
emotions (if identified and given labels) might be placed. By applying this ‘pattern of eliciting conditions’ it is assumed that the resulting structure will provide a meaningful understanding of an experience. This has not been proven.

Green (2001) argues that emotions are a result of the individual interpretations a person makes of their interactions with a designed object, and that “searching for general rules in a stimulus-response manner, is a fruitless approach” (p.67) Not everyone agrees with this point of view.

“…we should be able to predict the impact of these emotional states on our cognitive processes … we should be able to predict when, under what conditions, and who will experience different emotions” (Smith and Kirby in Forgas 2001, p. 78).

These differences of opinion highlight the disparities in understanding that exist in studies of emotion and their relationship to understanding experience. Similar to the Design research methods mentioned earlier in this chapter that seek to ‘formularise’ experience (4.2.3.3 What experiential design research is and how it is currently done) the following methods offer models of emotion or name sets of emotions in order for predictive or controlling systems to be developed. Shown here are just some of the systems developed by researchers from outside the field of design.

1. Appraisal theory- this is a structural model for appraising situations leading to affective states. It describes seven categories of situations, which might lead to a particular emotional state as a way to understand where the emotions came from or what may have originated them (Smith, 1990 #71); also (Smith & Lazarus in Forgas 2001). Within Appraisal theory, Smith and Kirby further describe two major influences that emotions have on social cognition.

- The antecedents - when, where and under what conditions a person experiences a particular set of emotions is crucial to being able to predict
the range of circumstances in which these emotions might affect cognitive processes.
- The differential functions - understanding that differing emotional states serve quite different motivational functions (Smith & Kirby in Forgas 2001, p. 89).

2. Higgins emotional experiences - describes four distinct types of emotional experiences, including cheerfulness, quiescence, agitation and dejection related emotions. These sets are further broken into labeled emotions which according to Higgins "any model of emotional experiences would need to account for" (Higgins in Forgas 2001, p. 188).

3. Tomkins categories of affect - one of the earliest and most definitive texts. It describes affect in strictly positive and negative terms, with four types of emotions in each category.
   Positive affect: Interest - Excitement / Enjoyment - Joy / Surprise - Startle
In summary;

Affect is a primary human response mechanism whose principle component, emotions, are upon reflection the strongest factor determining the nature of an experiential event and its qualities. The notion of the existence of inter-relationships between emotions and cognition is clearly established but no definitive understanding of them has yet been presented. Emotions are generally discussed in both positive and negative terms and have been clearly shown to have a significant effect on social interaction skills, creativity, memory and more generally, the quality of everyday experience. Models or labeling systems have provided some direction and structure for studies of affect or emotions, but have failed to comprehensively explain what emotions are, how they might be understood or their deeper meaning in terms of how they contribute to experience.
4.4.4 Cognition / Conation: Cognitive aspects of experience (thinking and doing)

This study is focused on understanding experience from a design perspective, and apart from the context in which experience takes place and the body’s complex somatic feedback on it; experience is a totally cerebral concept. Emotions and cognition in its many forms constitute the total concept of experience in the human mind. In the preceding section, affect with a focus on emotions was discussed and shown to be present in most experiences. It was also established that emotional experiences can trigger cognitive responses, cognition can trigger emotional responses and either can take place in the absence of the other. However, at least one of these aspects of brain activity must be present for any understandable experience to take place. The next section explores some of the ways in which experience might be understood from a processing perspective. How do the different types of cognitive processing, cognition and conation, impact on the way I experience?

(a) Cognition and consciousness

Taking cognition to mean the way I know something or the ‘process’ of knowing and consciousness to mean an awareness of knowing, being conscious ‘of’ something is a starting point for understanding the various ways to consider thinking. Cognition or cognitive thought generally refers to the processing of information while consciousness is less clearly defined. Interactions with things in the world produce information from senses, emotions and memory, which we then manipulate and use (cognitive processing). It is our awareness of this “intentionally ordered information” that constitutes consciousness [Csikszentmihalyi, 1991 #195].
The converse of consciousness is the sub-conscious. References to the sub-conscious are sometimes misleading in that they actually refer to either the pre-conscious or unconscious (Beilharz, 1992 #62). The preconscious is like ‘cache memory’ in a computer. It contains ideas, recent memories and thoughts that are ‘nearby’ or available but not immediately in the conscious mind, and have not been relegated to the unconscious. The unconscious refers to the hidden parts of the mind containing suppressed memories, thoughts and desires, a region that was of particular interest to Sigmund Freud (Beilharz 1992).

Holbrook describes two approaches to cognitive processing: the information processing approach (much like cognition and consciousness discussed above) and the experiential perspective based more within the subconscious.

"Due to its cognitively oriented perspective, the information processing approach has focused on memory and related phenomena: the consumers cognitive apparatus is viewed as a complex knowledge structure embodying intricately interwoven subsystems of beliefs ... By contrast the experiential perspective focuses on cognitive processes that are more subconscious and private in nature" (Holbrook, 1982 #86, p. 136).

Holbrook (1982) further suggests that for various personal reasons, people may consciously or not, suppress layers of “latent” experiential meaning below the surface of their descriptive accounts of experiences69.

"Much relevant fantasy life and many key symbolic meanings lie just below the threshold of consciousness, that is that they are subconscious or preconscious as opposed to unconscious - and that they can be retrieved and reported if sufficiently indirect , methods are used to overcome sensitivity barriers" (Holbrook et al. 1982, p. 136).

69 Evidence of the ‘latent meanings’ below the surface of verbal accounts of experiences, is referred to in Chapter Three under hermeneutics, and can be seen in the hermeneutic analysis and synthesis of data described in Chapter Six. Zaltman (1997) says, "to attend to unconscious but accessible mind states, research methods must engage people in ways that enable them to bring unconscious states to a level of awareness" (p.430). These are the methods described in Chapters Six and Seven resulting from the field data analysis.
The complexity of ways in which we might consider thinking about thinking, can be seen in an example from [McDonagh, 2002 #186]. He suggests that adopting a cognitive viewpoint sees the mind as a tool at the end of a chain of sensory and other information inputs. Action oriented theories he suggests, have cognition acting as a control device regulating the flow of sensorial and emotional information and directing the body responses accordingly.

“In sum, the content of the mind takes priority over a body which is treated as the mere vehicle of attainment” (McDonagh et al. 2002, p. 3).

Everyday social interactions depend on the ability to process a continuous stream of complex information. (Forgas 2001). The appraisal of incoming data is in most part automatic70 and awareness of surrounding everyday life events is low (Smith & Lazarus in Forgas 2001; Zaltman 1997).

“Most emotions and cognitive functions, which guide thought and behavior, occur without awareness, that is, most mental life is tacit” (Zaltman 1997, p. 429).

This automatic processing of data is further complicated by the occasional need to appraise information that is ambiguous or open to interpretation. These situations raise the level of cognition required to make decisions, resulting in an increase in consciousness. For instance, a situation where some order of danger is involved, may be interpreted as harmfully dangerous or excitingly dangerous depending on the experiencers cognitive judgment which determines if the level of risk is acceptable or not.

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Cognitive appraisal models describe two levels of cognition. Firstly – ‘Associative processing’ occurs very quickly and automatically, involving memories of past associations and emotions. Secondly, ‘Reasoned appraisals’ take place more slowly and carefully, making greater demands on semantically\textsuperscript{71} coded memory data (Smith & Kirby in Forgas 2001).

"...the way we think is not the way we think we think …everyday thought seems straightforward but even our simplest thinking is astonishingly complex” (Fauconnier, 2002 #230, p. v).

(b) Conation and memory

Psychology has traditionally identified and studied three components of mind: cognition, affect, and conation\textsuperscript{72} [Huit, 1999 #89]. The relationship to experience of the first two mental states (affect and cognition) were discussed in the last two sections. The remaining mental process, conation, has a vital role to play in bringing sensorial, emotional and cognitive components of experience together in ways that provide motivation and guidance for resultant actions or behavior.

At the beginning of modern psychology, studies in both emotion and conation were considered central to understanding human behavior. While the focus of initial interest has been on cognitive-behavioral studies, in more recent times, a growing interest in emotions\textsuperscript{73} has developed. One line of thinking suggests that the difficulty researchers studying emotions and cognition are experiencing in their efforts to understand or predict outcomes in these areas is related to a lack of understanding of the role conation plays in their processing.

\textsuperscript{71} Only information that has been semantically encoded in some way is readily accessible to reasoning” (Smith & Kirby in Forgas 2001, p. 88).

\textsuperscript{72} 1. From the Latin Conatio, an undertaking, effort (Reber 1985). 2. The power or act which directs or impels to effort of any kind, whether muscular or psychical. (Hyperdictionary 2007). 3. The aspect of mental processes or behaviour directed toward action or change and including impulse, desire, volition and striving (Huit, 1999).

\textsuperscript{73} See section 4.3.2.2 Design and emotion - methods for measuring and labeling emotions.
Studies of conations role are largely hampered by a difficulty in differentiating conative thought processes from those of cognition (Huitt 1999). Differences are primarily determined by their various orientations towards actions. Cognition can be understood as principally involved with thinking inwardly about self-concepts or internal views. It is the way people think about themselves and work through abstract internal concepts and process information. Conation directs its action outwards towards things outside the corpus. It involves conscious reflection on potential interactions with external things, concepts and issues that may or may not lead to action or behavior.

Conative thought processes may be influenced by an individual’s preferred or learned way of thinking, their personal conative ‘style’ [Kolbe, 1990 #371]. This suggests that the way in which an individual translates thoughts into action (conation) and subsequently interacts with the world might be understood in terms of personality traits, attitudes and learning styles (Huitt 1999). It also suggests that a certain level of choice is present and that intentionality could have a ‘governing’ role in conative decision making. Intentionality then, in combination with self-reflection (cognition) allows an individual to make choices about the action orientation desired, in other words, to do or not to do. Decisions of this nature are often influenced by memory ‘schemas’ from past experiences which have been cognitively processed into memory using emotional and sensory recall ‘tags’ [Holbrook, 1982 #86; van Rompay, 2005 #249; Zaltman, 1997 #84; McDonagh, 2002 #186; Gibbs, 2001 #129]

“As a situation or person is remembered, factual information about the person or place is encoded for storage, along with an evaluation of it that is rendered automatically by the perceivers affective appraisal system” (Gordon & Forgas in Forgas 2001, p. 100).
Emotional recall forms a very important ‘energising’ as well as locating function in these kinds of decisions providing the motivation necessary to make a decision and carry out an action when it might be just as easy to do nothing [McDonagh, 2002 #186; Huitt, 1999 #89; Forlizzi, 2004 #185]. The decision to act or not will depend on the individuals conative ability to process the emotional and cognitive data available to him and determine the most suitable course of action.

In conative evaluations or decisions, it can be seen that emotions past and present as well as cognitive processing is interwoven in the process. This is why the role of conation in experience is so important and also why it is so difficult to understand.
In summarizing the cognitive process in relation to experience, it can be said that cognition and consciousness are foundational aspects of mind necessary for a recognizable experience to take place. In order to understand experience it is vital to understand the way in which sensory inputs combine with cognition and conation to produce that experience in an individual. It is equally vital to understand that through the processes of memory, cognition and conation an individual is given the choice to act or not to act in certain ways, but by corollary, the basis of these processes are directed and strongly influenced by past experiences and thus the perception of possible future experiences. Getting the experience ‘right’ in the first place builds up ‘schemas’ including the possibility of successful future experiences. This is why it is important for design to understand the role of ‘good’ experiences, but first there is a need to understand these experiences themselves, and the theoretical knowledge discussed in the preceding chapter does not emphatically demonstrate that any cohesive methods exist for doing this. Part Two of this thesis discusses the empirical methods developed and the outcomes achieved, in my further exploration of this problem.
In my attempts to develop a useful structure or framework within which experience might be studied, the views of researchers from many disciplines have been considered in this chapter. This has resulted in considerable support for a structure of experience that contains Sensorial, Affective, Cognitive and Contextual components activated within an existential framework of time, space, relationship and corporeality. This has been represented in Figure 4.04.

By following this structure in the preceding section, it was firstly shown how senses, sensing and a ‘sense of’ contributes to aesthetic and ergonomic appreciation within experiences.

Secondly, the discussion of affective responses showed that while experience contains emotions, feelings and moods, it is emotions that are the most significant contributing factor in influencing the nature of an experience. Partial models of emotion, and structured labeling systems for emotional events have been developed, but as yet no cohesive and comprehensive understanding of their meaning and influence on experience, has been developed.

Thirdly, the section on Cognition and Conation demonstrated the intricate and interwoven nature of the way in which experiential information is processed and considered in terms of possible future interactions. It appears to be quite clear and accepted by most researchers, that in order to
understand the nature of experience, inputs from senses, affect, cognition and conation must all be thoroughly considered. Lastly, at the beginning of the chapter a short discussion mentioned the existential parameters within which any experience takes place. This contextual space is of course nebulous in its many layers of complexity and can never be fully understood, but it may be broken down into existential component parts and partially understood in relation to a specific experiential event.

The literature relating to experience reviewed in the chapter above was concluded mostly prior to the empirical phase of the research. Epistemically it provided at least a starting point for describing what others thought experience was. It established the foundations for a framework used as a heuristic in the gathering of information in the field, the analysis of data and subsequent structure of a Taxonomy of Experience.

The many layers within experience shown in Figure 4.04, confirm the complexity of this task. It has been shown in this chapter that understanding experience (even from a design point of view) has at this point not been achieved. The empirical research described in Parts Two and Three of this thesis shows that through the application of hermeneutical phenomenological philosophy and methodology, methods can be developed which enable a new view of experience to be made more visible and comprehensible than it is at present.
PART TWO – EMPIRICAL RESEARCH

CHAPTER FIVE
FIELD RESEARCH

CHAPTER SIX
ANALYSIS –STAGE ONE

CHAPTER SEVEN
ANALYSIS STAGE TWO
PART TWO – EMPIRICAL RESEARCH

Introduction to Part Two

Part One of the thesis was principally concerned with gathering together the philosophical, methodological and theoretical knowledge about many facets of human experience that were needed throughout the project to inform the empirical side of the project discussed in parts two and three.

Part Two focuses on the practical implications of applying this theoretical knowledge in designing and implementing field research whose primary goal was to find ways to understand the NMV experience.

Part Two begins by outlining the way in which the field research design was originally planned based on these above theoretical considerations but then changed quite remarkably when applied in the field (Chapter Five). This is followed in Chapter Six, by the first-stage preparation and analysis of data gathered using these evolving field research methods. Chapter Seven discusses the subsequent processes (second stage) used to ‘tease-out’ meaningful interpretations from this data.

Aims and goals of the field research

The aim of this research project in its entirety is to develop a deeper understanding of the psychological and physiological aspects of the experience NMV designers and drivers have in their everyday interactions (their ‘lived experiences’) with the small vehicles they have chosen. In the design world it is increasingly argued that understandings of this nature are a missing ingredient in the design of many modern artefacts including transport vehicles (Battarbee 2005, Forlizzi, 2004, Norman, 2004). Most designed products operate within a particular design frame or set of intentions. When people use these products however, subtle emotional and
physical interactions take place that are seldom fully pre-understood by the
designer. This lack of understanding often leads to consumers adapting the
product to suit their needs or even adapting themselves to the product, thus
using it in ways it was never intended. Often, these undesirable and
unintended outcomes are useful as signposts for change in User centred
design approaches. But if designers knew more about the lived experience of
use before they designed (this is understandably a problem if the design does
not yet exist and is at the heart of the current conundrum where design is
done before using) how might this change the way the designing is done?

This question highlights the essential goals underpinning both the theoretical
and empirical aspects of this research project. Firstly to develop methods that
could provide a better understanding of the experience of NMV use.
Secondly, in order to validate these methods, to develop ways this
understanding could be made available or accessible to vehicle designers in
such a way as to enable better designing. A lack of just this kind of
understanding has featured significantly in the failure of many recent
attempts to innovate in this field (BMW C1, Ford Think, Renault Ublo,
Daimler-Chrysler Carving 400 and others). I am proposing that an important
key ingredient in these many failures is the inability to understand the nature
of the experience resulting from the designs and that if the experience can be
captured, illustrated and made understandable, then this knowledge might
facilitate better designing.
CHAPTER FIVE – FIELD RESEARCH

Introduction

This chapter primarily presents details of the two main research activities informing this project. The first was an early exploratory process undertaken in Australia leading up to and informing the structuring and mode of application of the second, more substantial field research in Europe in 2004. The exploratory project played a significant part in reformulating the concept of the research project. It significantly contributed to the volume of data gathered and was instrumental in the subsequent hermeneutic analysis and synthesis. The bulk of data for the project was gathered in field research conducted in Europe and it was here that the research took on its deeper significance, beginning to suggest possible new directions which only started to be realised in the field and also later in the analysis. However, in the first place it is worth considering where these new directions came from. What was the original starting point? What was the research endeavouring to find out?
5.1 RESEARCH DESIGN

5.1.1 Research question

Chapter Two introduced and explained the origins of the genesis question which initially motivated this project. The question at that early point, was rather simply asking, why do so many of the NMVs\(^\text{74}\) designed and produced ultimately fail? Information about most of the vehicle designs that I had explored at the beginning of this project provided no real evidence indicating that their failure was related to form and/or function issues\(^\text{75}\). This lead me to believe that the failure must then lie somewhere between the designers understanding of the experience for which they thought they were designing, that is, Users of these vehicles and the actual experience had by the experience-\textit{ers}. From this point on, the project became about developing an understanding of experience and the substantive line of inquiry became, \textit{how can we (as designers) understand experience?}

However this gave no indication as to how this investigation might be conducted. In fact it prompted more questions than answers.

How to define what experience is?
How can it be researched?
How can it be made understandable and useful in design?

The research project effectively developed into two main streams of inquiry. The first focused on the experience itself - how it could be approached, understood and/or made understandable (see Chapters Six and Seven) and secondly how this understanding of experience could be ‘packaged’ in such a

\(^{74}\) The experience studied in this project is the experience of driving or using a New Mobility Vehicle (NMV); small single passenger, 2-3 wheeled vehicles (S\(\text{\textbackslash}see\) Chapter Two – Sustainable transport issues)

\(^{75}\) The experience-\textit{ers} of these products were according to club/group websites and trade press, continuing to purchase vehicles i.e. those that were still being made and sold, and those that purchased vehicles no longer in production, continued to use them and resell them.
way that it could be communicated and/or made useful to designers (see Chapters Seven and Eight). This is the thinking that guided my initial approach to designing the field research, leading it towards understanding both the designer’s experience of designing and the Users experience of use. The direction adopted in the research was also influenced by a growing awareness of the theoretical design perspectives (presented in the last chapter) relating to existing practice and research from the field of experiential design, which pointed to a number of ‘opportunities’ in design knowledge\(^\text{76}\). These larger design research questions background the notion that research of this type might have broader applications than simply answering the transport question raised by the failure of NMVs. Questions of this nature have been the subject of many previous projects (see Chapter Four - research specifically related to ‘designing for experience’) and it appears that significant knowledge needs yet to be contributed to the field (Green, 2001; Forlizzi, 2004a; Engage, 2005).

5.1.2 Research purpose

The field research was designed as a qualitative project considering experience from a number of perspectives. The designers experience of practice, the ‘lived experience’ of the vehicle Users and the lived experience of myself as the researcher. Phenomenology not only recognizes the value of the researcher as a useful instrument, but encourages the inclusion of the researchers own experiences in the process of co-creating the lived experience of participants. The data used in this paper is drawn from the combined design/usage experiences of these three groups of participants associated with these vehicles. In order to obtain material for the project,

\(^\text{76}\) See Chapter Four - Experiential design research – what’s missing? Where are the opportunities?
interviews, close observations, submersive participant observation and contextual studies were conducted with myself as researcher, five Users and nine designers. The vehicles of interest to the study were manufactured in the last ten years and/or currently in use. The types of media devices used to capture these experiences included static interview video, live action video using a helmet camera, video and audio taped contextual material, still photographs and written notes. Blending this material added to the richness and diversity (read randomness) of data from which interpretations could be drawn in analysis.

The definition of design developed in Chapter Four refers to three main components - Intentionality, Knowledge and Artefact. In terms of the ‘design’ of this research then, intentionality relates to its purpose. The purpose of the design of this field research therefore was to gather sufficient, quality and useful experiential material that might facilitate a wide-ranging exploration of the data with the aim of finding a ‘way-in’ or method of understanding the NMV experience. Achieving this would satisfy the aims of the research goals outlined above and might also capitalise on some of the design research opportunities referred to at the end of Chapter Four.

5.1.3 Research sample and setting

Due to the lack of suitable subject material (NMVs) in Australia and the United States, the sites most favourable for recording the ‘lived experiences’ of NMV Users were in a small number of countries in Western Europe. Accessibility appeared to be reasonable as early inquiries established that many thousands of these vehicles were currently in use throughout Europe. The centralised production/design facilities for the vehicles were easily accessed (shown in Figure 5.01 below). However, Users of the vehicles
manufactured and sold by these companies were more geographically widespread necessitating travel to their individual locales (The projects phenomenological orientation made it necessary, for the research to capture participant’s experiences, as much as possible in their ‘everyday’ environment).
<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Location</th>
<th>Vehicle name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW</td>
<td>Munich, Germany</td>
<td>C1</td>
</tr>
<tr>
<td>Daimler Chrysler</td>
<td>Stuttgart, Germany</td>
<td>F300</td>
</tr>
<tr>
<td>Daimler – Smart</td>
<td>Pforzheim, Germany</td>
<td>Smart</td>
</tr>
<tr>
<td>Twike</td>
<td>Sissach, Switzerland</td>
<td>Twike</td>
</tr>
<tr>
<td>Benelli</td>
<td>Rome, Italy</td>
<td>Adiva</td>
</tr>
<tr>
<td>Italjet</td>
<td>Bologna, Italy</td>
<td>Scoop</td>
</tr>
<tr>
<td>Piaggio</td>
<td>Pontadera, Italy</td>
<td>Vespa</td>
</tr>
<tr>
<td>Renault</td>
<td>Paris, France</td>
<td>Groomy &amp; Ublo</td>
</tr>
<tr>
<td>DVC Technologies</td>
<td>Dordrecht, The Netherlands</td>
<td>Carver 300</td>
</tr>
</tbody>
</table>

A small number of Experiencers or Users of these vehicles were able to be located in Germany, the Netherlands, Switzerland and Italy and meetings were arranged around the schedule set up for interviewing designers in larger cities (listed in Figure 5.01 above). Occasionally it was necessary to travel to their small town otherwise they travelled to the nearest large city.
5.1.4 Limitations of the research

- Sample selection (participants and vehicles)
Numbers of NMV User participants were limited due to the difficulty in finding and approaching them, particularly as prior approval needed to be sought and obtained (a requirement of Australian Ethical Research Laws). Some were contacted through specialty vehicle clubs and interviews arranged in this way. Many were seen on the street but under the Australian Privacy Laws mentioned above\textsuperscript{77}, could not be directly approached. Designer participants were more available as they could be contacted through company channels. This was highly successful. Of the eleven companies approached, all provided access to design staff who all agreed to be interviewed.

Vehicles were limited to those that fulfilled the criteria of being called an NMV (see Chapter Two for full description). Many other vehicles were considered (powered skateboards, powered bicycles, small cars) however it was felt that two important selection criterion were that the vehicles chosen should provide a unique NMV experience and the facility to let the researcher get as close to the experience itself as possible.

\textsuperscript{77} See Ethics Statement page vi
Data collection instruments

Data was principally collected using a video camera but also included sound recordings and photographs. In some interview instances permission to video was not granted (due to security concerns) and the video camera was in these cases pointed towards the nearest wall so that sound-only could be recorded. A helmet-mounted camera (Figures 5.02a and 5.02b), was used for many in-situ interviews and researcher-as-participant observations.

All of the designers and Users participating in the project were male. There was no intention to exclude females from the sample, however, the sample circumstances as presented above meant that no females were responsible for the design of vehicles in the study and none were forthcoming as Users. This could be seen as a gender bias within the automobile design community towards male designers and possibly accounts for the masculine design directions seen in this field (Dowling 1999).

Language and social limitations

The research was conducted in five countries, the common language being English. This placed additional restrictions on the availability and suitability of participants, but in the analysis stage language factors were reduced by typing transcripts phonetically. Language issues were further reduced by the hermeneutic interpretation process which reduces the focus on specific words or surface implication of the written word looking beyond this to the meaning structures which lie within them.
5.1.5 Research structure and approach

The field research was undertaken in two important phases. The first was a pilot study conducted in Australia, designed to facilitate my familiarity with the experience being studied, to get a better idea of what the activity (using an NMV) was all about, and to generally improve my observational skills as a researcher of this type of experience. The deep understanding of the Adiva experience developed during the pilot study became very important in the later field research and analysis stages as a means to understand the ‘language’ of the experience.

The second phase of the field research was conducted in Western Europe in 2004. This phase sought to understand through observations and interviews, the experiences of the designers and the Users of NMVs. Ultimately it was the blending of all three of these various experiences: the designer’s experience of use, the Users experience and my pilot study experience, which proved so valuable in analysis.

\[78\] At the beginning of the field research it was the designers experience of designing which was sought, however this changed in the field and more importantly in the analysis stage, to become more focused on their personal ‘experience of use’, of the vehicle they had designed (more on this in Chapter Six – Analysis and Synthesis).
5.2 PHASE ONE - PREPARATION AND PLANNING

5.2.1 Studying the Adiva experience

Throughout the eighteen months of the project I rode a Benelli Adiva motor scooter. I intuitively felt this would be important to the project. It was also (to be honest) influenced in this decision by my growing familiarity with existential phenomenological principles for understanding lived experience.

The Adiva is a 150cc, two-wheeled, scooter-style vehicle with a retractable roof, high front windshield and large storage compartment in the rear (see Figure 5.03). It is a visually ‘unusual’ vehicle, with distinctive handling aspects but is fundamentally similar to a large street scooter. The Adiva was the closest vehicle I could find in Australia that could reasonably be classified as a New Mobility Vehicle (NMV) - one which I intended to use to explore the experience of their use.

The Adiva became my and my family’s sole form of transport other than walking and public transport. My observations of almost daily riding were recorded in two forms. The first was a basic Riding Log detailing dates and times of journeys from and to places including kilometres travelled, weather conditions as well as notes and general observations about the trip. This log was meant to capture basic trip data that might be of value in later analysis should quantitative style information be required. (See Appendix 5.02 - Adiva Riding Log sample) This was not the case as it turned out, as this type of quantitative data is similar to much of the transport style of statistical data.

79 Existential phenomenology because I was reading Van Manen (1997) and Willis (nd) around this time.

80 NMVs are described in full in Chapter Two – principally small 2-3 wheeled, low powered, single passenger vehicles.
described in Chapter Two of which there is no real shortage and has been shown to be of little value to this project. This data was linked to the experience by quantifying external aspects of it in an abstract sense, but it did not directly impact on the nature of my experiences and so contained no real meaning of value in the type of analysis that was subsequently performed. The full Riding Log was reviewed however and some of the qualitative observations made were subsequently included in the data analysis stage.

Sample from Riding Log: 25-10-03 Leichhardt to Potts Point to Miranda -50 km

Cool dry day – drove to Leichhardt did the shopping using a knapsack – more people said “cool bike” – rode out to Miranda – took RC on Bike, he loved it “I want one” – Huge storm on the way back - Rain level 5- lightning, nearly blown over on Captain Cook bridge – very frightening – had to put on wet weather gear under a shop awning – lots of sympathetic looks from car drivers on the way home.

A second form of recording utilised a sheet called ‘Scooter Experiences’ which I also filled in on an almost daily basis but it became more a place to record particularly noticeable or remarkable aspects of riding or events, of which I had become conscious or aware; this provided a venue for recognising and documenting particular thoughts or feelings I had encountered during a ride and that I felt should be recorded but could not be categorised as basic riding log data. All of these experiences were subsequently included in the analysis of field research data, as the ‘researchers’ experiences of riding. (see Appendix 5.01 - Adiva experience log sample).

A few random samples from my Scooter ‘Experiences’ sheets

15-10-03 Riding on the freeway - being surrounded by Harley riders and getting a thumbs ‘up.’

10-11-03 Riding through the countryside on my way to Uni saw a dead cow collapsed near a fence, a rare sight for a city boy.

11-02-04 The smell of gum trees took me back to my childhood and being in the bush.
In these sheets, over an eighteen month period, I documented the changes (directly attributable to riding the Adiva) made in my family’s lifestyle while also noting the changes that took place in me personally as a result of my mobility choice. A remarkable aspect of these changes was the mental activities that the transport mode itself seemed to foster. I regularly experience a broad range of transport, being a car driver for more than thirty years, frequently using busses and trains as well as walking a great deal in and around the city. I was consequently surprised at the noticeable difference that riding the Adiva created in my thinking and feeling while travelling. The detailed impacts of these riding experiences have been included in the field data analysis, so do not need to be outlined further here. However the process of data capture turned out to be a very important way to begin to understand what methods might be needed to ‘get at’ the experience of others in a similar activity overseas. The process showed that experiences are momentary, can be highly emotive, fleeting, and poignant. This convinced me that the true nature of an experience can only be found within the experiences of individuals who participate in an activity and not from second person observation. It was by immersing myself in the activity that I gained the insights necessary to understand what methods could be tried to understand the experience of others.

Using the two types of experiences ‘logs’ in the pilot study highlighted the difficulties ahead in the field research in trying to capture the ephemeral nature of sensory, emotional and cognitive responses in others. I realised that written logs, would not be ‘immediate’ enough for capturing the ‘experiential moment’, as I had often struggled to recall the thoughts or events that had impacted on me so strongly during my trips. Trying to fill in
a log ‘after the event’ was quite flawed as the momentary nature of feelings and thoughts were often lost to memory. One interesting answer to this problem included switching my mobile phone to voice dial and ringing my answering machine at home while was riding. I could leave a message about a particular experiential episode, and could later record a note about it in the log when I got home. In the field research this system was superseded by using the helmet camera and recording verbal commentary, which in the analysis, then prompted deeper reflection and elaboration. But it was by recognising the inherent difficulty of capturing any part of the ephemeral nature of experience that caused me to alter my approach to data gathering in the subsequent field research.

The lessons learned in the pilot study and subsequent trials of various recording equipment and techniques provided a valuable pallet of tools for capturing the lived experiences of NMV drivers within the highly diverse contexts of the field research. This is not to say that these techniques were fixed and inflexible; the pilot study simply tested their viability as an option, to be varied according to the heuristics of the field research situation, which ultimately became quite varied and challenging.
5.2.2 The initial field research ‘plan’

This section briefly describes the methods that were proposed prior to embarking on the field research. It is presented as a counterpoint to the description in the following section, which deals with how events actually transpired in the field. I am presenting a little of it here in order to highlight the degree to which the research which was planned in theory changed so significantly in response to field conditions as they were encountered and the subsequent shift these changes brought about in the nature of the enquiry itself.

The following is an excerpt from an early research proposal, which I presented to the School of Communication Arts, Research Committee, in March 2004. It demonstrates the nature of my thinking at the time about how I envisaged the field research might be conducted. It is re-presented here to highlight the significance of the changes made in actuality.

Pre-fieldwork preparation

Once suitable participants have been located and initial communications begun through e-mail contact and phone calls. A research statement and consent form (see Appendices 5.03 and 5.04 General and participant research statements) will be sent to the participant and on receipt of their consent a date will be fixed to spend three days with the participant. Two weeks prior to this on-site period the participant will be briefed (Appendix 5.05 Participant diary brief) on a preparatory exercise similar to the ‘experience log’ used in the pilot study, however in this instance they will be asked to record observations, thoughts and feelings very briefly on a voice activated digital tape recorder (Posted or delivered to the participant by the researcher in advance). The briefing will entail describing a range of possible observations, which could be made, with a view to stimulating the participant’s imagination and involvement with the exercise. On his return home each day, he will be asked to transfer these brief entries onto a written form or ‘experience log’ (a one sentence format). This log is a most important step in the process of capturing ‘experiences’ as it records at least an element of an experience, as immediate to the actual event as
possible. It is hoped that this will act as a sensory or affective mnemonic device to stimulate recall and enrich reflection during the subsequent interview.

Proposed itinerary scenario.

Day 1:

Arrive and spend time getting to know and bond with the participant in a social and cultural sense. This time is important to relax the participant and the observer into a more natural relationship in order to diminish the observer’s impact on spontaneity. It is important that the observer does not discuss the results of the previous experiences log with the participant at this stage other than to establish that it has been done. It is important to hold back from the temptation to pre-empt the interview and discuss the NMV experience. If this is done too early and without proper recording valuable observations may be missed.

Day 2:

The participant drives to work or about his normal routine accompanied by the observer (if it is a two-seater) and in conversation with the observer. (A good time to discuss common ‘experiences’) This will be videotaped using the helmet-mounted camera operated by the observer. Wherever possible the observer should participate in driving the participants vehicle without the participant present and video record the participants driving view and optical ‘world view’ for later use in establishing ‘visual context’. The observer should at these times record (on voice-activated recorder) this experience for later entry in a written ‘experience log’. Discussions relating to the participants experiences should be avoided outside the initial video-taped session and should be kept to social, personal or general research areas to foster a collaborative relationship and so as not to ‘burn out’ the participant on the topic too early.

Day 3:

The start of this day may be the same as for Day 2 during which, a time and place can be agreed on for an in-depth interview. By this point the observer-participant relationship should be at a relaxed level ready for the interview. The observer should prepare for the interview by reading the experiences log to become familiar with the terms and words used by the participant. No interpretation is necessary at this stage. The interview will be video-taped in order to capture facial expressions and non-verbal language for later use in data analysis.

The interview will be unstructured but the observer should use the participants experience log, his own experience log, and video footage if possible to prompt the participant to elaborate on the experiences in the log or any others that he recalls in
the process. He is to be encouraged to describe his experiences in free flowing, unmediated, sensory, affective and cognitive terms by asking questions such as, what did that feel like? Can you describe that smell? How did you feel when that happened? What do you mean by, ‘it was fun’? How did that make you feel? What was running through your mind at that point?

The idea that interviewees could make themselves available for three days and that there would be the time available to interview a significant number of people using this amount of time seems quite implausible now. However, there are aspects of the planned techniques that hold some merit and even if they turned out to be impractical in this project, could be incorporated into another field project at another time. As the goal of the research was to understand the NMV experience, the field research as it was originally proposed, was designed to do this and if applied as planned may have accomplished the task. What actually transpired in the field was however, shaped by the circumstances at the time and by following these circumstances in a phenomenological exploratory way by letting ‘the things themselves reveal themselves’.

As a result, a deeper and different understanding of experience was accomplished. The following details how much of this was achieved.

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81 A Heideggerian concept— “The more genuinely a methodological concept is worked out and the more comprehensively it determines the principles on which a science is to conducted, all the more primordially it is rooted in the way we come to terms with the things themselves and the further it is removed from what we call technical devices” (Heidegger 1962, p. 50).
5.3 PHASE 2 – ‘DOING’ RESEARCH IN THE FIELD

Before leaving Australia almost all of the European designers approached had agreed to be interviewed and a loose schedule was arranged. I had only been able to locate very few Users who after being invited and informed, agreed to be interviewed. This was mainly because they could only be contacted through online specialty interest clubs (such as the Twike club). Whilst there are many types of vehicles, there are very few of these clubs. This coupled with the complexity of locating these people, arranging a meeting in a city close to where the designer’s interviews were scheduled, was extremely difficult. Once the field research in Europe was under way, it was hoped that more Users’ experiences could be gathered as the research progressed. This was found to be somewhat the case when the experience of the designers themselves (as Users) was factored into this picture. As it turned out the volume of information from designers about their experiences of use and the volume of information from myself as researcher were similar, while the volume of information from Users was naturally less than both of these, but still a significant part of the picture.\(^{82}\)

5.3.1 What was done and where

Interviews with designers took place in the cities where each of the different manufacture and design centers were headquartered. User interviews and observations were conducted in towns close to these manufacturers where Users could be located. The locations are not as important as their diversity. The actual locations did not have an important effect on the research but the

\(^{82}\) In the analysis stage the number of experiential ‘references’ (an NVivo coding term for ‘pieces of information’) was proportionally separated into Designer 1.7 : Researcher 1.5 : Users 1.
range of differing locations, variations in social, political and personal contexts provided a broad spectrum of data for analysis. Interviews with designers were held in Germany, Switzerland, Italy, France and the Netherlands. Users were found in all of these locations.\(^{83}\)

5.3.2 Interviews with vehicle designers

A video camera was used to record the interviews and was mounted on a tripod off to one side of the participant’s line of sight so as to reduce the impact of its presence. Designers were sometimes a little tense and suspicious of the research intentions.\(^{84}\) Many of these interviews began with endeavors to reduce privacy fears or secrecy concerns by reaffirming that the research was not aimed at specific design or engineering (functional) details but wanted to explore more of the sociological and psychological sides of the concepts origins and processes of design development.

While there were no formal questions to be answered there were questions representing five areas of interest prepared in advance, designed to guide the interview and to provide some consistency in the areas covered in all the

\(^{83}\) Prior to each interview research statements were sent to each participant informing them of the nature of the project and asking for their permission conduct the interviews. Appendix 5.03 General research statement; 5.04 Participant research statement; 5.07 Participant consent form

\(^{84}\) Europe has been loosing a lot of intellectual property to Asia over the last few years and companies are becoming more guarded about their IP.
interviews. These were conducted in a mostly casual free-ranging manner using prompt and probe techniques, building the conversations around the prepared questions, which explored areas of key interest (see the following set of questions and their answers).

Later, as the focus of the project shifted away from the designer’s experience of designing and more towards their experience of usage, the answers to these questions became less relevant. A separate analysis of the designer’s design experience was completed but set aside during the analysis of usage experience, in order to concentrate more fully on this aspect of the research which at that time was showing greater potential. The following provides a very brief summary of the answers designers gave to the prepared questions.

**Q1: Why did you design it?** (What was the original motivation, guiding problem or solution concept that first raised the idea?).

**A1:** The origins of the type of ‘radical’ vehicle designs at the focus of this research were in many cases the brainchild of one person who had experienced something that had triggered a ‘great idea’. Many interviewees remarked that the original idea for the vehicle had come from a Director or someone within the organisation who had the power to express a new idea and have it explored, this was usually a Managing Director (in one instance, his wife) chief engineer or owner of a company, who had experienced an event which triggered the idea. Some wanted a safer, faster, smaller vehicle to avoid traffic, getting wet or arriving dishevelled for work. Others wanted to solve the increasing congestion problems of modern cities, seeing existing
cars as being too big; having seen too many cars carrying only one person; wanting to design something ‘fun’ to drive rather than their traditional more conservative stable of luxury cars; to be seen (publicly) to be doing something radically new, or to have something new and exciting to show at trade shows. Occasionally, when a particularly good reaction was received from the press or public at these trade shows, the company responded by running with the press hype and put the vehicle into production. Others, like some marketing research departments, completely misread the market and determined that this new type of vehicle was now what the public wanted, one company going so far as to argue that the small two wheeled vehicle which they were producing, would be an ideal replacement for the family’s second-car (not considering the size or nature of the family).

On the surface, most of these answers appear to be quite reasonable propositions (some are a little misguided) and do not in themselves explain the vehicles failure.

**Q2: What do you think of the result** – now that it is designed and built are you happy with the end result? What did you think when you used it yourself?

**A2: None of the interviewees described being happy with the end result and surprisingly few had much in the way of personal experiences with the vehicle they had designed.** The lack of satisfaction with the end product of designing was largely derived from the levels of compromise and addition
of features that designers felt, had altered the original concept to the point where it was no longer what they had set out to design. Political, economic and technical pressures had created a hybridised, ‘patchwork quilt’ design (design by committee) which often left designers dissatisfied with what ‘they’ had produced. This might account for their relative lack of interest in the vehicle outside the project. Of nine vehicle designers interviewed only seven had personally ridden in the vehicle they had designed, while only five had used the vehicle after the initial design stage for any form of personal or private enjoyment.

“That’s what I don’t understand about the [vehicle name] or other cars where if the management of the company doesn’t even want to drive the vehicle....why put it on the market? ....what’s the point? FV, 2004b.

Q3: Why don’t these vehicles succeed, in your opinion? Why do you think this kind of vehicle fails to achieve commercial success in the marketplace?

A3: Reasons for the commercial failure of most of these vehicles can be found in the economic and political realities of bringing them to market as well as their negative perception by the ‘automobile’ market place.

Economics and politics
Economically the small size of vehicles meant that the manufacturing company could not command a high price and so could not ensure adequate return on investment. Most companies could not justify departing from an established automobile industry formula, epitomised in the elaborate infrastructure and high manufacturing costs required to produce large cars. In the short term, the high volume of small vehicle sales (NMVs) required to justify any change to existing capital intensive corporate inertia, was not
possible to achieve and would cause too great a drain on existing profits, at a
time when competition from cheaper imports was extremely high.

“...the automotive companies make their results ...their big results with the big
cars...that’s really why all the automotive OEMs build big cars ...and great cars
...and sports cars ...and niche models ...and all this cars...this is the best way to have
a lot of money” JT, 2004.

Companies could see no real reason to move away from their industry’s
traditional formula for sales success in order to explore untried ‘novelty’
vehicles. However, many companies did capitalise on the novelty value these
vehicles had, by using them to attract trade press to international design
shows so that once attracted to the show, press interest could be diverted
towards the company’s existing stable of cars.

“... if you put in the stand of the fair the new prototype...many people go there
...many newspaper journalist go there ..and they make picture of the prototype and of
the other product ..if they don’t make it (the prototype) its difficult for them to go
there to make the picture...and so its something to make interest on the brand
[expensive] ...yeah ..very expensive ..and also sometimes..for example our err ..we
work on prototype ..that we know will never go ...on the market” NP, 2004

Contrary to many PR press releases with statements like ‘[Company name]
expect the [vehicle name] to be released in …’ or ‘[Company name] expect
production to commence early in 2008’, in many of these cases there is no
genuine intention to ever put the ‘show’ vehicles, on the market. There was
no real substance behind the initial public relations support for these
vehicles; no marketing push designed to sway public opinion in their
direction, no ongoing sales or service support for new ideas; and no internal
support for middle management personnel who were left vulnerable to their
(and the vehicles) shifting political fortunes.

“..its very difficult that the manager get their own err.. responsibility...ok? its
good?... to make something new ...because if the vehicle doesn’t work on the market
..doesn’t go well on the market ..they lose their work ..ok?” NP, 2004
In more than one case it was clear that companies were prepared to invest millions in designing, producing and establishing small, low emission vehicles in the market place, simply to gain leverage in negotiations on new EU Carbon Dioxide emissions regulations, which would then allow them to continue to expand their fleet of higher emissions vehicles.

"...they lobbied a lot for it at the European Commission ...that for the whole vehicle park that they are producing they would also count the [NMV vehicle] with their Carbon Dioxide per kilometer for the average park they are producing ...the lobby worked for it but in the end ..the European Commission decided no no...your [NMV vehicle]...you cannot count that into the CO2 regulations of your cars because we don’t consider this to be real alternative for the car...and as long as this is not a real alternative for a car you cannot take it within the regulations” FV, 2004b

Marketing

Industry insecurity about how to or even whether to deal with the unique marketing problems these vehicles presented, was contradicted at least superficially by the perception that many companies have of the vehicle’s potential to fill a hole in the marketplace. This paradox has generated understandable confusion in potential consumers about how to relate to these small but seemingly popular vehicles (at least this is the way the press presents them). On the one hand automobile companies tout NMV’s as a bold new direction forward (the car of the future), and at the same time continue to promote and proudly announce that they are selling greater numbers of large sedans every year.

"… this is no motorbike and this is no car ...this is a totally different thing...and our main point is making good cars for our customers [the key is you are making good CARS]...good cars ...not motorbikes ...and not other things ya” UH, 2004.

At this time it appeared that all major European and many American and Japanese automobile manufacturers were attempting to fill a perceived hole in the market, with NMVs. “Maybe also a part of human nature because Ford is trying to do ...I don’t know the fifth or sixth time... they’re trying to do a world car ...they can sell in every market ...its not working” HH in KA, 2004b.
Marketing confusion and indecision as to what these new mobility vehicles actually were and how they could be promoted, translates into the marketplace. Are they a car (which NMVs can never measure up to by ‘normal’ consumer standards) or are they a motorcycle? (These have intrinsic criteria for speed, power and racing performance, which NMVs could never fulfil). Naturally consumer reaction to something as new as what is presented in these vehicles, leads to confusion and hostility to a certain degree. Hostility engendered by the implication that NMV’s might in some way threaten the primacy of comfortable large sedans, to which customers are accustomed, some even say ‘addicted’ [Hoogma, 2002 #29]. On this basis, some designers suggested that design and production of NMV concepts were ‘just too early ‘for the general market to accept.

“my feeling is that [car manufacturer] was a little bit too quick.. too earlier” KA, 2004a.

It appears the automobile manufacturer’s lack of clear understanding of what NMVs are, has lead to a lack of commitment to them, which has continually translated into poor support for the concepts at street level. Distribution channels are under-resourced by companies distancing themselves from the brand-diluting stigma of smaller less profitable vehicles, making sales and service infrastructure costly and inefficient, leading to further customer dissatisfaction, and so the spiral goes. Difficulties in distributing to diverse EU and other markets are exacerbated by the complexity of variations within EU, regional and national legislative bodies and their various interpretations of a myriad of different and often conflicting laws, licensing requirements and design regulations with which vehicles have to comply. Design responses to these many restrictions and regulations meant that many vehicles are over engineered, making them excessively safe, resulting in vehicles that are too heavy, underpowered and
oversized. Designers’ compulsion to compromise their designs, have resulted in a form of technological ‘creep’, which increases their frustration at seeing vehicle concepts turn into ‘a horse designed by committee’ (a camel).

“...and all the very tricky bikes... small motorbikes and scooters... kkkkkk (makes fast kkk sound indicating swift, nifty vehicles, weaving thru traffic) and then we have this heavy, safe, monster” KA, 2004a.

Q4: How would you do it differently - next time? What would you change, how might you go about it differently?

A4: Nearly all designers said they would not change the design much. This seems to indicate that designers feel that the designs themselves were relatively correct and that it is other factors, which have lead to their demise. Some commented that they might add a little more power, a little more storage space or slightly stronger this or that indicating by these comments that sooner or later the ‘new design’ could very well creep back to and eventually imitate the old one. One designer did however describe a preference for the less-is-more philosophy rather then a more-is-never-enough kind. He espoused adopting a ‘greater efficiency = greater retail price’ formula, similar to that used in racing bicycles and aircraft, where lightness and simplicity equate to efficiency at a premium price; this is he argues, the way forward for NMV’s. In his words...

“....and that less is more philosophy means really that every detail has to be improved...by the means of weight and cost and efficiency through that the whole vehicle is getting better...and in that direction I like to make it more versatile...which automatically means more range, more power, more speed...this is the advantage if you follow that direction” RS, 2004a.
Q5: What do you think is in the future for personal transport?

Where do you think it is going and how will it get there?

A5: Designers realise that vehicles and the industry have to become simpler; along with enviro-political change will come the necessity for a new species of vehicles.

While many designers feel that their recent efforts to design NMV’s are perhaps a little premature they feel that they (NMVs) are on the right track and that they will be more acceptable in the near future when people think a little differently about their transport needs. There is a realisation that vehicles need to become smaller and simpler but designers agree that they have no idea how customers will ever agree to downsize their expectations or how companies who have been instrumental in shaping these expectations (themselves locked into patterns of tradition and corporate inertia) can even begin to make the necessary changes.

“… you cannot force people to use something …you have to motivate them …you have to show them …this is fun …you have to give them ideas …you have to give them…. visions how things could be better … without that it doesn’t work” RS, 2004a.
Environmental pressures are increasingly shaping public opinion and create the impetus needed to bring about change. Changes in global weather patterns as well as the effects of diminishing oil supplies are having a ‘pressurising’ effect on the development of new vehicle designs which can address these issues, even as weather and oil supplies themselves have been affected by the design of vehicles in the past. Designers said in their interviews that automobile manufactures need to consider the entire lifecycle of vehicles and adopt more responsible practices and attitudes to their place in an ecological marketplace. This they say, will lead to the design of many more new ‘species’ of smaller and leaner vehicles, diversifying the market between motorcycles at one end and large sedan cars at the other (see Figure 5.05 above). These new species will require new types of legislation and political will to help them to initially survive while they and their Users adapt to a new transport and global environment. The new transport (new mobility) environment will need to encourage design diversity across the whole spectrum of personal transport vehicles, encouraging not only new car and public transport designs but new species of new mobility vehicles (NMV’s). The difficulty for existing heavily encumbered companies will be in trying to remain solvent in a commercial environment increasingly accented towards smaller, cheaper and fragmented transport alternatives.

“...if I think about what it will look like in 20 years...what we see on the road ...I think we are past the time that ...big car manufacturers and high volumes could dictate the market. I think that is over for whatever kind of reasons ...because people get bored by it or...environmental reasons or congestion reasons ...whatever...and we start getting ...not anymore just motorcycle or car ...we going to get a lot of different solutions ...and there are becoming much more markets ....and [before] there is a certain vehicle concept that sells 500,000 a year...I think these days are ....gradually going to be over” FV, 2004b.

I think that this kind of vehicle [NMVs]...will be the future ...the future of ...transportation in the city (sound of scooter going by outside)...but this is only the link between the traditional scooter and the car...but this is now in the errr...is made
The guiding questions discussed above, offered at least a sense of control and helped to stabilize and guide the interviews with designers. These interviews were quite static in contrast to the chaotic, fluid and evolving nature of the interviews and observations with Users described below.

5.3.3 Interviews with vehicle Users (experience-ers)

User interviews and observations were purposely relaxed, unstructured, broad ranging and content-wise, very much impromptu. They were designed to discover and explore whatever the situation presented. They sometimes took place in a coffee shop or quiet room (with the camera in a fixed position) but at other times the methods of recording were more involved. During the pilot study, a variety of field research methods were devised for capturing interviews, close observations, researcher participation sessions and contextual studies. These provided a variety of perspectives on different observation scenarios.

- The researcher’s perspective of the face-to-face unstructured interviews
- The researcher’s perspective of personally using an NMV
- The researcher’s perspective recorded in close observation of a User operating a vehicle (see figure 5.06 above)
- The researcher’s perspective of the ‘context of use’ of a vehicle

These methods also provided Users’ perspectives of the following,
- The User’s perspective recorded while using a vehicle (Video link only – still picture not shown Figure 5.06b)
- A User’s perspective of being interviewed while using the vehicle
  …and more general perspectives of the context in which the NMV experience normally takes place.
- ‘Vox pop’ style walking video camera views of the city streets in which NMV’s operate (Video link only – still picture not shown Figure 5.06c)
- Helmet-cam views of driving NMV’s through busy city streets, suburban driving and open country roads (see Figure 5.07 below)
- General audio-taped sounds and digital pictures of urban environments

These different perspectives were recorded as a way of capturing as many different angles on the experiences taking place as possible; particularly the view of the experience received directly by the experiencer and not simply the researcher observing the experiencer. The goal of the project was to capture as many ‘fragments’ of an experience in an unmediated state as possible: that is, trying to catch the experience ‘off guard’, and unaware of being captured.

5.3.2 How the research focus changed in the field- The value of being there

Soon after beginning the field research, it became clear that the relative ease of arranging interviews with designers and the contrasting difficulty in arranging meetings with Users had caused a major shift in the focus of the research.

The original ideal of understanding the ‘Designers experience’ of designing, compared
and contrasted against the ‘Users experience’ of use, was evolving into a project heavily biased towards the former. But still the goal of the research remained unshakably about understanding the experience of use. Early in this process of change, I began to feel the importance of documenting more of the context of use. I reasoned that as these vehicles were somewhat unique in an automobile dominated marketplace then their use and context of use had to have an influence on or relevance to their success (or lack of it) which was worth recording. I roamed the streets of Florence and Munich, Amsterdam and Paris recording sounds and images of the environment in which these vehicles and their Users interacted. In this vein of documenting the experience ‘in context’ I hired and rode a small vehicle (125cc motor scooter) on a number of occasions on city and suburban streets as well as villages and country roads (see Figure 5.07 above). I increasingly became a recording instrument in the project, directing its flow and direction according to intuition and empathy with the experience.

5.3.3 Discovering the depths of ‘lived experience

In a process reminiscent of the French Situationist 86 concept of the dérive, or ‘wandering the streets’, I walked, rode and recorded experiences and events which intuitively ‘seemed’ important. While continually reflecting on what was happening to me and around me 87, I began to realise the value of the material I was collecting, hinting at the richness of the data. Each day, looking back on the recordings, I tried to see what it was that made the images and sounds so interesting or compelling. In what way were they

86 For discussions of the dérive and detournement see [De Bord, 1956 #173; Virginia Tech, 2004 #161].
87 At one point this condition of acting as a recording instrument reached such a level of intensity and focus that I had to berate myself somewhat and remind myself to stop and also enjoy the context from a personal perspective, from time to time.
relevant to the experiencing of these vehicles? These questions were only truly answered many months later during the analysis of the material when the full depth of what had been captured was uncovered. How this various disparate material was translated into usable phenomenological texts, how it was turned into data and how it was hermeneutically interpreted in an exploration of its hidden\textsuperscript{88} meanings, is discussed in the following Chapter Six – Analysis and Synthesis.

\textsuperscript{88} Refers to the meanings hidden within texts, beneath the surface meanings of descriptive words or what is literally being said (Geanellos, 2005 #259; Gadamer, 1975 #9).
CHAPTER SIX

ANALYSIS - STAGE ONE

DATA ANALYSIS AND SYNTHESES
CHAPTER SIX: ANALYSIS STAGE ONE - DATA ANALYSIS AND SYNTHESIS

Introduction

In December 2004, I arrived back in Australia after two months of field research in Europe\(^\text{89}\), with nearly thirty hours of video tape, assorted audio tapes as well as hundreds of digital photographs I needed to turn this material into useful data for analysis. Firstly, the following chapter\(^\text{90}\) outlines some of the basic procedures used for preparing this material for analysis. Secondly, how the material was turned into phenomenological narratives in such a way that they would provide adequate depth for the analysis. Thirdly, I discuss the hermeneutic processes used to analyse the phenomenological narratives, through which meaningful structures emerged. And lastly, the way in which these meaning structures were gathered together (having been drawn out of the NMV experience) and showed themselves in the form of a ‘Taxonomy of Experience’. This taxonomy thus describes a hierarchical view of the NMV experience, its highest levels showing that it contains Somatic, Affective, Cognitive and Contextual stratum.

\(^{89}\) See Appendix 5.06: Field research report to UWS.
\(^{90}\) Much of the information discussed in this chapter was included in a paper entitled ‘The Universe in a Single Step: Using Phenomenological Narrative as Data’, delivered at the 2005, CAESS Conference in Sydney, Australia.
It is important to clarify at this point that the descriptions of events and activities within this chapter are recognisably subjective and I am quite conscious of the increased usage of the first person that this necessitates in this account of the events that follow. Using the third person would imply a sense of detachment from the activity, when in this situation it is the very opposite that took place. My relationship with the narrative texts, during the analysis, became increasingly intimate, particularly when describing emotions or intuitions ‘felt’ during some of my personal experiences as a researcher. A personal perspective was also particularly important to describing my intuitive reactions to contextual situations in narratives and even in the writing of this thesis, when relating some of the critical subjective decision points in the hermeneutic analysis; these can only be effectively described from the ‘I’ perspective.

This first person perspective again highlights how my (the researchers) ‘historicity’ or forstructures\(^1\) impacted on the developing relationship with the life-texts in the research. This reinforced that it was my perspectives flavoured by my social and personal forstructures that must be understood and then let go of in search of more universal aspects of experience hidden within the field research material. In this case or for that matter in any hermeneutic interpretation, this is not a simple task. In this research and particularly in this phase of the research, there were few signposts or guidelines that showed me how to go about it, what direction to follow or where it might ultimately lead.

\(^{91}\) Bias’ or prejudices - See Chapter Three, 3.4.2.2 Dealing with ‘forstructures’.
This condition is a precondition of hermeneutical phenomenological research in that it is a systematic seeking of information that answers a question yet unknown. In this case I was exploring data from field research which had systematically captured random aspects of the experience of NMV users. What I was looking for was one thing, what I was expecting to find was another. ‘A way’ to understand experience was the only useful guiding problematic.

From ‘Alice in wonderland’

Alice says to the Cheshire cat, "Would you tell me please, which way I ought to walk from here?" "…That depends a good deal on where you want to get to," said the cat. "I don’t much care where ----" said Alice. "Then it doesn’t matter which way you walk," said the cat. "-------so long as I get somewhere," Alice added as an explanation. "Oh you’re sure to do that," said the cat, "if you only walk long enough" (Carroll, 1866 #321, p. 89).

My aim in this chapter is to share some sense of the way in which this ‘systematic fumbling in the dark’ (an admittedly oblique but relevant reference to Gaus’ statement in Figure 6.01) produced not only significant results but also a recognisable change in my perspective on the analysis process. Having captured a large number of ‘lived experiences’ in the field, I began the slow and tedious processes of transcribing interviews and writing narrative descriptions of contextual and other non-verbal events. Later in this chapter I will discuss the richness that I found in narratives of everyday events and what makes them such a vital source of material for designers wanting to understand the life world of those for whom they wish to design. Firstly, I had to learn new techniques to prepare and write phenomenological narratives in a way that made deeper exploration possible. As I later confirmed, careful preparation is essential for narratives to become usable data because it impacts directly on subsequent data analysis, theme and meta-theme development. By adopting a learn-as-you-go approach, I
realised that I was working with more than an anecdotal collection of material from a great trip abroad. I had a deeply rich source of material that I now felt, contained answers pointing towards the question I was looking for, if only I could find a way to see it. I realised I had developed a new respect for the value of this kind of data, because within it lay an answer to the whole point of this thesis - how could I (as a designer) understand this experience?
6.1 PREPARING THE FIELD DATA FOR ANALYSIS

The broad range of field research material in the form of video, photographs and sound recordings needed some basic processing to make them usable, prior to commencing analysis. This was done, firstly to standardise the information into a common ‘textual’ format and secondly to establish an audit path and ‘back-casting’ system for maintaining rigor in the way I handled material in the analysis.

6.1.1 Common working protocols used in the transcription of field material

- …words preceded by and regularly punctuated by dots (…) indicate that these are the interviewees spoken words …it mostly indicates a break in the flow of conversation.
  To maintain anonymity the interviewee is identified with initials such as KHA …
- [words in square brackets indicate my own spoken words]
- (words in round brackets indicate my thoughts or comments)

6.1.2 Setting up consistent time codes for auditing and referencing

In all, twenty-eight hours of field data were transferred to new DV tapes, exactly one for one, thus providing a single sequential time code for each tape. This seemingly unimportant time code process (Figure 6-01: Tape numbering protocol - in Appendices no.?) was a small but important step for organising the field material into manageable and traceable data.
6.1.3 Deciding the order in which to transcribe

The tapes were divided initially into four groups, interviews, observations, context material and travel diary entries, to make differentiation more manageable. I began the transcription process with the ‘Interviews’; feeling that these would most likely be the most complex to complete and would establish the parameters for further transcriptions. (see Figure 6.03 Tape Log used for sorting types of material, in Appendices CD).

6.1.4 Typing transcriptions directly into Endnote

Typing the full transcripts directly into Endnote provided a reliable database system for storage and later referencing of what was a large amount of material. It also provided useful formatting features that made it easier to import into NVivo as a document ready for coding. Again during later stages of analysis, this ‘output style’ system provided a link in the audit trail that enabled backtracking in NVivo, to see from where documents (or parts of them) had come.

6.1.5 Using NVivo for data analysis

By considering the manner of data analysis at the very beginning of this project, I anticipated that NVivo software might become a valuable tool for dealing with the large amounts of qualitative data that were expected. Practicing on the software during my early literature reviews helped me to become familiar with understanding, sorting and categorising large volumes

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92 Refers to sounds, pictures and video captured in the context in which the vehicles were used e.g. normal streets, busy roads, parking and pedestrian precincts.
93 EndNote was used in this aspect of the project as a data management tool (EndNote is a registered trademark of Thomson ISI).
94 By adapting the ‘Output Styles’ feature of Endnote, using the Harvard based ‘Personal Communication’ citation as a base, I customized the output to provide a ‘rich text’ version of the transcript notes with the Personal Communication, citation format as a heading. This customised output style I called ‘Field Research Notes’, enabling it to be exported as an rtf document.
95 NVivo Qualitative Analysis Software, is a relational database program developed by QSR International.
of material. This gave me experience in making sense of loosely defined information and sorting data in a ‘fluid’ way. My data handling experience was always in the back of my mind when gathering field research material, especially how the material might be later transposed into text. Again for tracking purposes the file and folder structures were kept consistent between the various software programmes being used (Endnote, MS Word and NVivo) with consistent file naming protocols based on the Harvard referencing style, for example; HKA, 2004a, HKA interview in Munich (Part 1)

After preparing documents in this way I began the process of analysis by coding each fragment\(^\text{96}\) of the document according to what it was saying. At the beginning of the data analysis there were more than thirty documents describing interviews, observations and contextual field research material which resulted in excess of one thousand fragments of information for analysis.

But before this analysis could begin, I first considered how I would satisfy the hermeneutic requirement to address my, the researchers, ‘forestructures’. This is discussed in the following section.

\(^\text{96}\) A fragment of information i.e. a phrase, a sentence or a single word with a defined meaning.
6.2 DEALING WITH FORESTRUCTURES

6.2.1 Explicating ‘Forestructures’

An important tradition in Heideggarian phenomenology requires the researcher to explicate their inherent social forstructures, (the ‘historical’ forehaving they bring to the research process in the beginning) as well as the personal forestructures that they have developed about the subject. This is done so that these forestructures or prejudices can be acknowledged ‘up front’ and can subsequently be used more legitimately as a sounding board, against which to test the value of new things that are found within a hermeneutic analysis.

Titchen argues that personal prejudices should be made explicit at the outset of the research then suspended during data gathering and also while the researcher is getting to know the data in analysis (first order constructs) {Titchen, 1993 #93}. I agree with the former but not the latter. In the latter processes, gathering data in the field as well as at many stages in the analysis, it is the researcher’s forehaving which guides the research on the choice of paths to follow and particularly in phenomenological research, much of ‘what’ is to be gathered in the field is decided intuitively, relying heavily on the researchers ‘forehaving’ knowledge for these types of decisions. These ‘intuitions’ can only be drawn from the knowledge the researcher carries with him about the experience; that is his forestructures. In regard to Titchen’s former admonition, to make forestructures explicit at the outset, Geanellos agrees as I do that this should be done prior to commencing analysis if not prior to the research {Geanellos, 1998 #176}. In this respect, for this project I used information gathered in the pilot study

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67 See the full discussion of Forestructures in Chapter Three - 3.4.2.2 Dealing with ‘forstructures’
(riding the *Adiva*) as a source for establishing and making explicit my own forestructures, prior to the field research commencing.

“Researchers who use Heideggerian hermeneutic phenomenology are obliged to demonstrate the working out of their Forstructures in terms of the phenomenon under investigation” (Ganellis, 1998a, p.156).

In Chapter Three I discussed Heidegger’s different levels of *apriori* prejudices or Forestructures, namely - Forehaving, Foresight and Foreconception. The riding diary and ‘experience log’ I maintained during the pilot study were an integral part of establishing my forestructures in relation to the project as well as providing me with the ‘language’ of the experience, which became vitally important in later hermeneutic conversations with the field research data.

By typing text from my various ‘*Adiva* experience logs’ into *Endnote* (see Appendix 6.03 *Adiva* experience diary and log) and subsequently exporting them as documents into *NVivo*; I began the process of ‘coding’ fragments of my experiences of riding the *Adiva*. In the first instance (first order construct) they were read and understood in terms of what they were ‘literally’ saying without interpretation. Secondly, they were grouped (coded) into sub-themes of similar ‘sayings’. Ultimately these sayings were clumped into major themes. By following this process of thematicising my *Adiva* experience, I was able to identify and make my forestructures visible (see Appendix 6.04 *Adiva* riding analysis); thus making them available and useful for the field research process, and later in the data analysis.

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98 See chapter 5 - 5.2.1 *Studying the Adiva experience* – This is what Gadamer refers to as establishing forestructures “in terms of the phenomenon under investigation”, the phenomenon being NMV use and the Adiva being an NMV.

99 See discussion of Forestructures in Chapter Three – section 3.4.2.2 *Dealing with fore-structures*.

100 Coding refers to breaking documents down into ‘fragments’ comprising sentences, words or phrases, and to group these (code them) by placing them into nodes (codes) of like meanings.

101 See more detailed references to Titchen (1993) first, second and third order constructs in section 6.4.2 *First and second order analysis / coding.*
The NVivo analysis of my personal riding experience logs produced a picture of the forestructures I had developed during my Adiva (NMV) experience, and which subsequently informed my future thinking. These forestructures took the form of positive and negative ‘themes’, which were drawn out of the experience logs and re-presented in columns of ‘aspects and effects’. This representation of my Adiva experience is a constructed view of the mental pictures I had developed of the experience and now incorporated into my subconscious as forehaving knowledge. Constructing this tableau was my way of making explicit how I had responded to the NMV experience (my forstructures). This meant that within the later interpretation of NMV field data, when aspects of the experience of others were being analysed, I was better able to differentiate between those interpretations coming from the data and those that were being influenced by my own forhaving; or those which became visible through foresight drawn from my Adiva experience. Of course, adding to these, my Foreconceptions (informed by the Adiva forehaving) lead me to the belief, in the first place, that my own conception and understanding of the NMV experience would be similar to the experience of other ‘dissimilar’ NMV drivers.
6.2.2 Forestructures in this project, in this researcher

The experience themes (forestructures) arising from an NVivo analysis of my ‘Adiva’ experience were resolved into groupings of positive and negative effects. This polarised effect might have been influenced by my rudimentary understanding of the hermeneutic process at that time, which became more refined later during data analysis, however it still legitimately represents the key themes arising out of the pilot study data prior to field research and as such, forms the basis for my initial forstructures. The Adiva experience is not analysed or discussed any further at this point in the thesis other than to present here, the manner in which they were made explicit and available to reflection. In following hermeneutic tradition I have made my forestructures explicit in so far as they were now available to my conscious reflection in the process of examining and interpreting others experiences in relation to them.
6.3 PREPARATION OF PHENOMENOLOGICAL DATA

6.3.1 Improving the quality of narrative data

Using hermeneutic phenomenological approaches requires a careful ‘listening’ to data\textsuperscript{102} to enable interpretive ‘hearing’ to take place. For this to happen, my field research material firstly needed to be transformed in a way that gave it sufficient textual ‘voice’. This process commenced by converting the various field research media into a common textual form. Descriptive narrative was the form used in this case. I chose the narrative form because it enabled deep conversations with the text to take place, allowing questions to be asked such as, what is the text speaking about? What is it saying about this topic? What could be the underlying meaning(s) of what it is saying?

A more robust conversation is facilitated between two people, when each of the parties is well informed about their topic. In a robust conversation with narrative texts this consists on one hand, of material that is richly constituted, that is, it contains enough content and diversity to provide one side of the robust conversation. On the other hand, the researcher must be capable and sufficiently skilled in ways of listening and questioning the text. In this case I found that I made good use of my forestructures (as discussed earlier) to understand and relate to what was emerging out of the data and also found myself holding back from prescriptively interpreting its meaning (premature foreconception ), trying to allow the text to speak for itself (just listening) \cite{Ganellos1998}.

\footnotesize
\textsuperscript{102} Phenomenological narratives or "lived experience descriptions are data, or material on which to work …the 'data' of human science research are human experiences" \cite{VanManen1997, pp. 55, 63}

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Most primary data in this project was drawn from interviews and various types of observation material. The interviews were transcribed in the normal way (typing from audio-visual tape) but as much of the observational material was non-verbal, it required a more descriptive, narrative form to bring it to life. In the following section I briefly discuss some aspects of the narrative development process (starting with the interviews), which provided interesting and informative lessons. I then describe in greater detail, a number of different types of narrative that were drawn from the observational material and the surprising levels of depth they delivered. My intention in the following sections is not to dwell on the basic writing task, but more to show specific ways that extra data was drawn from the research material, allowing additional richness to be developed in the experiential narratives.

6.3.1.1 Enriching interview narratives

Interview transcriptions were somewhat laboriously typed (I am a two-finger typist) however I found this measured approach had the unexpected advantage that in slowing down the process it allowed a deeper consideration of each sound and mannerism. Each interview was transcribed exactly as it was presented, including pauses, uttered sounds, and gestures.

Transcribing verbal dialogue in a phonetic form, meant that most of the sounds and mannerisms of speech were typed as the participants had used them, particularly those (and these were the majority) with a strong spoken accent.
I also made note (see example below - KHA 2004a) of the gestures and sounds participants used in order to emphasise certain points and even some cases where they used gesture or sounds instead of verbal language. While a number of techniques are available for interpretation of facial expressions (Richins, 1997 #85; Tomkins, 1963 #125) in my interview narratives I chose to describe the participants expressions and by viewing the videotape, commenting on them in the text in order to draw out additional layers of meaning in analysis. Describing non-verbal communications in a textural form, subsequently makes allowance for a deeper questioning of the text and subtexts using the video as an aid to memory, bringing details back to consciousness.

In this example from an interview with a designer, the speaker has a reasonably good command of English but communicates with a prolific use of gestures and expressive sounds.

" also very interesting... Piaggio ...or the other companies... saw the concept ..say...(KHA:, purses lips, sucks air in noisily with a dramatic look of concern)... too much problems for the company.. for themselves ....all the protectors.. all the crash moments... all the... (push pull gesture with arms and closed fists) the level is very high...make only quick ...scooter ...cheap...lot of...(makes various gestures with hands and face indicating a big difference between the others products and his)” (KHA, 2004a).

The narrative in the above example describes a non-verbal expression “purses lips, sucks air in noisily”. In analysis this allowed an interpretation referring to the participant’s level of concern and derisive dismissal of competitor’s attitudes to design safety. Further analysis of this interview, provided interpretations of other gestures and sounds with meanings like, reasons why they don’t succeed, the importance of keeping it simple, views about competitors, influence of corporate politics and types of design restrictions. None of this valuable information would have been available if a simple literal transcription process had been adopted.
Of course not all video material was recorded in the static interview style illustrated above. Many recordings involved observation and dialogue while in vehicles that either I or the owner were driving. These interview/observations/participation experiences produced quite a different set of demands which led to interesting and unexpected interpretations of how to address writing the narratives.

6.3.1.2 Enriching observation narratives

Some experiential events in the field contained verbal dialogue, while others did not. All were treated as if they were a narrative ‘snapshot’ of the experience; a facsimile of a moment in time that has been frozen for closer scrutiny. The situation depicted below provided an unusual snapshot with unexpected depth. The narrative comes from a section of videotape where, in the process of switching the video camera on, I had inadvertently knocked the ‘night vision’ button to ‘on’, making the resulting video vision appear ‘overexposed’. I didn’t realize until much later when it was too late to re-shoot the video that the vision was ‘flared out’ to the point that very little could be clearly seen beyond a one metre radius of the camera. On the occasion captured by the video-tape, I had interviewed the owner/driver of an NMV while he was driving and afterwards recorded the experience of driving the vehicle myself while wearing a helmet-mounted video camera. Later during transcription, after watching the tape and realizing my mistake, I almost discarded the video. At first I thought that without the vision it would be useless material, but decided to take a closer look at it to see if it might contain something worth salvaging. I was very surprised by the depth of alternate sensorial, emotional, and cognitive content that it was possible to
‘revive’ by viewing the videotape and turning the verbal and non-verbal clues into narrative. The powerfulness of this phenomenon recalls McLuhan’s (1994) reference to ‘sense ratios’; the way in which our senses maintain their balance at one hundred per cent.

A lack of visibility on the day (it was raining and foggy) coupled with the poor video quality, in this instance seemed to effect a compensation in both the lived experience and in the ‘re-lived’ experience (watching the videotape), seemingly enhancing my sensitivity to the remaining senses, sound and touch. The event was almost as intense in the reliving as in the experience itself. That is why the resulting narrative is more detailed than some of the other event descriptions without this intensification of senses and resulting emotions.

In the following video excerpt I have just taken over the controls of the small (two person) electric vehicle (Twike) and am about to start driving. The owner/passenger and I had a few moments before, pulled over and stopped beside a two-lane, (one lane each way) tarred, inter-city, side road in Germany. It was a cold wet and very windy day in October and I had never driven on a road in Europe before.

06:00:01:27 - 06:00:02:36

“I press the trigger and we start to move, I cautiously turn the stick to the left and enter the roadway. I am very conscious that I am now driving for the first time ever, on the right hand side of the road. I am unexpectedly and surprisingly nervous. The car feels very unfamiliar, I am tightly holding onto the hand-break with my left hand and strongly gripping the control stick with my right. I feel very strange to be steering a vehicle in this way i.e. without a wheel, arms in two different directions. I feel a little exposed. I also feel vulnerable,

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103 “Sense ratios - the degree of balance among the physical senses ...Synesthesia - transfer of perceptions from one sense to another and/or integration of the senses” (McLuhan 1964, p. 566).
acutely aware that we are a much smaller vehicle than the ones which all of a sudden seem to be thundering past us with a threatening whoooosh on the wet road outside our seemingly flimsy little cocoon. The Twike suddenly seems quite fragile and like driving in an egg shell. There is poor visibility, it is windy and we are on a country road with a single lane each way. Traffic is passing us, that is much bigger and travelling much faster” (Coxon, 2004c).

In situations like these, by watching the tape and re-living these moments I was able to more deeply recall aspects of the experience I had not been particularly conscious of at the time. In this type of interaction with the video and text, aspects of the experience (experiential and existential) were ‘tuned into’ in sequence bringing them forward to consciousness so that they could be interwoven with the dialogue and other event activities making up the complete event. Capturing these elements of the experience allows the text to be built up in ever deeper layers in the re-lived experiential narrative. A structure supporting this approach to enhancing experiential narrative, was suggested earlier in the experiential framework introduced in Figure 4.04 (Page 198) and repeated here as Figure 6.06. This figure shows the sensorial, affective and cognitive aspects of the experiential event, acting within an existential framework comprised of temporal, spatial, corporeal and relational elements of the event.

“It is not enough to simply recall an experience had, it must be recalled in such a way the essential aspects, the meaning structures of this experience as lived through, are bought back as it were in such a way that we recognise this description as a possible experience, which means as a possible interpretation of that experience” [Van Manen, 1997 #28, p. 41].
Van Manen (1994) supports this multi-layered approach in his suggestions for writing “lived experience descriptions”.

- Describe the experience as it is lived without reasoning why
- Describe the experiences from the inside, the feelings, mood, emotions.
- Focus on a particular example of the experience and describe it
- Focus on an example that stands out, as it was the first time
- Attend to how the body feels, smells, sounds etc.
- Avoid trying to beautify the account with flowery language or terms (p.64).

In the overexposed video excerpt described above, the following ‘experiential’ elements can be seen interwoven within existential or contextual components of the narrative.

Experiential elements
- Sensory components - “whooosh, poor visibility”
- Affective – “cautious, nervous”
- Cognitive – “conscious that I am now driving”

Existential elements
- Spatiality – “driving in an egg shell”
- Temporality – “this time of the day”
- Corporeality – “arms in two different directions”

Relation to others – “a line of cars build up behind us”

The following section describes how this type of experiential descriptive framework (see Figure 6.06) was again useful when writing narratives describing contextual studies or events where there was no spoken dialogue but still an experiential account of the event was needed.

6.3.1.3 Enriching context narratives

The nature and quality of ‘contextual’ material can vary enormously according to the subject, location, event etc., but essentially in my contextual research I set out to capture aspects of the ‘environment of use’ experienced by drivers of the vehicles in the study.\(^{104}\)

Using video, photographs and audio tape I looked for locations/situations which epitomised the driving experience or reflected some specific aspect of the life-world of these participants (see Figure 6.07). I recorded material that had something to say about the driving experience or the context of the driving life-world, and later transferred it into narrative language. Realising that the interpretation of these contexts is highly subjective, I again found the experiential framework (described in Figure 6.06) to be a useful prompt for adding more depth when writing my interpretation of these scenes. By

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\(^{104}\) I must admit that I was not fully aware that this was what I was doing at the time, I simply ‘felt’ that for some reason (which I understood much later) this was an important thing to do.
continually returning to the experiential framework which incorporates elements of Van Manens ‘suggestions for a lived experience description’, I was able to develop much better interpretations in each of my descriptions. The following example, drawn from one of the contextual videos typifies this process. It describes an experience in early morning, peak hour traffic in Florence. This city has one of the highest ratios of scooters\(^\text{105}\) per capita of any city in Europe and one of the most congested inner-city traffic environments. The scene below, describes the seemingly simple task of entering, riding around and exiting from a traffic roundabout.

I invite the reader to note the pace of the description, the changing tempo and urgency, the rising and ebbing levels of tension, and the emotional language. While the narrative may appear colourful it is not what Van Manen (1997) refers to as, ‘flowery language’.

Tape 06:00:01:27 - 06:00:02:36

“...as I enter the roundabout and join in the line of vehicles already there, I am confronted with luxury cars a number of loaded trucks, large motorcycles, scooters, small cars and buses. The traffic starts to move forward with smaller vehicles bobbing and weaving around the larger ones patiently inching forward, and all positioning themselves to move forward into the changing gaps and breaks in the traffic flow. I see gaps opening and closing quickly and realise that within the next 50 metres, I need to get from the inside lane to the outside lane across the six lanes. I have to be very bold and dive into every gap however small. The scooter is only lightly powered (125cc) but is small and nimble. I have the feeling that I don’t really know what I’m doing but must push on boldly as this is what is expected in this environment. There is no place here for the weak or timid. There is no giving way or rules of the road, it is simply accepted that if you can go, you do. I dart into and through seemingly impossibly small gaps and navigate around motorcycles and scooters who are like me but crossing the lanes in the opposite direction. The scene is of a chaotic mess of traffic but not one horn, nor one angry shout is thrown. It seems

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\(^\text{105}\) Motor scooters represent the lowest technological level of vehicles studied in this project.
amazing but all of a sudden I am where I wanted to be, leaving the roundabout, heading in the other direction and the traffic is flowing calmly again. I have a slightly dazed feeling of... what just happened?” (Coxon 2004).

The type of narrative developing out of this last event is still written within the experiential/existential framework described in Figure 6.06, however there is a significantly different level of intensity and passion in the event, which needed to be brought out. It was a highly stressful and exciting few moments requiring language that is as emotional, fast paced, and dramatic as the real time event. This adds another more emotive layer to the literal layer in the description, one that subsequently makes deeper ‘meaning’ available during hermeneutic analysis. This type of narrative far from being fictional is anchored in the event; providing highly emotive and richly sensorial text.

“If the description is phenomenologically powerful then it acquires a certain transparency...it permits us to ‘see’ the deeper significance, or meaning structures of the lived experience it describes” (Van Manen 1997, p. 122).

In developing the narrative description of the example described above, I again played the video material to bring the moment back to life, and provide a realistic basis for faithfully capturing the experience in narrative form. Willis (nd), when he defines a phenomenon as ‘what manifests itself in experience’, suggests that a person upon reflection "may become aware of many dimensions of an experience that were manifested but somewhat not attuned to at the time or at least not foregrounded in awareness" (? P.9).

Using the experiential framework described above, to guide the addition of layers of meaning in the text, was not about creating material that was not there in the original event, but was about constructing depth and accuracy in my rendition of what actually took place. After all, the principle goal of the field research was to gather data for analysis, out of which, better understandings of experience could be developed. Capturing snippets of
experiences in this form subsequently provided a valuable source of data for analysis.

6.3.1.4 Adding data after the event

Through the hermeneutic process it is always possible to also add layers to the narrative after the event, by including contextual aspects (including existential aspects) as well as sensorial, affective and cognitive features. Many deeper layers within the experience while not necessarily explicit during interviews and contextual studies were bought to the surface in later transcription and analysis. These subsequent interactions with material recorded in the field, provided significant amounts of additional material once they were recalled and included in the narrative texts. This non-finite interactivity with the narratives changed the static view I had previously held of field research material and allowed the data to grow in depth throughout all stages of the analysis.

6.3.1.5 Re-turning narrative into data

This chapter has so far dealt with using narrative as data and in the last few sections I have related examples of how my narratives were improved by reviewing the experience through the filter of an experiential framework. In this next section I will discuss the contribution that this improvement process makes to the level of quality achievable in the analysis stage.

Marshall McLuhan (1994) could have been speaking about the complexity and richness that textual narrative offers as a data source when he said that, "words are a kind of information retrieval that can range over the total environment and experience at high speed. Words are complex systems of metaphors and symbols that translate experience into our uttered or 'outered' senses" (p.85).
The words generated in this project’s narratives are the key to understanding the experience of NMV’s. However, this meaning is locked in the text, and can only be unlocked through a process of interpretation. The hermeneutic process applied to a narrative is a running conversation with the text requiring an iterative questioning and requestioning (Gadamer 1975). This conversation is conducted through the process of ‘theme’ building or ‘coding’. In this project NVivo\textsuperscript{106} software was used to help manage this conversation and capture the system of conversation topics (codes and nodes) that emerged out of it.

In the following section I will show examples of how data has been drawn from the narratives through an iterative process of interpretation and theme generation. This process of hermeneutic thematisation of the text from fragments (of text), into sub-themes (codes/nodes) and meta-themes (tree nodes), ultimately exposes the structured nature of the experience. While it is understood that this is an important goal in this research, it is worth reiterating, that the success of this part of the project fundamentally depended on quality narratives being written at the beginning of the process to ensure that useful data was available for analysis at the end.

\textsuperscript{106} NVivo is a complex relational database tool which enables texts to be input, detailed interrogations to take place, and textual relationships to be explored.
6.4 ANALYSING AND CODING THE NARRATIVE TEXTS

6.4.1 The order of the analysis

With so much material it was difficult to know where to begin or even if the order of its analysis would prove to be of any consequence.

I began by coding a few documents from each of the document sets I had established, (Interviews, Observations and Contextual material) in order to set up an initial set of codes for each and see how they developed. The codes each of these suggested were significantly different in each instance and this concerned me because, I felt it was excessively fragmenting the results; but in the spirit of letting the data speak for itself, I continued this approach.

I decided to concentrate on the Designer interviews and do all of them in alphabetical sequence. The node range (list of topics) developing in this first group grew to over forty nodes, and even though I knew this would pare down as some nodes had begun to look similar. I also knew there were some nodes which needed further sub-coding which would again expand the list.

In the interview with RS (2004a) and to some degree with NP (2004) I started to notice that the Designer coding was more and more inappropriate. I looked at the User codes and found many of the things designers were saying were more at home with the users section. This suggested that these men where at various times in the interview speaking as Users and at other times, as Designers. In moments of foreconception, I began to consider if this could have any bearing on the relative success of some vehicles compared to others? Maybe the design of some of these vehicles had been affected by their designers thinking more as users than as designers. Could this be evidence of experiential design in action?
6.4.2 First and second order analysis / coding

These early explorations of the experiential texts were what Titchen describes as First and Second order constructs (Titchen 1993). They were the earliest stages of many in the conversational (iterative) process in which the text is repeatedly returned to in slowly refining motions of filtering and shifting texts and groups of text (fragments) as meaning changes or is redefined. Titchen describes four stages of interaction with the text to be interpreted; in this project I have added a fifth.

1. **First order constructs** – a process of reading and re-reading the text, getting to know it on a superficial level, and coding it (breaking it into fragments) on the basis of what it literally ‘says’. Due to a researcher’s lack of intimate familiarity with the data at this stage, there is usually a large number of initial codes (‘nodes’) which are subsequently changed or refined.

2. **Second order constructs** – These are more abstract interpretations of the data contained in each of the initial nodes (groups of like fragments); asking deeper questions such as, ‘looking beyond what this fragment is saying on the surface here, what caused this situation?’ and/or, ‘what was the effect beyond this causality?’ These groups of like fragments of data, clustered together into ‘nodes’ were given node names that were often drawn from the data itself. For instance, “feeling caught up, swept along”. These were the second order constructs, probing deeper layers of the text and beginning to draw on my own knowledge to generate abstractions of the data. At this stage even more nodes were created as others were deleted. I found this to be the most unwieldy and confusing stage of interpretation, with many diverse nodes (Titchen 1993).
3. Generation of themes - In the processes described above, many nodes were created. Once this process settles down and becomes more stable, these nodes are again considered for their meaning and are clustered into groups of similar meaning (sub-themes), which might in turn, be grouped into higher level themes. For example,

- Sensorial aspects (theme)
  - Touch (sub-theme)
    - Physical feedback from vibrations (sub-theme)

4. Elaboration and combination of themes – in this project, this step took the form of re-evaluating the positioning of nodes, sub-themes and themes after a detailed evaluation of their ‘theme descriptions’. This stage required me to look closely again at each fragment within a node, and change the node title (if necessary) to accurately reflect its contents. I wrote a detailed description of each node (drawn from its contents) and in doing this, a deeper familiarity and understanding of the nodes contents was achieved. Nodes were then repositioned within their sub-themes and themes as required.

5. Recombination of themes into meta-themes. Once the sub-themes and themes were sufficiently stable they began to take on familiar patterns; combining quite naturally into higher level theme configurations (meta-themes) such as the following,

- Somatic experience
- Affective experience
- Cognitive experience
- Contextual experience
6.4.3 Watching the material while coding

I found that coding diversity was significantly enhanced by having a media player window open on the desktop as I coded the text in NVivo (see Figure 6.09) Being able to watch and listen to the videotape action brought more aspects of the event to the foreground than simply reading and interpreting the text. By replaying the event and stimulating my audio and visual memory I was transported back into the moment and once again, emotions, thoughts and sensations were raised to consciousness, surfacing deeper meanings and thus adding to the depth and diversity of the interpretation.

In some instances interpretation of non-verbal sounds or gestures was only possible using an empathy gained through watching the video. There were passages of text where the verbal dialogue had one meaning but non-verbal reactions to the dialogue and undercurrents of contextual meaning were present, which were not evidenced in the text. Figure 6.10 shows text describing an event which did not directly refer to ‘feeling nervous’ but which in the reliving (coding with the video playing) highlighted this emotional response.

Figure 6.09: Coding in NVivo while watching video

Figure 6.10: A section of coding in NVivo – ‘feeling nervous’
This exposes an apparent shortcoming in this type of text. The quality (competency) of the narrative writing while it is important, can only ever attempt to provide a partial account and subjective version of an event. By being thorough in the description, at least a partial compensation for the intrinsic shortcomings of subjectivity is achieved. In hermeneutic phenomenology the terms used in a narrative are not as important as the meaning, which they contain. For example, a number of text fragments from different documents were initially interpreted and coded to a node called ‘makes me feel bad’. In a subsequent conversation with these text fragments I discovered that they contained much deeper layers of meaning; speaking about events (causes) which triggered responses from the users (effects) and/or emotions (affects).

In another node initially labeled ‘comparisons to cars’, I realised when it was questioned again, that it also contained aspects of safety, the owners identity in relation to the vehicle and also the vehicles identity in a new mobility niche. In this type of repeated returning to the texts, I asked questions such as, what is really being said here? Is the text referring to any other aspects of the experience? Are there any cause / effect considerations? Who or what is talking and does it influence what is being said or meant? This questioning process helped to make different ideas visible in the text and to tease out multiple meanings contained within the same text. Extra layers of meaning were often enhanced by my (the researcher as instrument) active participation in the original event being interpreted, allowing even deeper understanding and interpretation of its layers of meaning.

6.4.4 Virus attacks and backing up

It was about this point in my working with the data that my PC became infected with a serious virus and I lost all the first order coding I had done
over the preceding month. At first I viewed this as a major disaster until I realised that it provided me with an opportunity to address a shortcoming in the coding process. By losing all my coding I had to go back and recode all the documents again; but a large amount of the previous coding was still fresh in my mind and I was able to re-view the data from this experience base making it much more comprehensive and faster the second time around. It also helped to overcome the natural tendency to have more diverse code choices at the end of coding data than at the beginning. I began with almost as diverse a range of codes as I had ended before the virus infection.

6.4.5 Relinquishing authorship

Initially I felt that keeping the data in the same categories according to their authors (see Figure 6.11) was important and separated nodes in terms of whether they originated from a designer, user or researcher.

![Node Explorer - Field research 7.2](image)

Figure 6.11 Early coding showing nodes by author 08-06-05

Increasingly I realized that retaining these categories simply did not provide any benefit. Designers often spoke as users and the line between users and myself (as researcher) was also often blurred, resulting in codes which
contained data that was the same or similar but from different authors. These instances became increasingly evident in a duplication of codes, for example, both designers and users had views on what constituted their concept of ‘fun’ and many of these views were the same. This situation reflects Gadamer’s (1975) observations about the role of the author’s perspective in interpretation. Letting go of the authorial intent in order to better understand the inner meaning of the text is more important than struggling to understand what the author may or may not have intended; the goal being to find the deeper meanings contained within what is said.

"it is not the authors reflective self interpretation but the unconscious meaning of the author that is to be understood” (Gadamer 1975, p. 192)

Importing some objectivity into the coding

By this stage of working with the data I had established a sound basis for the general analysis but there were so many codes and possibilities that the meta-picture lacked clarity. I could not see the wood for the trees, so I decided to enlist an outside perspective to help see a way forward. I consulted with an academic colleague with a background in mixed-methods research and a sound knowledge of NVivo software in order to expand my knowledge of the program and open up my thinking in relation to the coding. I felt it might have become too structured and that perhaps I was not sufficiently allowing it to ‘speak’ for itself.

My colleague suggested deleting the designer, user, researcher categories (see Figure 6.13) and melding all the codes in together. Initially this was overwhelming, resulting in nearly two hundred nodes. In a number of sessions, we held a three-way conversation (myself, NVivo and the academic advisor). Together we reconsidered the content of each node as it had been descriptively labelled previously in the first round of coding.
An inherent problem with the descriptive nature of the coding was that it tended to mask the nature of the actual content it described. For instance, a node called ‘comparisons to cars’ contained material which spoke about cognitive aspects of safety but could also be seen to define the owner’s identity in relation to the car as well as the vehicles identity in the new mobility niche. This alerted me to the fact that each piece of information could contain multiple meanings and that by narrowly coding the text I was missing a great deal of the depth available within the data.

Through this revised conversation with the data, I started to look at the text in the nodes more from the ‘inside looking out’ perspective, tying it less to who it was coming from or directed to, and more to what else it was trying to say. This returned the coding to the hermeneutic concepts of conversation with the data; making me continually revisit it. By adopting this process I could still retain my ability to question who was doing or thinking what, as
NVivo allows for the ‘who’ of the event to be accessed by using the
document attributes table to interrogate the coding if it was required. (see
Appendix 6.01 Research participants - document attribute table)
An example of the type of interrogation which can be done using this data
can be seen in seen in Chapter Seven-page 280 - Figure 7.01: Graphs of topic
references by ToE category and by Participant

6.4.6 A note on Validity

It is important to note that the node names and descriptions derived at this
point in the coding process were derived directly from meanings contained
within the text they represented. As the nodes developed I started to feel
uneasy that they were beginning to take a familiar shape. Could this be my
forestructures asserting themselves? I raised this concern with the academic advisor and was assured by her that she was completely unaware of my
forestructures and was prepared to verify that the node structure had evolved
from the work we had done together on the data, not from my prescribing it
that way. I showed her the notes on experience\textsuperscript{107} that I had compiled from
previous literature reviewed from various disciplines about their
understanding of experience. She suggested that it seemed to support the
direction the text was taking us but that we would continue to see how it
evolved without referring to this background research any further.
Over the following weeks, each of the sub-themes, themes and meta-themes,
were refined and tested repeatedly by probing for any gaps or holes in the
appropriateness of their contents or labelling. In this way the analysis of the
NMV field data, at least to this stage, was completed.

\textsuperscript{107} See Chapter Four – Section 4.2 - Figure 4.02: preliminary notes on experience
The NMV experiences gathered in the field research, which had been transformed into narrative texts and analysed for their meaning had been transposed into a structure in NVivo composed of sub-themes, themes and meta-themes. The following pages show two graphic representations of this structure of the NMV experience after it has been taken out of NVivo.

"the essence of a phenomenon is a universal which can be described through a study of the structure that governs the instances of particular manifestations of the essence of that phenomenon" (Manen 1997, p. 10).

In the hierarchical form shown in Figure 6.14 below, the experience can be seen to form a taxonomy\(^{108}\), its parts being the general and particular elements that comprise the experience. The first figure shows a Taxonomy of the Experience (ToE) in its collapsed form showing only the higher level ‘meta-themes’ in the experience. This version might be seen as a broad generic taxonomy of an experience (Little ToE) without any details of the specific experience. The second expanded version, which follows, contains more detailed and specific sub-themes\(^{109}\) particular to the NMV experience (Big ToE). This ToE of the NMV experience was used as the starting point for attempts to develop deeper interpretations of the data which lay within it (These are described in Chapter Seven).

\(^{108}\) Taxonomy: any systematic set of principles for classification or arrangement (Reber, 1985). “In biology, the classification of organisms into a hierarchy of groupings, from the general to the particular, that reflect evolutionary and usually morphological relationships” (Britanica 2007).

\(^{109}\) It should be remembered that each of the sub-themes or points within the diagram also represents a multitude of fragments of the experience.
It is at this point that the research question needs to be briefly revisited in order to see how this ToE of the NMV experience might be useful in answering my research question. How can we understand experience? The ToE provides a simple and possibly useful representation of the NMV experience and in Chapter Seven the ways in which this experience was further explored are discussed more fully. The ToE at this point does however provide a perspective that allows the experience to be viewed in a new way. It allows the experience to be seen in a structured and comprehensive way and in a manner that has not been available before. The ToE does not present the experience as something that is the experience only that this representation of it might be useful as a starting point for further exploration.

The ToE is a gathering point for as much of the experience as has been able to be collected in the field, categorised in analysis and packaged in this form providing the starting point for a new phase of interrogation where it was explored for the deeper meanings that lay within it.
6.5 FIRST STAGE ANALYSIS OUTCOME - A TAXONOMY OF EXPERIENCE

6.5.1 A ‘collapsed’ Taxonomy of the NMV Experience (little ToE)

This is how the full NMV taxonomy looks when it is collapsed showing only the higher level meta-themes and themes.\(^{110}\)

1. **THE GUT** - Somatic experience
   - Sensorial
     - Sight
     - Touch
     - Smell
     - Taste
     - Sound
   - Ergonomic
   - Aesthetic

2. **THE HEART** - Affective experience
   - Positively valenced affect 1 - 7
   - Negatively valenced affect 7 - 1

3. **THE HEAD** - Cognitive experience
   - Connation – reflective experience
   - Cognition – reflexive experience

4. **OUT THERE** - Contextual factors
   - Environmental factors
   - Regulatory factors
   - Social factors
   - Existential factors
   - Corporate, Economic, Political

5. **DESIGNING** - The 5 ‘P’s
   - Person
   - Product
   - Process
   - Problems and Pointers

Figure 6.14: A ‘collapsed’ Taxonomy of the NMV Experience (little ToE)

\(^{110}\) A detailed description of each of these nodes is contained in Appendix 6.02: ToE Node descriptions as well as in Chapter 7 – Section 7.4 The Y axis – A taxonomy of experience
6.5.2 An expanded Taxonomy of the NMV Experience (Big ToE)

The expanded ToE shown in the following pages, details all of the nodes within the taxonomy and represents a detailed picture of the NMV experience. It is shown here under the ToE headings developed in the preceding analysis, the meta-theme structures including Somatic experience, Affective experience, Cognitive experience and Contextual experience. By ‘reading’ this taxonomy a broad profile of the experience can be seen and the beginning of a superficial understanding of the experience might also be developed.

N.B. Each of the nodes below, for example ‘Feedback sounds’, contains many fragments of sound, found within the NMV experience, which were interpreted as providing feedback to the driver.

6.5.2.1 The gut: NMV Somatic experience

- Sensorial stimuli
  - Taste (all included in this node)
  - Sound, hearing
    - ugly sound
    - cool sound
    - competing sounds
    - feedback sounds
    - connection sounds
  - Smell
    - connects me to my surroundings
    - makes me think about
  - Touch, feel
    - connects me to my surroundings
    - physical feedback
    - physical discomfort
    - feeling snug
  - Sight
    - looking at surroundings
    - scary sights
    - looking cool
    - practical vision
- Comfort
  - steering
  - restraints
  - feet placement
  - moving the vehicle
  - carrying capacity
  - body space comfort
  - controls, dials
  - emotional comfort
- Appearance
  - cool looking
  - uncool aspects
The heart: NMV Affective experience

<table>
<thead>
<tr>
<th>Positively valenced affect 1-7</th>
<th>Negatively valenced affect 7-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. excitement of danger</td>
<td>7. sense of revulsion</td>
</tr>
<tr>
<td>2. feeling hopeful</td>
<td>8. disappointment and frustration</td>
</tr>
<tr>
<td>3. anticipation</td>
<td>9. feeling embarrassed</td>
</tr>
<tr>
<td>4. feeling in control</td>
<td>10. feeling confused, uncertain</td>
</tr>
<tr>
<td>5. feeling proud</td>
<td>11. feeling nervous</td>
</tr>
<tr>
<td>6. feeling superior, clever</td>
<td>12. feeling threatened, unwanted</td>
</tr>
<tr>
<td>7. feeling special, different</td>
<td>13. feeling guilty</td>
</tr>
<tr>
<td>8. feel valued, worthwhile</td>
<td>14. feeling fear, vulnerability</td>
</tr>
<tr>
<td>9. enjoying the environment</td>
<td>15. feeling self-conscious, silly</td>
</tr>
<tr>
<td>10. companionship</td>
<td>16. feeling anxious, afraid</td>
</tr>
<tr>
<td>11. feeling confident, bold</td>
<td>17. not enjoying the environment</td>
</tr>
<tr>
<td>12. feeling cool</td>
<td>18. feeling inferior, lacking</td>
</tr>
<tr>
<td>13. social approval and acceptance</td>
<td>19. unsure of ability</td>
</tr>
<tr>
<td>14. feeling intensity in the moment</td>
<td>20. feeling tense</td>
</tr>
<tr>
<td>15. excitement, exhilaration</td>
<td>21. embarrassed, alienated, sheepish</td>
</tr>
<tr>
<td>16. feeling relaxed, relieved, at ease</td>
<td>22. lack of emotion</td>
</tr>
<tr>
<td>17. feeling secure, safe</td>
<td>23. feeling the power, speed</td>
</tr>
<tr>
<td>18. passionate about the vehicle</td>
<td>24. freedom</td>
</tr>
<tr>
<td>19. feeling the intensity, elation</td>
<td>25. mystical moments, joy, elation fun</td>
</tr>
<tr>
<td>20. speed</td>
<td>o speed</td>
</tr>
<tr>
<td>21. freedom, lifestyle</td>
<td>o freedom, lifestyle</td>
</tr>
<tr>
<td>22. zit zit (Refers to agility)</td>
<td>o zit zit (Refers to agility)</td>
</tr>
<tr>
<td>23. unexpected interactions</td>
<td>o unexpected interactions</td>
</tr>
<tr>
<td>24. conquering your fears</td>
<td>o difficult dangerous things</td>
</tr>
<tr>
<td>25. saving money</td>
<td>o controlling a powerful machine</td>
</tr>
<tr>
<td>26. community, friends</td>
<td>o conquering your fears</td>
</tr>
<tr>
<td></td>
<td>o saving money</td>
</tr>
<tr>
<td></td>
<td>o community, friends</td>
</tr>
</tbody>
</table>

\[111\] The valence (ranking of intensity) of the positive and negative affect was determined by having three experienced riders rank the listed emotions on a Likert scale of 1-7 (1 is low intensity). See Appendix 7.04: Affect sorting sheets. The riders' judgments were averaged and applied to the Affect list to determine the order of valence. The reference to 7-1 for negative was done to facilitate a negative X axis presentation and 1-7 was for emotions presented on a positive X axis. The Y axis in this form of presentation represents the degree of intensity (valence) determined by the number of references to each emotion over all participants.
### 6.5.2.3 The Head: NMV Cognitive experience

<table>
<thead>
<tr>
<th>Conation – reflective thought</th>
<th>Cognition – reflexive thought</th>
</tr>
</thead>
<tbody>
<tr>
<td>- heightened awareness of surroundings</td>
<td>- personal identity</td>
</tr>
<tr>
<td>- inconvenience</td>
<td>- perception of danger</td>
</tr>
<tr>
<td>- independence - dependence on mechanics</td>
<td>- ambience induced cognition</td>
</tr>
<tr>
<td>- consideration of others</td>
<td>- attitude to safety</td>
</tr>
<tr>
<td>- getting used to something new</td>
<td>- safety V’s fun</td>
</tr>
<tr>
<td>- how you drive it</td>
<td>- memory reactions</td>
</tr>
<tr>
<td>- lifestyle, riding pattern</td>
<td>- detachment</td>
</tr>
<tr>
<td>- nimbleness, manoeuvrability</td>
<td>- making a statement</td>
</tr>
<tr>
<td>- breaking, getting around the rules</td>
<td>- why I bought it</td>
</tr>
<tr>
<td>- physical tension</td>
<td></td>
</tr>
<tr>
<td>- practical, creative solutions</td>
<td></td>
</tr>
<tr>
<td>- clothes, helmet</td>
<td></td>
</tr>
<tr>
<td>- competitive in traffic</td>
<td></td>
</tr>
<tr>
<td>- ease, convenience</td>
<td></td>
</tr>
<tr>
<td>- family influences</td>
<td></td>
</tr>
<tr>
<td>- costs</td>
<td></td>
</tr>
<tr>
<td>- sense of community</td>
<td></td>
</tr>
</tbody>
</table>

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112 Conation refers to reflective thought which may or may not lead to action. Cognition refers to internalized thinking about oneself. See Chapter Four – Section 4.4.4 Cognition / Conation
6.5.2.4 Out There: NMV Contextual factors

<table>
<thead>
<tr>
<th>Environmental factors</th>
<th>Existential factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>- weather</td>
<td>- spatial aspects</td>
</tr>
<tr>
<td>- road quality</td>
<td>- temporal aspects</td>
</tr>
<tr>
<td>- environmental considerations</td>
<td>- corporeal aspects</td>
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<td></td>
<td>- relationship to others</td>
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<td>- positive reactions</td>
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<td>- negative reactions</td>
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<td></td>
<td>- safety of others</td>
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<td></td>
<td>- unwanted attention</td>
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<tr>
<td><strong>Regulatory factors</strong></td>
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<td>- government, political intervention</td>
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<td>- regulatory design standards</td>
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<td>- licensing issues</td>
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<tr>
<td><strong>Social factors</strong></td>
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<tr>
<td>- attitudes to sharing road space</td>
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<tr>
<td>- cultural, regional differences</td>
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<tr>
<td>- changes in society</td>
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<td>- age aspects</td>
<td></td>
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<tr>
<td>- gender aspects</td>
<td></td>
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<tr>
<td><strong>Corporate, Economic factors</strong></td>
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<tr>
<td>- legal issues</td>
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<td>- marketing</td>
<td></td>
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<tr>
<td>- competitors</td>
<td></td>
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<tr>
<td>- current research</td>
<td></td>
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<tr>
<td>- manufacturing</td>
<td></td>
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<tr>
<td>- corporate policy or thinking</td>
<td></td>
</tr>
<tr>
<td>- financial issues</td>
<td></td>
</tr>
</tbody>
</table>
6.5.3 Designing: The 5Ps

During the field research and later in the analysis and interpretation of the field data many aspects of the NMV designers experiences of designing were also captured and made explicit in a similar fashion to those of NMV users in the Taxonomy of Experience. My analysis of the data collected on the experience of designing the NMVs also resulted in a series of meta-themes referred to as the 5Ps. An outline of these is presented below, however further development of this aspect of the analysis while presenting interesting perspectives on NMV design, was discontinued at this point as it appeared to follow a process oriented direction and I did not consider this to be conducive to answering my research question directed at understanding experience for design not of design. Consequently this data was not included in the subsequent analysis of the NMV taxonomy discussed in Chapter Seven.

At this point in the data analysis with both a Taxonomy of the usage experience and the designers 5Ps, I chose to focus my attention on the users experience of NMVs rather than the designers experience of designing them. It is presented here because it was a legitimate derivative of the field research and the first stage of analysis but its value was judged to lay in future projects or further research. The nodes presented here were developed out of the reported experiences of designing an NMV from all respondents (this includes Users and the researcher, as we are all designers at times).

"There's no such thing as a designer who isn't a user and there no such thing as a user who isn't a designer….then you have the conversation that goes through the object" (Glanville, 2005 #353).
These are the meta-themes which arose out of my analysis of the experience of designing NMVs.

<table>
<thead>
<tr>
<th>Person</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>- what designers would like</td>
<td>- where the ideas come from</td>
</tr>
<tr>
<td>- personal reaction to the vehicle</td>
<td>- design teamwork</td>
</tr>
<tr>
<td>- personal design philosophies</td>
<td>- safety design paradoxes</td>
</tr>
<tr>
<td>- experience in other vehicles</td>
<td>- our design process</td>
</tr>
<tr>
<td>- designer’s view of emotion</td>
<td>- design restrictions</td>
</tr>
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<table>
<thead>
<tr>
<th>Product</th>
<th>Problems and Pointers</th>
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</thead>
<tbody>
<tr>
<td>- defining what it is</td>
<td>- user’s design problems</td>
</tr>
<tr>
<td>- designing safety features</td>
<td>- lessons learnt</td>
</tr>
<tr>
<td>- designing cool</td>
<td>- corporate politics</td>
</tr>
<tr>
<td>- form Vs function</td>
<td>- fear of innovation</td>
</tr>
<tr>
<td>- functionality V’s feeling</td>
<td>- user’s positive feedback</td>
</tr>
<tr>
<td>- designing to suit the driving context</td>
<td>- early technical hurdles</td>
</tr>
<tr>
<td>- understanding who you design for</td>
<td>- showing the design</td>
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<td></td>
<td>- future directions</td>
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</tbody>
</table>

### 6.5.4 Summary of the first stage of analysis

In this project phenomenologically written narratives have been a valuable source of qualitative data. Collectively they have provided a useful facsimile of the lived experience on which to focus my specific design question. How can I as a designer understand the NMV experience? My experience with this process has shown me that if good material for a descriptive narrative is gathered diligently, written carefully, and analysed hermeneutically. The conversation with the data can be ongoing and continue to increase the data’s richness and value even while it is being analysed. There is no point at
which the experiential narrative stops communicating with the researcher, so it continues to be a vital, ongoing resource for as long as the researcher chooses to communicate with it.

At the end of this first phase of the analysis, whereas many aspects of the experience had been opened to me through my Adiva and other personal experiences, I now had a different, more structured and pragmatic perspective on the NMV experience. In terms of answering my research question the ToE was a step in the right direction as it helped to solidify or structure the experience in a manner that would allow further interrogation and investigation.

Chapter Seven deals with the ways in which I moved from this point into a deeper exploration of the contents of the ToE of NMVs. Due to the volume of information contained in the ToE it was essential that I begin to reduce and refine the data to see what might be hidden within it. This was a time of uncertainty as it was difficult to separate from my attachment to the data. I was subjectively involved to a point where it was hard to let go of any of it in order to see what other meanings it might contain. I reasoned that I had gone to all the trouble to collect this material so how could I decide what to keep or let go. This again is evidence of the struggle with forestructures where on one hand they can be beneficial and on the other impede open analysis.
CHAPTER SEVEN

ANALYSIS STAGE TWO:
DESIGN DEVELOPMENT

Figure 7.00: Working with the data in Excel
CHAPTER 7 – ANALYSIS STAGE TWO - DESIGN DEVELOPMENT

Introduction

In the previous chapter I described the first stage of the field data analysis, which culminated in a Taxonomy of the NMV experience (a ToE). This taxonomy provided a structure for housing and categorising the large collection of field research data on the NMV experience, displaying it in a manner that facilitated its further interrogation. The ‘ToE’ structure provided a starting point for exploring and discovering what it might offer in design terms through further interpretation or application. This is the subject of this chapter – exploring the ways in which deeper (design) understandings were developed ‘out of’ the NMV experience.113

Three phases of the exploration are presented in this chapter; the first discusses the early ‘systematic fumbling in the dark’; the different approaches that were tried, did not work but helped to take me a little closer to answering my question. These early attempts were excessively influenced by the formulaic direction in which they were pursued and so will appear to the reader to be quite structured and linear by comparison to the second and third iterations. These early explorations are presented here in order to show that the final results were established through a methodical process, and to showcase the methods that were tried and informed the new directions taken, in case this information is of use to others at another time.114

113 Much of the information discussed in this chapter has been presented in a peer reviewed paper entitled Design from Dasein: Explicating design futures from hermeneutic conversations with authentic personal experience, delivered at the 2006, Design Research Society International Conference, Wonderground 2006, Lisbon, Portugal.

114 It is not helpful to present at this point a lengthy discussion of the many idea development strategies and theories which were not used, i.e. Design Synectics, which uses techniques like amplification and linear extension. See also Reality Mapping and Personas by Tamara Adlin.
The second and third sections of this chapter describe the last two phases involved in developing the SEEing ‘solution’, which evolved out of the earlier approaches. SEEing is the collective term I use to describe the series of progressive steps involved in extracting the essences of the experience, teasing them out and allowing them to be ‘seen’, separated from more functional aspects of the experience. The second section of this chapter describes the exploratory development of a ‘prototype’ of the SEEing process, in which the NMV field research data was explored in various ways on a trial-and-error basis moving it towards a rudimentary ‘solution’. The last phase describes in detail the manner in which these prototype methods were refined and made more user-friendly, ready for field testing. The methods which emerged, delivered a workable, communicable and testable set of methods for developing an experiential design understanding. The SEEing system was subsequently tested in university trials in Australia and Germany, and these results are described in Chapter Eight – Trials and Validation. But first let me describe the processes that met with various degrees of success but all contributed to getting there.
7.1 THE EXPERIMENT CONVERSATION

Up until this point in the project, phenomenology had been a helpful methodological reference in the development of the ToE by informing the way information was collected and assembled for analysis. Hermeneutic principles had also strongly influenced the analysis and the way the ToE had emerged from the data gathered in the field. However at this point in the project I could not see how these methodologies might help me to make sense of the vast amount of information I had contained in the ToE of NMV experience. I was conscious of wanting to advance a solution to my research question through a better understanding of the NMV experience but was also conscious of wanting to do so in a manner that would be useful to designers. This focus on being useful to designers strongly influenced my earliest attempts to develop understandings out of this data and lead me to employ some quite logical approaches.

7.1.1 Approach #1 – What if we looked at the numbers? - A quantitative visualisation of the experience

In one of the first approaches to understanding the NMV data, I considered whether the volume of incidences in which different participants referred to similar events might mean something significant. NVivo facilitates this type of exploration by allowing a list of nodes (instances of similar events) to be run out showing the number of times that similar topics have been mentioned by all participants. This allows the identification of the number of times each type of participant (that is, designer, researcher or experiencer) spoke about this event115. This method provided a way of graphically

115 These numbers were numerically ‘standardised’ over all participants. More details in Appendix 7.01 - Data references by ToE category
displaying not only who is saying what, but how often they spoke of this topic, relative to each other. In Figure 7.01 the blue, red and yellow histograms represent the number of references to a particular topic (shown to the left of the histograms) by each of the participants (respectively designers - blue, researcher - red, users-yellow). The three charts in Figure 7.01 below, categorise the participants reactions to Somatic, Affective and Cognitive aspects of their experiences. They present an overview of comparative perspectives and provide some interesting possible interpretations. For instance, in terms of somatic aspects of the experience, Experiencers spoke significantly more about feedback sounds than any other aspects but overall the Somatic experience of experiencers can be seen to be quite similar to that of designers.
In terms of Affective experience, Designers’ experiences were significantly more positive, describing half the negative emotions of Experiencers. The strongest emotions felt by experiencers (caught up, swept along) were negative and the strongest felt by designers were positive (fun). This could partially explain the quite strong difference in perspective that I found designers have from experiencers, about the way in which vehicles are used. A cursory evaluation of Cognitive experience shows a quite dissimilar pattern of thinking between designers and experiencers, however in terms of quantity they are surprisingly similar overall. This type of speculative evaluation of the quantitative data only served to highlight the probability that the results were openly interpretable. Drawing any conclusion from such disparate and mute data would be creative to say the least and misleading at best.

While some more versed in statistical analysis might find these methods interesting and see possibilities in them, in this project I found that this approach highlighted some interesting aspects of the experience but did not bring me any closer to deeply understanding it.
7.1.2 Approach #2 – Could other techniques be applied?

In my efforts to tease out and/or present the information contained in the *ToE* in a way that would make the experience more understandable, I considered a number of alternative techniques. The first was a form of discourse or textual analysis. This was quickly dismissed as it seemed improbable that this quantitative approach would work with the highly qualitative *ToE* data and my previous experience with the graphs of topic references had indicated that the statistical analysis route might not be very fruitful. Secondly, I explored the possibility of developing a relational database tool such as Microsoft Access or MySQL to take the information out of the *NVivo ToE* and work with the data further. This route offered a greater level of practical complexity than was warranted without any indication of how further coding of the already complex set of data, might enhance my understanding of the *NMV* experience or be useful for design.

I considered building a front and back end interface onto *NVivo* to enable direct access to the mass of data contained within the program. This was possible, but again did not answer how this would help me to better understand the *NMV* experience. It was during this time that someone suggested I write a manually configured set of structured steps necessary to convert the data to a usable form. This sounded plausible but I had no idea where to start and so turned my interest back to the nodes in the *NVivo* taxonomy. Considering each piece of information within each node of the *ToE*, I looked for possible ways this information could be made useful to designers.
7.1.3 Approach #3 – What if we expand the Taxonomy using design ‘interpretations’

I began another round of conversations with the data by exploring what design interpretations might be drawn from each of the fragments of information contained within the ToE. The following passages contain some examples of the conversational process, interrogating each aspect (node) of the NMV experience in order to determine an appropriate ‘design response’ to each experiential ‘stimuli’ or trigger indicated within the node. The experience trigger (see Column A in Figure 7.02) is an aspect of the event which triggered the response described in the node i.e. a sensory, affective or cognitive response. The design response to each trigger (see Column B in Figure 7.02) is an interpretive response to the trigger; a design initiative that would in a positive way, enhance or improve the situation described by the trigger. The following questions and answers are examples of how these conversations-with-the-data played out in the first round of questioning. The questions were adjusted as they were applied to the balance of the data group. Shown in Figure 7.02 below, is a sample\(^{116}\) from a full range of experiential triggers copied out of NVivo and questioned in Excel in this way.

\(^{116}\) The full range of triggers and design responses can be seen in Appendix 7.02: Approaches 3 & 4 – Design interpretations.
<table>
<thead>
<tr>
<th>Figure 7.02: Approach No. 3 Expanding the Taxonomy using design 'interpretations'</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HEAD - COGNITIVE DESIGN FACTORS</strong></td>
<td></td>
</tr>
<tr>
<td>1 REFLECTIVE - THINKING ABOUT EXTERNAL SUBJECTS</td>
<td></td>
</tr>
<tr>
<td>4 Heightened awareness of surroundings</td>
<td>Design interpretations:</td>
</tr>
<tr>
<td>5 Rainbow across the sky</td>
<td>View canopy</td>
</tr>
<tr>
<td>6 Page of scooters with windshields that look like moth wings</td>
<td>Unobstructed field of view</td>
</tr>
<tr>
<td>7 Heightened alertness due to traffic on very narrow street with many obstacles which could lead to unexpected side traffic, pedestrians</td>
<td>Open side panels</td>
</tr>
<tr>
<td>8 Feeling the wind and rain</td>
<td>Shrouded air vents</td>
</tr>
<tr>
<td>9 Slippery roads</td>
<td>Low coefficient of friction, warning devices</td>
</tr>
<tr>
<td>10 Careful about safety, stability, many decisions</td>
<td>All terrain tyres</td>
</tr>
<tr>
<td>11</td>
<td>Puncture resistant tyres</td>
</tr>
<tr>
<td>12 Inconvenience</td>
<td>Design interpretations:</td>
</tr>
<tr>
<td>13 Travelling longer distances in very small vehicles</td>
<td>Adequate power and speed</td>
</tr>
<tr>
<td>14 Insufficient carrying capacity</td>
<td>Encapsulated vehicle</td>
</tr>
<tr>
<td>15 Higher up in traffic</td>
<td>Slim, nimble and manoeuvrable</td>
</tr>
<tr>
<td>16 Forget to attach E-plan</td>
<td>Programmable 'pre-flight' checklist reminder</td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
<tr>
<td>18 Caught in unexpected bad weather/good looking vehicle doesn't perform</td>
<td>Place inconspicuous place</td>
</tr>
<tr>
<td>19</td>
<td>Adequate functions</td>
</tr>
<tr>
<td>20</td>
<td>Emergency side panels</td>
</tr>
<tr>
<td>21 Independence / dependence on mechanics</td>
<td>Design interpretations:</td>
</tr>
<tr>
<td>22 Unpredictable, unreliable service levels</td>
<td>Design for self repair</td>
</tr>
<tr>
<td>23 Complex mechanisms that require rare expertise</td>
<td>Design for easy access to all systems</td>
</tr>
<tr>
<td>24 Specialised mechanisms that require specialisation skills</td>
<td>Use universal components</td>
</tr>
<tr>
<td>25 Consideration of others</td>
<td>Design interpretations:</td>
</tr>
<tr>
<td>26 Passenger nervousness</td>
<td>Expandable driving / seating cell allowing passenger to have same restraint, crash protection as driver</td>
</tr>
<tr>
<td>27 Other slower, vulnerable road users</td>
<td>Secure foot locations</td>
</tr>
<tr>
<td>28</td>
<td>Design for greater passenger security / comfort</td>
</tr>
<tr>
<td>29</td>
<td>Proximity warning device</td>
</tr>
<tr>
<td>30</td>
<td>Pedestrian friendly front and rear</td>
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<tr>
<td>31</td>
<td></td>
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<td>32</td>
<td></td>
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</tbody>
</table>
Example of questioning Somatic data
Q: What aspect of Somatic experience is being described?
   A: comfort
Q: What specific aspect of comfort does this describe?
   A: seating
Q: What specific aspect (of seating) prompted this?
   A: seating direction .................................................. (Experience trigger)
Q: How might a designer interpret this aspect so as to change / improve it?
   A: seat both passenger and driver in same direction (Design interpretation)

Example of questioning Affective data
Q: What is the emotion described in this aspect of experience?
   A: feeling nervous
Q: What aspect of the experience from the life-world prompted this?
   A: fragility of the vehicle ................................. (Experience trigger)
Q: How might a designer interpret this aspect so as to change / improve it?
   A: make the frame more solid ......................... (Design interpretation)

Similar questioning was applied to Cognitive, Contextual and Designer data respectively but they are not displayed here, for space reasons and because they do not affect the outcome of this present discussion. Asking these questions soon produced hundreds of design ‘interpretations’. That is, interpretations for almost every event which had triggered an effect or affect. Unfortunately, it became fairly obvious that if all of these design interpretations were actually applied, the NMV would be simply enhanced in a linear evolution until it reached a predictable and quite uninterestingly inevitable outcome; a simulacrum of the ‘car’ as it is currently known. This is a large part of the design ‘problem’ within the overall industry situation outlined in chapter 2, where incremental and superficial changes have been implemented in vehicles over time. In this manner vehicles are said to have improved in shape and technology but in a socio-technical sense where the design adds meaning to peoples lives and benefits society in general, they have not improved.
7.1.4 Approach #4 – What if we positively enhance the design? - Expanding the taxonomy using design ‘amplification’

The search for a new approach meant returning to the basic level of causal triggers contained in the ToE (see Figure 7.03). New possibilities were explored by ‘amplifying’ the individual triggers in different ways.

Amplifying; meaning to positively enhance each triggering event, whether it was originally positive or negative, in such a way as to turn it into a more positive event. This was done by not only enhancing the positive aspects of the experience triggers (+ → ++), but also turning negatives into positives (- → +) and even venturing beyond this linear process, to adopt a more lateral questioning approach e.g. asking how could the event be interpreted to enable ‘invention’ or Superordinary possibilities to show themselves (-/+ → ?)

In other words what radically different view could be taken of this piece of information that would allow it to be seen in an entirely new way? (see Figure 7.03 below)
Exploring this process thoroughly showed that it still addressed the experiential triggers in a fundamentally linear, ‘cause and effect’ manner, which continued to not offer anything very interesting in design terms. In effect, I was no closer to understanding experience in a way that would make designing for the experience any easier or better. It did throw up some interesting functional ideas for NMVs and stimulated design thinking in a ‘brainstorming’ way, but as a method for stimulating design based on experiential understanding, it was still very, prescriptive and linear. If I was to avoid the lure of linear design which has so successfully inhibited the development of more socially beneficial vehicle designs (see chapter 2), I had to approach the ToE from an altogether different direction and with a more open mindset. The rational, logical approach was not working.
7.2 WHAT WORKED – REDUCTION, DISTILLATION, ESSENCE

Having learned some valuable lessons about what did not work and why in the previously described approaches to understanding the information contained within the NMV ToE, this next section initially describes the manner in which the earliest ‘prototype’ version of a method for understanding the NMV experience was developed. In the section following this (Section 7.3) I discuss how a finished, testable version of this method was developed. The reason for this seeming duplication is that the earlier prototype version was significantly different to the final version, because of the exploratory manner in which it was developed. The final version, with the benefit of hindsight and realising it can still be improved now seems, quite simple and ‘obvious’. The SEEing methods described in Section 7.3 did not simply ‘appear’ they were painstakingly and uncertainly brought out of the NMV data over time, and a sense of this needs to be communicated in order to establish the process of their development

7.2.1 The process of evolving a ‘prototype’ method

Returning to the ToE as a structural representation of the NMV experience, I again confronted my (by now) old problem - making sense of the volume of information contained in the ToE. The many thousands of fragments of the experience contained in the ToE needed to be reduced to a more manageable and meaningful level. I started by looking at ways to determine what, of all this material, was ‘most important’?

“In determining the universal or essential quality of a theme our concern is to discover aspects or qualities that make a phenomenon what it is and without which a phenomenon could not be what it is” (Van Manen 1997, p. 10.)
7.2.1.1 Asking the Taxonomy the *ti estin* question: what is it really all about?

In order to separate out the ‘most important’ aspects of the experience, I returned to phenomenological first principles and formulated a set of reductive questions. I began this distillation process by again questioning the list of experiential triggers, asking each incidence and event a *ti estin* question - ‘is this, what it (the essence of the experience of driving an NMV) is really all about?’ (See Figure 7.04).

![Figure 7.04: Interrogating the data, asking what’s it all about?](image)

In other words,

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117 *Ti Estin* meaning ‘what-ness’ i.e., what is formulated in a definition, what we are seeking when we ask about something of some specific kind, “what is it?” (Stanford, 2007).
- how important is this piece of information to defining the essence of the experience. Is it incidental or vital?
- What are the most important or essential triggers or events that constitute this experience, making it, what it is?

By asking these questions I reduced thousands of aspects of the experience to around two hundred ‘essential elements’. However, while the picture did become clearer, it was still too fragmented and undefined to be useful in terms of a designer understanding the experience on a deeper level. The richness I had earlier sought in the data now provided the need for more distillation.
7.2.1.2 Asking the Taxonomy what is important - Design usefulness / uselessness

To further reduce the volume and increase the quality of the ‘essential elements’ described in the approach above, I applied another set of questions, which originated out of considering two possible reasons why these vehicles (or other designed items) might fail (or be considered unsuccessful) in usage.

I asked the ‘essential elements’ data two ‘turnkey’ questions:

Q1. What did the designers do that didn’t work or was wrong?
It was easy to see that answers to this type of question would be similar to ‘User research’ approaches that often apply their results in a manner similar to the linear ‘amplification’ process described in approach No. 4, so this questioning approach was discontinued.

Q2. … alternatively, I asked; what the designers did not do, that they should have done, or that was needed?
In other words, what didn’t the designers know to do; what was intrinsic to the experience that current experiencers know about, but that the designers didn’t know, they didn’t know?
At the same time I also considered trying to isolate out the ‘novelty’ parts of the experience, aspects of the essential elements of the experience which had most probably, not been derived as a result of the original designing process or idea but which were obviously important to experiencers (essential) and importantly, might also be subsequently useful for generating ideas about making better designs (a purely design ‘usefulness’ perspective). I rephrased the turnkey questions above to highlight these by asking, what were the surprising or ‘Superordinary’, elements of the experience?
This type of questioning approach reduced the previous two hundred ‘essential’ elements to seventy ‘useful / novelty’ aspects of the experience,
which I called ‘Superordinary’ elements. In this search for the Superordinary or unintended impacts of design, hidden within the individual pieces of text, I also found it useful to fluidly reframe the ‘turnkey questions’ against a background set of ‘filter’ questions, which taken together, helped me to recognise the Superordinary answers when they arose. These filter questions included:

- what do experiencers know about this experience that the designers don’t?
- What is it about this experience that keeps experiencers coming back?
- What would I (as a designer of an NMV) not have already known?
- What did I not know before I investigated this experience? What surprised me?
- What would the designer not have known when he designed it?

7.2.1.3 The final reduction

It occurred to me that not all Superordinary aspects of an experience would be of equal value or intensity, so in order to determine which of them might be more important than another, I prescribed a value against each of the final seventy Superordinary elements of the experience, using a Likert rating of 1-7 (1 being low in intensity) allocating this ‘weighting’ on the basis of the ‘perceived’ powerfulness of each element or the level of intensity of its ‘Superordinary-ness’. This may be construed as a conspicuously subjective determination, but it is consistent with phenomenological methodology and appropriate in this instance because the weighting ‘accuracy’ was enabled by the process of ‘submersive research’ that I had employed throughout the project, that is, my forestructures.

"The whole point of phenomenology is that we cannot split off the subjective domain from the domain of the natural world as scientific naturalism has done. Subjectivity
must be understood as inextricably involved in the process of constituting objectivity” [Moran, 1999 #297, p. 15].

Throughout this project I have intentionally used the term ‘submersive research’ rather than ‘immersive research’ because of the deeper level to which I went to understand the experience. I rode an NMV for two years in preparation for this project. I drove many of the NMVs for extended periods with their owners; I interviewed owners while I drove and while being driven. I fully submerged myself in the experience and the context of the experience, in order to better understand it and its language. By ‘submerging’ myself to this level of active participation in the research process I learned the ‘language’ of this experience; ‘charging’ my forstructures with the knowledge necessary to interpret with a significant degree of expertise, the multiple perspectives of designer, researcher and experiencer.

“It is by observing and subsequently analysing these sentences that one can understand the language on that deeper level needed to speak it. And when one speaks the language, one can translate it” (Van Veggel 2005, p. 5).

By applying the 1-7 Likert weighting to the reduced number of Superordinary elements and sorting the entries by their prescribed ‘weight’, I was able to rank the Superordinary aspects of the experience in descending order of intensity. The comparative rankings derived for Superordinary elements of the NMV experience, can be seen in the second last column in Figure 7.05 below.
Each of these final Superordinary elements was again questioned for their ‘essential’ meaning, in an effort to distil an even more pure, inter-subjective meaning. I developed single words summarising all the statements in the ‘novelty’ (Superordinary) column. After several iterations, a pattern began to appear in the ‘one word description’ column. (see the last column in Figure 7.05). These were again sorted by their corresponding Likert ranking, providing a scaled list of single words. By this process of using the weightings to rank and sort by degree of Superordinary salience, the experience of driving an NMV was devolved to an interpretation of its most intense phenomenological essences, collectively represented in four, meaning-filled words.

The ‘word essences’ of the NMV experience I used were,

**Spiritual-pleasure**

**Freedom**

**Danger**

**Celebrity**

*N.B. even though spiritual pleasure is not literally one word, the one word ‘spirituality’ does not accurately represent the power expressed in the text it represents, so in the absence of a better single word, spiritual pleasure has been used.*
7.2.1.4 Superordinary word summaries

The Superordinary words listed above, were of course representative of a much deeper set of meanings which had been progressively drawn out of all elements of the experience. In order to communicate this to others, some of this intensity was brought back to them in the form of ‘summary word descriptions’. The Superordinary elements that had lead to developing each of the summary words were reviewed and recombined into a descriptive paragraph. Below are the ‘summary descriptions’ of the ‘Superordinary words’ developed out of the NMV experience.

*Spiritual pleasure – From the Heart or Spirit*

Driving an NMV is a deeply felt activity and designing for this spiritual state must understand how it is experienced. Drivers experience euphoria, spontaneous joy, joy of life, community and deeply meditative states. They are drawn to the vehicle because it puts them in touch with important aspects of their inner self and at the same time allows them to relate to the world around them in more elemental ways.

- *Spiritual pleasure exemplars*

Sudden bursts of unmediated joy in the experience; sense of euphoria; specially beautiful days when riding holds a sublime pleasure; moments of real ‘connection’ with surroundings; moments of consciousness when it is simply a joy to be there; clear crisp days in the sunshine; balmy, dry days with clear open roads; sublime sights, sounds, smells; heightened visual variety and novelty, noticing more (fields of daisies, dead cows). Moments of vivid existential consciousness (place, weather, road); being out ‘in’ it; having a strong positive connection to the ambient environment (often resulting in powerful cognitive reflections and/or emotional responses);
moments of great head-space, interesting thoughts and deep meandering thoughts.

*Freedom – From the Head or Mind*

Freedom is at the core of the NMV cognitive experience. It takes many forms including simple convenience\(^{118}\), coming and going as one pleases, freedom to be the kind of person one chooses and very importantly, freedom to choose the level of risk enjoyed.

- *Freedom exemplars*

I come and go as I please; independence from others; uncomplicated travel; short quick runs in traffic; I can go longer distances; pull up outside front door; park and walk in; parking close to favourite places; lightness, nimbleness; weave through intense and particularly difficult traffic conditions using small gaps; costs very little; simple and easy to fix; no long repairs; wearing very little on hot dry days; having to wear less protective clothing.

*Danger – From the Body*

Drivers are particularly aware of the dangers involved in driving an NMV and it is an intrinsic element of what makes the driving experience desirable. Many types of danger while not enjoyable are never the less endured by drivers as a right of passage. Still other dangers are frightening but add an essential level of piquancy to the experience.

- *Danger exemplars*

Wet slippery roads; driving at night; unthinking and life threatening acts by other drivers; severe wind turbulence from large vehicles; storms; gusty bridges’; white lining or running between moving cars and parked cars;

\(^{118}\) Simple in terms of complexity but still very highly valued.
driving through narrow gaps between moving vehicles; no risk no fun; danger inherent in driving raises alertness and adrenaline; driving without a helmet; driving in shorts. Physical feedback (shaking and shuddering) provides a connection that allows the driver to make driving decisions; heightened alertness driving in narrow streets with many obstacles; having the protection that makes them warm and comfortable but not detached from the experience.

*Celebrity – From being out there – The Cosmos*

Celebrity, standing out or being ‘special’, comes with driving an NMV that is not considered ‘normal’. Drivers embrace this aspect and thrive on it. They do not consider themselves ‘normal’ and are happy to receive admiration, interest and recognition from others. Driving an NMV provides a constant stream of positive public affirmations which are welcomed along with some forms of attention which are not. But in every instance, drivers would rather be noticed than considered ‘normal’.

* - Celebrity exemplars

Standing out in a strange vehicle; pulling up and people staring; people say ‘that’s cool’; other riders and drivers affirming smiles and gestures; not wanting a normal car.

Verbal and gesticular ridicule from other road experiencers; vehicle is seen as a poor alternative to a ‘normal’ car; vehicle is seen as a novelty or joke; derisive gestures; remarks and verbal abuse from strangers.
The next stage

At this point the process of reduction ceased and the project to understand the NMV experience was almost complete. Through a process of gathering data into a ToE and ‘conversing’ with it to the point of distilling its essences, I have come to know the experience of NMVs very well. But could others also understand this method and find it useful? I had arrived at this point by a cumbersome and circuitous process, which others would probably find too difficult or tedious to follow. The process had to be made simpler, if it was to be tested and others were to use it. It needed to be converted into a form that could be communicated to others; one that others might find understandable on a step-by-step basis.
7.3 DEVELOPING A TESTABLE METHOD

Introduction

In the earlier phases of the ToE development described above, data gathered in the field about NMV experiences was used in developing a set of steps that would enable a designer (in this case myself) to gain a deeper understanding of the NMV experience. In this following phase, the steps previously developed were revised and refined to enable them to be used by other designers who might want to develop a similarly deep understanding of any particular experience or type of experience they wish to study.

Presented here is a ‘how to’ explanation of what I have called the ‘SEEing’ methods. ‘SEEing’ refers to looking within the experience and SEEing the Superordinary or its essence (beyond its form or functional aspects). The purpose of SEEing is to distil and separate out the Superordinary essences of the experience from the ordinary (form and function) aspects of the experience (embodied in the ToE) so that designers can manifest, depict or illustrate their findings in a manner that others can ‘see’ or understand.

SEEing also alludes to an intrinsic enlightening quality within the method, which produces a substantive and unexpected change in the researcher who uses it. The understanding and knowledge developed during the process of using the SEEing methods are experiential (in a deeply contemplative, reflexive learning sense) and as such become a part of the researcher/designer’s knowledge base. This means that the physical representation can be packaged and conveyed to a third party, but not the

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119 A full explanation of the term ‘SEEing’ can be found in Chapter Zero – Preliminary section – (vi) Key Terms
120 In this case they can be ‘seen’ or have been made visible in the form of ‘Superordinary summary words’ and ‘Superordinary summary descriptions’. These could equally be transformed into a physical form as was done in the Cologne exhibition. See Appendix 8.07 Designing from Life exhibition video
intrinsic understanding of the experience developed in the designer/researcher through the SEEing process.

Figure 7.06 begins the description of these methods by showing the fundamental dynamics involved in the SEEing methods. The two dimensional matrix (see Figure 7.06) underlying the SEEing method, uses the information gathered about an experience and contained within a ToE as one parameter (the Y axis). The information stored along this axis is engaged along the X axis, in an iterative dialectic ‘conversation’ between the researcher121 and the data in the ToE, in a series of questioning steps. The next section begins by reviewing the composition of the first parameter of the SEEing matrix, the ToE.

<table>
<thead>
<tr>
<th>SEEing</th>
<th>A set of questions are applied to each part of the ToE along this axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>ToE</td>
<td>X Axis</td>
</tr>
</tbody>
</table>

![Figure 7.06: ToE-SEEing - dynamics of the hermeneutic analysis matrix](image)

The SEEing process is (for want of a better software interface) currently employs Excel spreadsheets as a medium for storing and interacting with field data. A full range of SEEing worksheets in Excel format can be seen in Appendix 7.03 ToE-SEEing worksheets, and an example section of one of these is shown below in Figure 7.07.

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121 In this section I am reverting to the third person as I am no longer referring to my own personal involvement in the project. The researcher mentioned in this section is any researcher using the methods to understand an experience.
The ToE – SEEing process in an Excel spreadsheet format

Figure 7.07: Blank SEEing worksheet

**Left side of spreadsheet**
Right side of spreadsheet

<table>
<thead>
<tr>
<th>Step 5:</th>
<th>Step 6:</th>
<th>Step 7:</th>
<th>Step 8:</th>
<th>Step 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential elements</td>
<td>Superordinary elements</td>
<td>Weighting</td>
<td>Superordinary summary words</td>
<td>Summary word descriptions</td>
</tr>
</tbody>
</table>

See appendix 7.03 for more detailed information and step explanations in ‘call-out comments’
This page left blank to allow for previous double page view of the ToE spreadsheet
Parameter one: The Y Axis - The ToE

The Y axis consists of the data contained in a ToE (seen in column C of Figure 7.07 and in Figure 7.08, a ToE in its collapsed form). Gathering and compiling the data for this axis provides the researcher with an initial understanding of the experience through familiarity with its parts (nodes constituted by their smallest fragments, that is, the individual cause and effect stimuli) as well as a partial understanding of the experience as a whole (ToE). Setting up a ToE of an event is a valuable establishing process in itself, which generates in the researcher a useful, be it broad understanding of the experience.

Field research information (observations, interviews etc.) gathered by the designer/researcher is stored and structured on the Y axis in categories of data comprising a taxonomy of the experience (as in Figure 7.08 below).

1. THE GUT - Somatic experience
   - Sensorial
     - Sight
     - Touch
     - Smell
     - Taste
     - Sound
   - Ergonomic
   - Aesthetic

2. THE HEART - Affective experience
   - Positively valenced affect 1 - 7
   - Negatively valenced affect 7 - 1

3. THE HEAD - Cognitive experience
   - Connation – reflective experience
   - Cognition – reflexive experience

4. OUT THERE - Contextual factors
   - Environmental factors
   - Regulatory factors
   - Social factors
   - Existential factors
   - Corporate, Economic, Political

Figure 7.08: A ‘collapsed’ Taxonomy of Experience (little ToE)
7.4 PARAMETER ONE - Y AXIS - A TAXONOMY OF EXPERIENCE (TOE)

Background
A broad cross-section of information from the design field and many other disciplines explaining each of the major and minor components within the ToE (see Figure 7.08) were discussed in detail in Chapter Four, 4.5: An initial framework for structuring experience. In order to set up an explanation of the Y axis within the SEEing process, they are revisited here very briefly and explained in the manner developed for teaching these methods to students. The ToE is explained in terms of four major components; the ‘Gut’ or Somatic experience; the ‘Heart’ or Affective experience; the ‘Head’ or Cognitive experience; and ‘Out There’, the context in which the experience takes place. (Each of these meta-themes and their sub-themes is described in Appendix 6.02: ToE Node descriptions)

7.4.1 The Gut: Somatic experience

Somatic aspects of an experience stimulate or directly impact on the physical body including sensorial stimuli, comfort (ergonomics) and appearance (aesthetics). These are what Donald Norman (2004) refers to as the ‘visceral’ level but which contain more complexity than references to simple physicality are able to describe.

For example there are often sensorial elements in an experience that are physical sensorial responses but are more closely related to or also describe aspects of comfort or appearance, this is why they have been treated separately here. As when one participant said, “when you take the helmet off, ...all of a sudden you realise how loud it is”. This is not just about sound or noise, it relates to a sound comfort level or a degree of sound pleasantness (in this case unpleasantness).
Other examples might include the shade of red that an apple has or how smooth a surface feels and other similarly indirect aspects of the physical properties of things (McDonald in Green et al. 2002). It is important to remember that Somatic elements of the ToE are defined according to their meaning in the context in which they occur, and this meaning often also shows relationships with affective and cognitive aspects of the experience occurring at the same time (Adolphs & Damasio in Forgas 2001). Thus somatic elements are woven into the mesh of the experience and are also constituted by it.

### 7.4.2 The Heart: Affective experience

In the ToE, Affect is treated as principally focusing on ‘emotions’ that is the mostly short duration, intense emotive responses to experiential situations. In the ToE, ‘Affective experience’ is sub-themed in terms of ‘positive’ and ‘negative’ valanced\(^{122}\) emotions. (In the ToE of the NMV experience the valencing process that was used can be seen in Appendix 7.04 Affect code sorting sheets)

### 7.4.3 The Head – Cognitive experience

The cognitive section of the ToE, refers to the way in which a person ‘thinks’ about both internal (reflexive) and external (reflective) aspects of experiences. Cognition or ‘Internal’ aspects are terms describing the way in which a person thinks about themselves, for example, “I am not a biker...I am a little bit afraid” (A designer describing why he did not enjoy his first experience of riding a three wheeled vehicle). Externalised aspects of cognitive thinking (Conation) relates to the way in which a person thinks about things that lie outside themselves, that may or

\(^{122}\) Valence - psychological value of the experience denoted in a positive Vs negative way (Reber 1985).
may not lead to action or behavior, for example, “because in a car everything is closed ...in a box ...and in a C1 ...its open ...you feel the wind” (A C1 driver describing why he prefers his vehicle to a car).

7.4.4 Out there – The Context of Being

The experiential somatic, affective and cognitive meta-themes within a ToE described above, are each integrally situated within a fourth contextual meta-theme space referred to as ‘Out There’. This component of the ToE describes aspects of the context (the life-world) in which the experience takes place, but only those considered immediately relevant to the people involved in the experience.

This aspect of the ToE contains a set of important sub-themes, which can include but are not limited to,
- Environmental factors
- Regulatory factors
- Social factors
- Existential factors
- Corporate, Economic, Legal or Other factors
7.5 PARAMETER TWO - X AXIS - THE METHOD OF SEEING

The following is a step-by-step description of the SEEing methods (applied along the X axis) and their relationship to the information contained within the ToE on the Y axis, described above. This dynamic is repeated here in Figure 7.06.

\[ \text{SEEing} - \text{A set of questions are applied to each part of the ToE along this axis} \]

\[ \text{ToE} \]
Information contained in the ToE is situated on this axis

\[ \text{Y Axis} \]

![Figure 7.06: ToE-SEEing - dynamics of the hermeneutic analysis matrix](image)

Introduction

The SEEing method develops deep understandings within the researcher of the mundane, ordinary, everyday aspects of an experience as well as the Superordinary aspects of an experience. However, understanding the Superordinary side of an experience over and above the form and function, mundane side, is something we rarely have the opportunity or skill to do. This touches on understanding the language of ‘human-speak’, the way human beings uniquely ‘understand’ and ‘relate’ to things in the world, the way humans innately and naturally communicate with things in a mirror-like difference to constructs of the technological world that stipulate how or when to do things. This concept of ‘human-speak’ is not a semiotic entity (in itself a technological construct) but refers to how people deeply ‘relate’ to one thing and not to another, how they find ‘appeal’ in one thing and not in
another; reactions to the world that are real and intelligible but most often difficult or impossible to describe in everyday human language other than in poetry, art or other metaphor.

This is the type of understanding that the SEEing process enables. That is why it becomes a private and highly subjective understanding, limited to the researcher/designer looking for it. It is also why it is imperative that the researcher is well versed in the ‘language’ of the experience to begin with, because he must be able to converse with the experience on an intimate basis, intuiting and understanding their personal conversation so as to recognise the Superordinary elements when they appear. This foundational understanding introduces the first of the nine SEEing steps.

7.5.1 The nine steps in the SEEing method

7.5.1.1 Step 1: Gathering data and establishing forstructures

- Step 1a: Getting to know the language- submersion

The researcher ‘Gets to Know’ the experience first hand, becoming familiar with the experience to the point of understanding its 'language', that is, being able to converse with an established Experiencer as if they were also an experienced experiencer.

This step involves the researcher completely in the experience to the maximum they are prepared to be involved. Immersive research techniques have been well documented {Csikszentmihalyi, 1991 #195; Hanington, 2000 #210; Whyte, 1993 #126; Titchen, 1993 #93}. In this project I have intentionally referred to the researcher becoming ‘submerged’ in the experience. The point of the difference being simply that the level of involvement required of the

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123 See Chapter Three: 4.2.1 Speaking the language of experience
researcher is much greater. In this case a researcher cannot simply test the waters as in immersion, but needs to become ‘one with the experience’ in a completely ‘submerged’ manner, thus reducing the differences in understanding between himself and the established experiencer.

Anecdote from the validation trials in Germany:

A researcher came to me and said that she had started to get to know the experience of jogging, found it incredibly boring and stopped. I asked her that beyond the words used, if she would know what a jogger really meant if he said to her that he had ‘hit the wall’ during a run; or what he might mean if he said to her he was ‘pushing through the burn’. She said no. I told her that she had not submerged herself enough in the experience and until she did so, would not understand the language of jogging. She came back a week later (a little fitter) and said she now understood both terms.

Notes from the SEEing tutorial guide

Submersion: A much as possible the researcher should ‘submerge’ themselves in the experience, that is, interact with the event to a point where they fully understand what it means to ‘experience it’. This means not only what it is like to physically interact with it but how they relate to it emotionally, what and how they think while using it and what is going on around them while experiencing it. As much of the above as is deemed necessary should be captured (recorded) for later analysis. However a very important aspect of this step is for the designer to become ‘familiar’ with the product to the point where they learn the language of the entity, that is, they can converse with any other experiencer, on an equal level. The question to be answered here is, ‘what is it like for me?’

- 7.5.1.2 Step 1b: Data gathering
During the submersion process data is gathered, in the form of images, sounds, articles of clothing, samples or any artefact that might be useful as a mnemonic aid in later recalling events and writing descriptions of them. It is also very important to counterbalance the subjectivity of the researcher’s data gathering, with the alternative views from established experiencers in
the form of interviews, observations and contextual studies captured in creative ways that are sympathetic to the experience to be understood. Gathering a broad range of perspectives provides a diverse and robust source of experiential data. All of these form the larger volume of 'fragments' of information (data) gathered in the field, that in the process (and somewhat inadvertently), capture small aspects, slices or particles of the experience. These are the 'parts' of the experience that when taken all together, become representative of the 'whole' of the experience.

Notes from the SEEing tutorial guide

Data gathering: Using the language of the experience and conversational techniques the designer/researcher holds free flowing conversations with established experiencers about their experiences with the entity in their normal life. The purpose of this step is to build empathy with the experiencer to a point where as much of the experience as possible can be 'shared' in conversation. The researcher is trying to share his and the established experiencers experiences, to build a mutual understanding (a third perspective) of what takes place in the experience. While the conversation should not be too structured or 'controlled', the researcher should be aware of the importance of aspects of the experience such as senses, emotions and thinking components that are either internalised or externalised into behaviour. The researcher should be conscious that what they are trying to develop is a clear understanding of the 'life world' of this experience. (i.e. what it is like where it lives, and what it is like to have this experience there). The question to be answered here is, 'what is it like for us?'

7.5.1.2 Step 2: Descriptive narratives

The researcher transforms the ‘fragments’ of field data (described above) into detailed descriptive narratives. Chapter Six (Analysis and Synthesis) also discusses in detail many of the methods used in this project for writing

[124 Van Manen's (1997) guidance in writing these narratives is helpful here. (Referred to extensively in Chapter Six – Section 6.3.1.2 - Enriching observation narratives).]
narrative descriptions but generally speaking, they should contain as much
detail as possible. These narratives are a way of transforming data in many
different forms into a common (textual) format for analysis. The detail
contained within these transformed slices of the experience is then broken
into small fragments (a single word, up to a phrase) and entered into the ToE
(Step 3)

7.5.1.3 Step 3: Sorting Fragments into ToE Themes

The fragments\textsuperscript{125} of information contained within the descriptive narratives,
are firstly interpreted in a superficial, literal manner, and entered into a ToE
structure. This is a simple way of breaking up and recording what is
contained within the descriptive narratives. It is a structured approach to
gathering and sorting the large volume of data that has been collected. It is
also a way to house or store the data in logical and locatable sites. Once the
ToE has been completed, the researcher can easily see by looking at the
contents of the ToE theme structure, what has been recorded and what has
been missed about the experience.

\begin{quote}
\begin{center}
\begin{tabular}{|l|}
\hline
The ToE Meta-themes are the Somatic, Affective, Cognitive and
Contextual aspects of the experience to be understood.
The themes within these meta-themes include;
Somatic- various aspects of the Senses, 
Affect - positive and negative Affect, 
Cognition - internal and externalised Cognition, 
- and many Contextual factors (environmental, social, political) 
\hline
Sub-themes are collections of similar fragments of the experience i.e. 
(meta-theme) Somatic - senses 
(Theme) - Smell 
(Sub-theme) - Cooking smells
\end{tabular}
\end{center}
\end{quote}

\textsuperscript{125} Fragments are small aspects of the experience to be understood (bits of information). The fragments are broken
down into parts and sorted into themes according to what they are ‘saying’.
The field data which has been entered into the ToE theme structure is not deeply interrogated for meaning in this first stage. Each fragment of information is simply asked, ‘what is it you are saying or referring to?’ Answering these questions, the descriptive narratives are broken into fragments of different meanings (sometimes they have multiple meanings) and placed within any number of the theme sections listed in the box above. Sub-themes contain many fragments of the experience that the researcher has collected together that he believes tell a similar story (theme)\textsuperscript{126}. (TIP: it sometimes helps if the name for the theme, is drawn from one of the fragments, so that it is directly related).

Notes from the SEEing tutorial guide

\textit{The data (narratives from video, transcripts of conversations etc) are split up and entered into a spreadsheet in multiple ‘fragments’ of information separated into the ToE meta-themes. i.e. sense information into Somatic experience, emotions into Affective experience - thoughts and actions into Cognitive experience and time/space aspects into Contextual aspects. These fragments are again sub-coded under the meta-themes into sub-themes. In some instances it may be useful to compare with the sub-theme names used in previous projects but mostly it is better not to compare with other experiences so as to let this unique experience ‘speak for itself’. It can be useful to devise new sub-theme names that come out of the material itself. i.e. material describing instances of gossiping might be called ‘she said, I said’ or instances describing a loss of control as ‘coming unstuck’. It is important that the sub-theme names accurately reflect the fragments of conversation they represent. These sub-themes are then collected together within the ToE framework along with any new sub-themes. N.B. Unless you are using a programme such as NVivo this spreadsheet will initially be very large. Do not worry about this - it will shorten with progress into the analysis. The question to be answered here is ‘what is this aspect of the experience’ and ‘how can I describe it?’}

\textsuperscript{126}Fragments of information are given a sub-theme name that describes them in ‘generic’ terms. i.e. ‘pleasant noises’ It is a way of ‘lumping’ fragments together into common ideas. Fragments are then sorted in each ToE section by the sub-theme names to cluster the fragments together.
7.5.1.4 Step 4: Developing meaning(s)

In this step the researcher should firstly look within themselves and realise that because they also were a part of the experience to be understood, this gives them both an advantage and a disadvantage. The advantage is that they can now see the experience more clearly for what it is. The disadvantage is that this knowledge can cause them to prematurely judge the information received. They must guard against letting their own perspective (bias) override or dominate the other perspectives captured in the data. The task here is to 'merge' the perspectives. The researcher begins by carefully looking at each fragment of information not as it is presented, but for what other ‘meanings' it might have. The data is asked questions such as,
- what is really being said here?
- What does or could it mean? (This is not invented but more deeply probed).
- Who is talking and how might that influence what is being said or meant?

This process helps to ‘tease out’ the text into its many (plural) meanings. There will always be at least two meanings for almost every statement. Researchers should look again at cause and effect, considering both the signifier (words used) and what is signified\(^\text{127}\) (meant by the words). Interpreting fragments for their plural meanings is not about judging what the researcher thinks their meaning ‘should be’, or creatively interpreting what it ‘could’ mean, but it is about accepting the meaning that is suggested, sometimes even in the face of what the researcher thinks he already knows.

"It does not matter whether what is meant corresponds to our insight since we want to know only the meaning of the statements (sensus orationum) but not their truth (veritas). For this we need to exclude all prepossession, even those of reason (and of course, especially those generated by our prejudices)" (Gadamer 1975, p. 182).

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\(^{127}\) A reference to the terms made famous by Ferdinand de Saussure (1857-1913).
The researcher will find it helpful to have on hand and available to view any research material taken at the time of the experience (Mnemonic devices such as Video, photographs, tapes) as these will help to stimulate memory (not creativity) and develop depth in the plural meanings being evolved. It is not important to retain the authorship of the meanings deduced above. At this point what is being said is far more important than who said it, this includes aspects of the experience that may have come from the researcher (who was there at the time) or from the experiencer when the researcher was not there. The relativity of time is not so important unless the experience is significantly different at different times. These minor differences will become less important as the experience as a whole comes into focus.

Notes from the SEEing tutorial guide

The researcher considers the sub-themes developed within the ToE collections of fragments and determines the multiple meanings contained within them. This list is then no longer attached to the original fragments, becoming instead independent of its origin.

Look at each sub-theme and its fragments, in the column headed 'Meanings', write a few words about what meanings can be drawn from this sub-theme or its fragments. There may be a number of meanings. Think carefully and deeply at this stage. Use these as a clue to answering - What does it mean? What might it be saying? What does it contribute to the experience and in what way?

Example1: Fragment 'I smelled fresh ground coffee' - this could be important because you know that in this instance coffee is associated with cafe style, cafe fashion, culture etc. it has meanings other than its smell.

Example 2: Fragment 'I felt nervous here' Feeling nervous usually is for a reason - perhaps the stairs are high and open - this could mean there are issues of vertigo or fear of heights present in the experience... so you write 'fear of heights' as the meaning of the fragment.

Example3: fragment 'she looks nervous', could mean you are aware of the feelings of others or are thinking of the pressure a certain event contains in the experience ... call this 'awareness of others', 'pressure in the room’ N.B. Not all fragments will
have an important meaning but it is important that they all be considered carefully as they all contribute in some way to making the experience what it is (parts and whole[128]). The question to be answered here is, what does this piece of information mean about the experience?

Example of step 4 – developing meaning - from the NMV case study:

Under the theme node Cognition – Reflexive experience – a section of text was interpreted to mean “Heightened levels of attention increase the richness of visual reception and cognitive awareness. Drivers speak of being out ‘in’ it” This item of individual meaning was just one of over 900 meaning elements induced from fragments of data with the ToE of NMV experience.

7.5.1.5 Step 5: Essential elements

Having developed a large set of the possible multiple meanings in the experience, the researcher begins to reduce these by filtering out the less important meanings. In this step the researcher is trying to determine if the many meanings listed in Step 4 are incidental or vital to the nature of the experience by considering the aspects or qualities that make the experiential phenomenon - what it is and without which the phenomenon could not be what it is (Van Manen 1997).

To determine if a meaning is an essential element, the researcher must go through all of the items in the ‘meanings’ column (Step 4), asking these questions.

- How important is this aspect of the experience?
- Is it essential to making the experience what it is?
- Would the experience be the same experience without it?

[128] This is pure hermeneutics - here the researcher is trying to understand the meaning of the whole experience by interrogating (conversing) with the parts (fragments).
If you answer 'yes it is important (essential)' to making the experience what it is, then it is copied into the next column headed 'essential elements'.

Other questions which might be used to consider the step 4 meanings column include:
- does this phenomenon remain the same if we change or delete this meaning from the phenomenon?
- Does the phenomenon without this meaning lose its fundamental meaning?
- Is this, what the ‘essence’ of the experience is really all about?
- How important is this to defining the essence of the experience?

*Example of step 5 – essential elements - from the NMV case study:*

One of the elements of meaning interpreted from the descriptive texts of NMV experiences in step 4 was “Heightened levels of attention increase the richness of visual reception and cognitive awareness. Drivers speak of being out ‘in’ it”

This item of individual meaning was further evaluated in step 5 for its importance to maintaining the essential nature of the experience. Would the experience be the same if this was not there? It was judged to be vital to preserving the nature of the experience and so progressed unchanged onto step 6.

7.5.1.6 Step 6: Superordinary elements

This stage is designed to distil the Superordinary essence of the experience leaving behind the functional and form oriented, everyday aspects of the experience and extracting the Super-ordinary (unexpected, novel and hidden) aspects of the experience. This stage isolates the elements of the
experience, which were most probably, not seen as an important part of the original design (if the experience studied is the experience of a designed object or service) but which are still a very important part of the experience.

"Gadamer, like Heidegger and Husserl, seeks to get to ...the matter of thinking, that which is to be thought—which lies beneath the text, in many cases as something unsaid” (Moran 1999, p. 269).

This stage searches for the surprise elements, the unintended impacts of the experience.
- Some alternate ways to frame these questions include,
- What have I found that I (as designer) do not already know about the experience (that might be useful)?
- What is it about this experience that keeps experiencers coming back?
- What do experiencers know about the experience that the designers don’t or I did not know before this?
- What didn’t the designer know when he designed it?
- What didn’t I know before I investigated this experience – what surprised me?

Example of step 6 – superordinary elements - from the NMV case study:
An essential element of the NMV experience “Heightened levels of attention increase the richness of visual reception and cognitive awareness. Drivers speak of being out ‘in’ it” was judged in step 5 to be essential to the nature of the experience. But is it superordinary? Does it describe basic form and functional aspects of the experience? Does it have a spiritual or metaphysical quality? In this case the element of the experience was judged to have this special quality and so it was advanced into the step 7 stage.
7.5.1.7 Step 7: Weighting of Superordinary elements

By this stage, there may be quite a large number of Superordinary elements within the experience, but not all will have the same salience or relative intensity. In this step a weighting process is used to assist in considering, which are the more powerful elements of the experience. The researcher applies his understanding of the language of the experience to subjectively determine a relative level of intensity, using a numerical scale.

This is done by prescribing a value against each of the final ‘Superordinary’ elements, using a Likert rating of 1-7 (one is low) allocating these on the basis of the ‘perceived’ powerfulness of this element of the experience, that is, the level of intensity of its ‘Superordinary-ness’. The level of intensity of this aspect of the experience is its powerfulness, its novelty, or its unexpectedness as part of the experience.

Notes from the SEEing tutorial guide

This may seem a conspicuously subjective determination, but it is consistent with phenomenological methodology and appropriate in this instance as the ratings ‘accuracy’ is enabled and authenticated by the process of ‘submersive research’ that the researcher has employed throughout the project.

Sorting the Superordinary elements in descending order provides a ranking of elements of the experience in decreasing order of their intensity or importance to the experience. It is worth noting that all of these entries have already been determined to be the most ‘Superordinary’ elements of the experience and as such already represent the ‘essence’ of the experience; here they are simply being given a ranking.
Example of step 7 – Weighting - from the NMV case study:

The superordinary element “Heightened levels of attention increase the richness of visual reception and cognitive awareness. Drivers speak of being out ‘in’ it” was judged in step 7 to have a level of intensity of five in terms of its ‘superordinaryness’ This means it was not the highest level of intensity but that it still represented a very powerful situation within the experience.

7.5.1.8 Step 8: Superordinary summary words

Considering the Superordinary elements listed in (Step 6) and disregarding their weighting (Step 7) for the moment, a question is asked of each of them. What is the essential meaning behind this element? For instance, the Superordinary element, "no risk means no fun", could essentially be a statement about 'Freedom to enjoy danger'.

The element "Fun is driving without a helmet, in shorts" could really be said to be about 'Good danger'.
Making this kind of decision with each *Superordinary* element the researcher develops *Superordinary* summaries in the form of single words for each *Superordinary* element (see Column H in Figure 7.09).

These ‘*Superordinary summaries*’ are resorted firstly by summary words (see Figure 7.09, column H) and secondly by weighting (see Figure 7.09, column G). This process provides a list of Summary words ranked by intensity weighting. The summaries that are the most intense in this experience can now be seen.

Some shuffling or refining of the resulting list is expected so as to adjust anomalies, and after considering what these might mean; they are adjusted accordingly. What needs to be achieved is a clear picture, of the top 4-5 ranked meanings to be drawn from the highest level of *Superordinary* elements of the experience. This is the *Crème de la Crème* of the experience.

Notes from the *SEEing* tutorial guide

> Each of these final entries is questioned for their essential meaning, in an effort to distil a purer inter-subjective meaning. After several iterations, a pattern can usually be discerned in the ‘*Superordinary summary*’ column. By this process, the experience can be devolved to an interpretation of its phenomenological essence; a small number of meaning-filled words.

*Example of step 8 – Summary words - from the NMV case study:*

The superordinary element “Heightened levels of attention increase the richness of visual reception and cognitive awareness. Drivers speak of being out ‘in’ it” appeared to comfortably fit with the description *spiritual pleasure.*
7.5.1.9 Step 9: Summary word descriptions

In the previous step a distillation of the Superordinary summaries was achieved; now some explanation of these is required. If the Superordinary summaries are to be fully understood, appreciated and communicated they must be able to be explained. As they were distilled from Superordinary elements of the experience, so they should be reconstituted and understood in these terms. By referring back to the individual Superordinary elements that were summarised into Superordinary Summaries and by considering what these elements mean when they are put together in a summary form, a narrative can be written: a paragraph or two written as if describing the Summaries to someone who had no understanding of what these key words might mean. For example,

Superordinary Summary: Spiritual Pleasure

Summary description: Spiritual pleasure – From the Heart or Spirit

Driving an NMV is a deeply spiritual activity and design for this spiritual state must try to understand how it is perceived. Drivers experience euphoria, spontaneous joy, joy of life, community and deeply meditative states. These are people who are drawn to a vehicle that puts them in touch with important aspects of their inner self and at the same time, allows them to relate to the world around them in more elemental ways. Spiritual pleasure is described by drivers in some of the following ways.

“sudden bursts of unmediated joy in the experience, sense of euphoria specially beautiful days when riding holds a sublime pleasure, moments of real ‘connection’ with surroundings, moments of consciousness when it is simply a joy to be there, clear crisp days in the sunshine, balmy, dry days with clear open roads, sublime sights, sounds, smells, heightened visual variety novelty, they notice more. (fields of daisy’s, dead cows)”
“moments of vivid existential consciousness (place, weather, road) Drivers speak of being out ‘in’ it, strong positive connection to the ambient environment, often resulting in powerful cognitive reflections and/or emotional responses, moments of great head space, interesting thoughts, deep meandering thoughts”
“You are really in it and can see more of it. The feeling is less that you are IN a vehicle but more travelling on one thru the world, more connected to the experience, richness of visual perception, cognitive awareness”
7.5.1.10 Summary of the nine steps in the SEEing method

This chapter has described the development and implementation of nine steps required in using the SEEing methods. Beginning with the researcher developing an understanding of the language of an experience, the data that has been gathered and contained within a ToE is distilled to a final Superordinary ‘essence’ of the experience.

The SEEing methods simply stated include,
- Step 1, the researcher learns the language of the experience.
- Step 2, the researcher turns the experience into rich text.
- Step 3, the text is separated into multiple meanings by interpreting alternative meanings out of the text which describes causes or effects.
- Step 4, explicates multiple hidden meanings out of these causes.
- Step 5, filters out the most essential meanings in the experience.
- Step 6, filters again for the Superordinary meanings within the experience.
- Step 7, ranks the most intense Superordinary meanings
- Step 8 groups Superordinary meanings into themes and ranks these by intensity.
- Step 9, describes the most intense Superordinary themes in terms of the essential meanings from which they came.

"The aim of phenomenology is to transform lived experience into a textual expression of its essence….insight into the essence of a phenomenon involves a process of reflectively appropriating, of clarifying and of making explicit the structure of meaning of the lived experience" (Van Manen 1997, pp. 36 & 77).

The way in which this essence can be used in designing or to inspire design is considered in the following Chapter Eight – Testing and Validation. This chapter describes the performance and outcomes of trials of these methods in Australia and Germany, respectively in August and December 2006.
PART THREE – PRESENTATION

CHAPTER EIGHT
TESTING AND VALIDATION

CHAPTER NINE
CONCLUSIONS, CONTRIBUTION
AND FUTURE RESEARCH

CHAPTER TEN
REFERENCES AND APPENDICES
PART THREE – PRESENTATION

Introduction to Part Three

Part One of this thesis established the background leading up to this research project describing the transport context, the philosophical/methodological underpinnings and the relationship to design and other disciplinary thinking related to everyday human experience. All of these directed towards answering how we, as designers, can understand this concept of experience. Part Two told the story of the empirical exploration; about how field research was designed and implemented to begin to find a way to understand everyday experience and illustrate its value to others. It described the manner in which first a prototype set of methods, and then a more refined set of methods was developed and called the ToE and subsequently SEEing methods.

This third part of the thesis describes (in Chapter Eight) the testing of these methods with students at an Australian and a German University. It describes both the manner in which the methods developed in part two were communicated pedagogically, were tested by student’s using them on a wide range of projects and the outcomes they achieved.

Chapter Nine completes the thesis narrative by presenting the conclusions that might be drawn from the whole research project described above. It also provides a brief summary of the contributions this research makes to current knowledge and highlights the opportunities for further research that the project has left unanswered.

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129 The name SEEing given to the second stage of analysis in which the hermeneutic methods were developed was not available until the writing phase of this thesis. Up until this time the two methods were simply referred to conjointly as the ToE. This explains why students referred to in this chapter describe the processes as ‘doing a ToE’ and do not refer anywhere to the SEEing method. SEEing was what they were in fact doing with their ToE’s.
CHAPTER EIGHT – TESTING AND VALIDATION

Introduction

This chapter introduces the final stage in the development of the two key methods resulting from this research project. The ToE and SEEing methods were developed out of the field research and analysis conducted between 2003 and 2006, in a co-operative research program developed between universities in Australia and Europe. Consequently it was considered appropriate that methods resulting from this international cooperation would have their validity tested in both Australian and German institutions. An invitation to conduct these trials was accepted from the University of Technology Sydney, Australia and The University of Applied Sciences in Cologne, Germany.

Both trials held almost ideal similarities and differences resulting in an optimum two-site basis for testing various aspects of the methods under quite different conditions. They had similarities in the makeup of their students taking part. Both had students from diverse disciplinary backgrounds, a balanced gender constituent, a large proportion of international students with diverse first languages, and both involved participants from first year to master’s level. Their differences lay principally in the nature and scale of the projects chosen in each location. In Sydney there were a large cohort of students (ninety) all using the methods on the same project topic, resulting in a deep trial of the methods on one experience over five weeks. In Germany the much smaller cohort (twentytwo) worked on many different topics creating a broad understanding of how the methods worked on a variety of experiences, over eight weeks. The UTS trial involved only the data gathering and analysis.
phases, while the UAS trials took these processes further into a public design exhibition.

The following discussion presents each of these trials from two main perspectives. The first, from a pedagogical perspective, considers how the two methods were communicated in each of the two quite different locations and cultural settings. The second perspective presents an analysis of the outcomes of the project from the students perspective, referring (in many cases in their own words) to how they responded critically to their learning experience with the methods. A summation of my own experience of their learning, in both the UTS and UAS trials, is offered in the chapter summary.
8.1 VALIDATION TRIAL - AUSTRALIA

8.1.1 University of Technology Sydney (UTS), Australia

Faculty of Design, Architecture and building (DAB), Design Studies Unit
August - September 2006
Course title: Design Futures: Creative technologies
Module title: Taxonomy of Experience

8.1.1.1 Context of the trial

In August/September 2006 an opportunity was offered to trial the ‘Taxonomy of Experience’ at the University of Technology Sydney (UTS). A twelve week, cross-disciplinary subject was being developed to be taught in modules of four weeks; one of which was offered for this trial. Students electing this subject came from second, third and fourth year undergraduate degrees in Graphic Design, Interior Design, Industrial Design as well as Fashion & Textiles. Ninety students took part in the four-week program involving face to face tutorials and workshops as well as self directed project based work, in small teams (three to four students). The teaching program was based on Experiential Learning techniques similar to those described by [Higgs, 1988 #102; Andreson, 2000 #325] but centered on the following definition from Morris and Tate.

“Experience based learning means learning in which the learner is directly in touch with the realities being studied. It is contrasted with learning in which the learner only reads about, hears about and talks or writes about these realities; experiential learning typically involves not merely observing the phenomenon being studied, but also doing something with it; testing the dynamics of that reality to learn more about it, or applying the thing learned to achieve some desired result” (Morris & Tate 1978 in Higgs 1988, p. 1).
8.1.2 Pedagogical perspectives

As this was the first time the program had been run and it necessarily evolved over the five weeks by responding to the pedagogical needs observed in students. The following outlines the way in which the project was communicated.

8.1.2.1 Week 1: An introductory demonstration and explanation of the ToE

This consisted of a set of three worksheets within a Microsoft file (very similar to Appendix 7.03 ToE - SEEing worksheets).

1. The first worksheet contained a schedule outlining how the project would be run over the four weeks showing what steps were to be completed by when, the expected student and tutorial activities, as well as practical and philosophical background information on each step (See Appendix 7.03, Tab1 – Study guide).

2. Second, was a worksheet set up with the steps and stages of the project with instructions set into pop out ‘comment’ boxes on each column and row heading (See Appendix 7.03, Tab2 – SEEing (Blank))

3. The third worksheet was identical to the second but contained data from my own field research with NMV’s (see Appendix 7.03, Tab3 - Worked example) (Vehicles SEEing). This was offered as an example for students to look at if they were confused as to how to interpret any of the steps in the ToE-SEEing process.

Students were instructed in the first session that, before the second week workshop, they had to,

130 A reminder that the name SEEing given to the second stage of analysis in which the hermeneutic methods were developed was not available until the writing phase of this thesis and most references to the ToE in the following narrative actually refers to using both the ToE and SEEing methods conjointly. I apologise for any confusion however it only highlights the continual development of this project and that the research is not over until the thesis is bound.
- form teams of four (of their choosing) and decide on a ‘party’ experience to attend
- Attend the ‘party’ and record aspects of the experience
- Individually write a phenomenologically rich description of their experiences at the party (how to do this was discussed in session)
- Bring this typed textual ‘data’ ready to use, into the workshop Week 2

8.1.2.2 Week 2: Lecture and computer workshop

Week 2 Lecture: Taxonomy of Experience.
This lecture outlined the background to how the ToE was developed, a little of the hermeneutical phenomenological philosophy behind it and why understandings of experience are important to designers. Its aim was to highlight for students the solid connection between the ToE structural approach to experience, the theory it was built upon and its applicability in design practice.

Week 2 Workshop:
This was an intensive hands-on workshop with four tutors supervising more than two students to each of forty computers. I presented an initial briefing on the first few steps (1-3) in the taxonomy, followed by an extended Q&A session using student data as examples. The students had been invited to bring in their data (written phenomenological descriptions of the party experience) and work with it on screen, while tutors were on hand to answer questions. They seemed to grasp the first few steps and left with the understanding that they had to have the first two steps completed for the workshop in Week 3.

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131 Party was defined as an activity that students were reasonably familiar with, in that it was not foreign to their social world but something they did not do every day. It had to have the nature of a ‘heightened experience’ and contain an elevated level of expectation.
8.1.2.3 Week 3: Lecture and computer workshop

Week 3 Lecture: Designing from authentic experience.

This lecture presented a more detailed philosophical background to the hermeneutics and phenomenology that underpins the ToE they were using in their project. It particularly focused on the goal of the ToE process which is to distil the ‘spiritual’ or Superordinary elements of the experience and then to use these to design more authentically by using them in an NMV Design Matrix\textsuperscript{132} (see Figure 8.01).

![Key aspects of the NMV entity (variables)]

\[\text{Superordinary elements (fixed)}\]

- Spiritual pleasure
- Freedom
- Danger
- Celebrity

\[\text{Space where new design can happen}\]

Figure 8.01: NMV design matrix

\textsuperscript{132} This matrix technique, using the elements of a ToE and Seeing to develop design ideas was considered interesting but has not been further pursued in this paper as it was considered a distraction from the projects experiential focus. It is however an item that could be of interest to future research.
Week 3 Workshop:
In this workshop as with the week before, the session was started with an explanation of the next few Steps (4-6) again using example data from students own material. Students then broke into their ‘party’ teams and worked on the Lab computers or their own laptops, with tutors available for questions. They were also asked to work on these steps as a team outside the tutorial time, and to complete their Team ToE’s up to Step 6 during the following week.

8.1.2.4 Week 4 Tutorials.
In these tutorials, tutors discussed Steps 7, 8 and 9 using the teams’ data, and circulated around the tutorials to answer any ‘tricky’ questions. Teams were required to complete their ToE’s in their own time and to file them for assessment by the end of the following week.

8.1.2.5 Week 5 Tutorials:
In this session I videotaped a general debriefing of most of the tutorial groups, using an unstructured and open discussion of issues and opinions relating to using the ToE-SEEing system and arising from the previous four weeks work (see Appendix 8.01: UTS Validation - student debriefing). Questions guiding this discussion related to,
- their experiences with the process overall
- what they found easy or hard with it
- what they learned from it
- how they might do it differently next time
- where and if they see it being helpful in future work
- how they might apply it elsewhere or on other projects
At the end of this last day of Week 5, the students were asked to lodge their assignments online for assessment by the tutors. This included their Team ToE’s, as well as their individual data worksheets.

Criteria for assessment included:
1. Sophistication shown in the depth and complexity of the gathering, compiling and processing of experiential data.
2. Demonstrated depth in their reflection on and determining meaning within their data.
3. Evidence of sophistication and maturity in the presentation of a synthesised version of that experience demonstrating deep reflection and engagement with the research.

8.1.3 Student perspectives: reflections on the process

A compulsory but non-assessable component of the project involved each student completing a structured reflective journal over the five weeks of the project (see Appendix 8.02 UTS Reflection journal). In an earlier meeting with Experiential Learning specialist, David Boud\(^\text{\textsuperscript{133}}\), it was suggested that the journals be made anonymous in order to foster honesty. This was subsequently proven to be correct after hearing comments from the students themselves to this effect. Furthermore, Boud suggested that making the journal non-assessable would promote honest feedback and not comments designed to please the tutor in order to gain favourable assessment.

These are the preliminary instructions to students for their reflection journal.

\textit{Instructions: Please complete this journal, at the appropriate stages, during the first 6 weeks of the semester and send to your tutor at the end of week six. There is no word limit, so please add as many lines as you require and lodge electronically as an...}

\(^{133}\) David Boud is an authority in experiential learning circles particularly related to adult learning. See [Boud, 1987 #397].
email attachment to your tutor. The journal will be confidential and names need not be attached, however it is required to be lodged.

This journal is a place for you to reflect on and discuss your experience of the project over the preceding weeks. It is a place for significant and deeply critical reflection on the learning process. The reflective journal is not formally assessed but is required. It is not only an opportunity for you to constructively reflect on the research process you have followed, but more importantly, to do so in a manner that helps you to think about the individual learning that has taken place for you personally, within the process. Your level of interaction with the journal is a measure of your desire to learn and develop as a designer.

8.1.3.1 Analysis of reflective journal responses

The data gathered in the reflective journals was entered into NVivo and analysed in a similar process to that used in the analysis of the NMV field data. Information was coded to the listed questions (themes) then interpreted into sub-themes according to their ‘meaning’. Again due to my involvement in the teaching process I was able to use my forestructures\textsuperscript{134} well, in order to interpret what they were saying and in this way, understand not only what was being said but more importantly what was meant.

The following provides an analysis of the responses in these journals.

\textit{Question 1: What am I expecting to get out of this ‘Party’ research project? What do I think it will be like?}

The NVivo analysis of the coded responses to this question indicates that sixty per cent of students had a positive expectation of the project at the beginning of the session. While much of this positivity originated from students expectations that they would enjoy the project’s subject matter ‘partying’, there were a significant number who expressed a positive

\textsuperscript{134} My forestructures in this case included my position as the originator of the project they were evaluating. I needed to ‘set aside’ my personal involvement (my forehaving) to allow the essence of what they were saying to be seen more clearly.
orientation based on their desire to learn something new that would help their designing.

This also raises the question, why forty per cent were negative at all, considering this was an elective subject. Negativity largely reflected a student’s nervousness at having to form social groups and attend a ‘party’; with relative strangers. Some students indicated their nervousness in relation to the ‘unknown’ quality of what was being taught and uncertainty about would be expected of them in the project. This reaction to the unknown, while setting up a negative initial barrier to learning, is not unexpected and not unusual.

“I suppose I am expecting to get the unexpected or unknown out of this assignment, I guess if I knew what to expect there would be no point in doing it perhaps. So it is about discovering something or looking at something in a different way and I suppose this ‘thing’ may not surface until the end” (Student 08).

Overall the initial application level of most students was high and most seemed to enter into the spirit of discovery and adventure the subject offered. This was later reflected in their engagement with the deeper complexities required in using the methods.

**Question 2: What was it like, trying to understand what the ToE was asking for, and using it for the first time? What difficulties did I have?**

This question probes the early experiences of the students in starting to work with the ToE for the first time; it describes their first impressions. Ninety students took part in this project so the range of difficulties and issues they each had is quite varied. Below I have summarised some of the more prevalent issues they mentioned in response to this question
… It looks complicated

An interesting aspect of the project which arose quite early was the initial appearance of the ToE spreadsheet form. The students’ perception was that it looked complicated and difficult. This was largely dispelled in the tutorials but lead to some being ‘put off’ by it; developing an initial resistance to engage with it. Many expressed surprise that it was easier once they started than it had first appeared.

Writing a narrative

Students’ approaches to the writing of phenomenologically rich narratives met with mixed responses. Some struggled to find relevance between their description and the ToE process while others expressed an almost ‘cathartic’ experience in relating the event. The volume of information that emerged in their descriptions, as well as the ease with which it was recalled, surprised many students.

“I found it hard at first to decipher what I should be including in the ToE; until I really loosened up and let the memories flow with their own weight. It was a like a bottle of water; if you tip it directly up-side down then the contents spill out staggered and sputtered. However, if you tip it gently on an angle, the water will flow out smoothly” (Student 70).

… I had some difficulties

The difficulties described by students at this early stage of the ToE process, were extremely varied. At least forty per cent of students were international with English as a second language. This posed many problems for them in understanding written instructions, explanations and the background material as they were written for advanced English practitioners.

A number of students expressed difficulty coming to terms with the idea that the ToE process was not ‘linear’. As the ToE was presented in a spreadsheet
format, they strongly felt the need to look for logical relationships between columns of information. They struggled to let go of this type of thinking and to think of the information in a more qualitative way. Generally students struggled with the notion of looking at the information they had accumulated, not for what it said on face value but for what its possible multiple meanings might be. This seemed to demand a depth of thinking and a fluidity of abstract thinking that they were unaccustomed to and made them uncomfortable.

A number of students expressed difficulties getting consistent guidance from tutors and myself. This is not surprising considering the tutors were using the methods for the first time themselves and had the same difficulties understanding it as the students did.

The aspect of the ToE that offered the most difficulties for students were the Head or Cognitive Factors. Understanding and differentiating between internalised ‘reflexive’ thinking and externalised, ‘reflective’ thinking needed to be explained more fully, in order for them to make easier and better determinations of their data.

Another consistent difficulty arose from students’ lack of understanding of where the whole ToE process was going, and why they were doing each step. Having clarity at the end of the process was some compensation for having difficulty coming to grips with the whole process from the front end.

However this could not be avoided, as the experience of learning this process is in the experience of doing the process, and this cannot be achieved without some effort the first time around.

Many students found the ToE repetitive and tedious. They commented on the seemingly circular nature of several of the ToE steps, and that after the process was completed they felt that the amount of work they had put into it was an ‘over analysis’ of the research even though they appreciated the final result.
Many also struggled with the exploratory nature of the project and having to suspend their natural propensity to ‘make something happen’. They often expressed the urge to rush ahead, skip steps or at least use what was coming up next to guide what they did in the preceding step. Resisting this felt foreign to them.

“It was like delving into the unknown, I did not know what the outcome of the ToE was going to be and I did not even have a clue as to what the outcome was going to be like. I had to record data very openly and not be selective of the initial data.

Question 3: Now that I have entered all my data into the ToE, and worked with it for a while, what do I think of the ‘ToE’ experience? How do I think about it now? What might I do differently, next time?

This question attempts to uncover the student’s early experiences and impressions after working with the ToE for a short time on their own and on their own data.

Apart from the expected difficulties faced in coming to terms with an unfamiliar research analysis method, students generally seemed to embrace the early stages of the ToE, but described some common teething problems. They consistently commented that next time they would plan their data collection methods more carefully. They realised how important the quality and diversity of information gathered was to their recollection and description of the experience. They commented that knowing now what they needed to do with the information in the first steps of the ToE, would next time influence, what they gathered and how.

Question 4: What was it like working with a ToE in a group? How difficult/easy was it pooling our information about this experience together and making sense of it?
The students had to bring their individual information into the team environment and combine it with the information from other team members. This question explores the mechanical issues as well as the team dynamics affecting the performance of this part of the project. Consistently students reported basic logistical issues related to the team getting together with clashing schedules and competing demands on their time. They also reported that when the team’s information was collated there was a lot of repetition of information that was tedious and time consuming to reduce. This reduction process, while onerous, did however benefit students with many reporting a deeper understanding of the experience after it.

“… this process was beneficial and was rather interesting, involving each piece of data being explained and explored further by the responsible group member. It offered a different insight into the events that unfolded on the night of the party” (Student 13).

The team dynamics exposed a number of interesting issues. Some teams appreciated that the presence at the ‘party’ event of other members acted as a backstop or support for documenting aspects of the experience that others may have missed.

Developing meaning is a vital aspect of the ToE and agreeing on the multiple meanings within an experience proved a difficult thing for many teams. Some embraced the development of multiple meanings out of their data as a challenge while others found the process of coming to consensus on many facets of the details being considered, both tedious and painstaking. These same groups often had difficulty agreeing on the interpretation of instructions within the ToE and so were additionally dysfunctional when it came to applying them. This situation was hampered on many levels by the fact that data was presented in English and subtle interpretations of text were required often by teams with varying language skills.
Question 5: What did I and the group think about our combined experiences (of the party) after we had entered all our data into the ToE? How did our thinking about the experience change …..or not?

This question probes the students’ reactions to similarities or differences between their experience of the party and those of their other team members. The majority said they had not changed their perception of the experience however they had become much more aware of the views of others in the same experiential space.

“Our thinking did not change but we were certainly more aware of the different aspects of things and how different people interpret things differently even on one subject” (Student 61).

Students commented that they became much more aware of other emotional aspects of the experience in the analysis. Through their team interactions they realised that in their individual analysis and at the time of the experience, there were many other types of emotions present. In their reflections they mention reliving feelings of vulnerability, discovering emotions they had forgotten and developing a greater appreciation and awareness of the emotions they and others were having at the time of the experience.

“Different people meant different perspectives and approaches to the observations and to the event itself. Some of us were in a different emotional state than others and we also have different personalities. All this contributed to a variety of different observations that enriched the overall fragments” (Student 61).

Question 6: Reflecting back on my comments in week one, how had I thought this project was going to play out? I now feel that…

This question asks students to reflect on their earlier ideas about this project how their thinking may have changed or remained the same after experiencing the ToE methods.
Party problems

Many students were again preoccupied with issues related to the mechanics of the party as a project; how they personally felt about partying; how they had dealt with social issues related to partying with a group of strangers and how effective the party had been for them as a research resource, and so forth.

Many also said that the opinions they had held in week one had not changed very much but that there were now some aspects of the project that they had either enjoyed or learned from.

“Turned out to be mostly what I expected, but still intriguing and worthwhile, if one has the time to sort through experiences as such” (Student 67).

…it’s easier than I thought - harder than I thought …but

The majority felt that it was either easier or harder than they had thought but again with some provisions. Those that thought it was easier mentioned that it was also fun, challenging, made them think hard and some even said they didn’t know why they thought it was going to be hard in the first place.

Those that saw it as harder than initially thought, mentioned having to think harder as well as it being a tedious or protracted process. In almost every case, students that had said something negative, followed this with a ‘but’ and said something positive.

… there were disappointing or good outcomes … but

Some students expressed disappointment with the final outcomes of the ToE.

“I am rather surprised at our super ordinary elements. I thought they may have been a bit more exiting/interesting but I do think they would have been if we were out with our own group of friends as our priorities would change and we would have a more authentic experience” (Student 08).
As there was a significant effort required to gather, analyse and interpret the data, students felt that there should have been a more significant outcome and simply to derive a few words was not enough. On the positive side, students expressed gratitude that they had learned new ways of seeing things. One put it as not ‘what you are expecting to find’ but ‘what you can find’ (Student 04).

Many students also mentioned that they intended to use this method again but perhaps next time it would not be in a team, but individually. Others indicated that they had had a fundamental shift in the way they saw their design role.

“Documenting experiences is an interesting, different and reverse way to design. I have always been taught that design stems from a need. This method turns that concept upside down, by researching the environment and systems in order to find a problem to solve with a design solution” (Student 12).

To others it changed the way they viewed design research.

“I thought that this project will shape my observational skill, but now I found that not only it taught me how to look/observe but also taught me to look deeper into the observations” (Student 16).

The sentiments expressed by many students suggested they had developed a greater appreciation of deeper layers existing within everyday experience, beyond the obvious. They said that the methods had enabled them to see these layers more clearly.

**Question 7: If I were to summarise my experiences of the last few weeks, in this project, what would I say are the things I am most happy about?**

This question is relatively self-explanatory with a simple proposition - what was good about the experience?
Students’ responses were as usual quite varied, ranging from cynically quipping that they were ‘glad that it is over’ to revelatory descriptions of personal development and self-discovery. A good number of the students simply stated that they had had fun or enjoyed the experience. While I know there were some who did not enjoy working in groups, most made special mention of the enjoyable side of working with their team members on a party experience, especially the way they collectively evolved their understanding through mutual support. Many could be said to have had a satisfying learning experience. They described the satisfaction they felt in working hard to understand the ToE, realising that understanding and then successfully completing the ToE. Many said they could see the benefits of the process to their thinking and design abilities, appreciating that learning this new ‘research tool’ would help them to design better. A number of students described their experience in terms of learning a new way to think; as one student said, “It has allowed me to see a different way to approach design” (Student 36). This notion of new ways of thinking evidenced in statements like “allowing the elements of the experience to guide the outcome” (Student 06), “a new way of doing something, realising that there is more than one way of doing something, and that you don’t always have to do something in a way that you have been told how it’s done” (Student 12). Others spoke appreciatively about the structured approach to data gathering and the relief they felt that the ToE data could be interacted with at any stage in the process. This, they said, offered a sense of freedom with the analysis, fostering a more relaxed process. The ability to gain new perspectives of people and ‘ordinary’ aspects of life was seen as benefiting their ability to design.

“everything occurs on just one level or dimension but can be seen from numerous viewpoints and can hold endless information” (Student 21).
The possibility of using the methods in future design work was well represented in students’ comments.

“Although I still consider myself an amateur in this ToE methodology, I can certainly see myself applying aspects, if not the entire process, to future design situations” (Student 70).

A significant number of students commented that they had learned something about themselves in the ToE process. Things like getting to know themselves better, pushing their previous boundaries of knowledge and a sense of achievement at successfully completing a difficult task.

Question 8: And the things I am most unhappy about are ...

This question offers particular insights for improvements to the process.

A large number of students had issues with working in teams. These issues principally centred around the logistics of getting the team together to do the team work, conflicts with other commitments, getting all members to equitably contribute, as well as personality and cultural differences. None of these issues helped by the time restrictions were placed on the project. Forcing relative strangers to bond and be quickly productive, for many, was too rushed.

Around ten per cent expressed disappointment with the ToE experience, saying it was tedious and repetitive or not the exciting experience they had expected.

“There were certainly bits that were interesting, but I just feel as though I’ve been wasting my time a bit. The whole thing feels a bit like it was pulled together from some random source and forced into shape as a Design Futures exercise” (Student 69).

A similar number found presentation of the ToE to be an issue with some students complaining about the spreadsheet format and using Excel. At
times they found the process confusing or repetitive and the instructions difficult to follow.

“The format of the ToE in excel could have been so much better. Next time, get some visual communicators involved in shaping the work sheet” (Student 53).

A significant number wanted to be better informed about where the process was going at the outset. They said they would have been less stressed and more focussed if they had a clearer understanding of what the goals and objectives of the project were. This fed into others desire to understand how the outcomes of the research would inform their future designs. They did not get the connection between being better informed through the research and designing better from this more informed standpoint.

“The fact that I didn’t know what I was doing half of the time. I think the process is really good, but most of the time I was unsure whether I was doing it correctly and tying myself up in knots over it” (Student 35).
8.1.3.2 Summary of the UTS trial

Students’ overall reaction to the trial was positive with a significant number offering very positive responses. The project succeeded in providing an experiential learning vehicle from which most gained a rewarding learning experience. The ToE methods succeeded in being teachable, testable and provided a deeper understanding of the experience in most instances where due diligence was applied. As it was a module within a studio project the UTS trial did not culminate in student design outcomes so the effectiveness of the methods on their designing could not be judged. The method of teaching and presentation of the ToE methods needs further development and refinement in line with student and tutors comments below.

The most important points that were consistently raised.

- The ToE presented as an Excel spread sheet creates negative barriers to perception, creativity and interaction. A more fluid, abstract and designerly interface could be more productive and provide less complicated interaction.

- A thorough briefing on all aspects of the ToE is essential when students first encounter the ToE method. A full explanation should be given, of the individual elements of the taxonomy (particularly the cognitive elements) as well as how the steps in the subsequent (SEEing) analysis help to achieve specific design goals and objectives.

- Careful planning for data collection is essential. Experiential samples need to be as rich and diverse as possible. This ensures the descriptive narratives are equally rich and provide a good basis for gaining significant results from the analysis.

- Conducting the ToE methods in groups presented both positive and negative effects. Groups tend to enhance the range of possibilities and
depth of interpretation at various stages of development. There are however, indications that individuals feel restricted and are less truthful with personal disclosures and exposing their vulnerabilities when contributing to group interpretations.

- Students would benefit from having more practical experience with actual interpretation of data, prior to starting the ToE process so as to develop familiarity with, and so be more relaxed with, the interpretative process.
- Students had difficulty differentiating between the ‘party’ project itself and the ‘ToE’ learning exercise. The object of the project was to learn the research methods, but some students were so focussed on the topic of the project (which was quite secondary), that they missed or did not recognise if they had achieved any learning.
8.2 VALIDATION TRIAL - GERMANY

8.2.1 University of Applied Sciences (UAS) Cologne

Faculty of Design, Köln International School of Design (KISD),
October – December 2006
KISD 2006 academic theme: Public Design
Project theme: Being a passenger
Project title: Design from Life

8.2.1.1 Context of the trial

On October 17, 2006, what is referred to as a ‘medium term’ project (eight
weeks) began at KISD. Between ten and fifteen students were expected to
elect to join this subject (all subjects are elective at KISD). The process began
as usual with the winter semester booklet published on the KISD website
(see Appendix 8.03 - KISD Winter programme, page 6). This is part of the
normal operating procedure for KISD, in that a ‘promotional style’
description (see excerpt below) of each of the project offerings is included in
this type of booklet and students choose from which projects (short, medium
or long term) they are interested in enrolling in, for that semester. I was
advised shortly before starting this medium term (eight week) project, that
enrolments had been closed after twentyfive students enrolled (the
maximum allowable per class).
This medium term project was ‘packaged’ for students as the ‘Design from
Life ’project, meaning its aim was to help students to learn to design from an
understanding of everyday life experiences (see description below).
This project is about developing understandings of everyday human experience. What better way to do this than to be a part of the experience to be understood. You will choose an everyday situation that interests you, deeply insert yourself into that experience and get to know it so intimately, that when you are called on to design for it, you achieve extraordinary results.

This is a great opportunity for personal growth in design thinking. Using two new design research methods, you will explore ways these methods can be used to produce innovative new design ideas. More importantly, you will experience ways of understanding the world that add unprecedented richness and depth to your design thinking.

8.2.1.2 The nature of participants in the trial

Students at KISD are not classified by discipline, they are essentially cross-disciplinary\textsuperscript{135}, but often have a ‘major’ stream in graphics, product or service design and so forth. Any project may include students from first year to Masters level. This egalitarian and eclectic approach to class constitution provides a rich diversity of interests and levels of experience. To also add to this blending of expertise and perspectives, the students come from a very broad range of nationalities. In this project there were fourteen different nationalities represented. Students at KISD must apply to attend the school by presentation of portfolio and by interview as well as having fluency in German. After finishing high school and before applying to KISD, they must have gained some life experience and maturity through either working or travelling for one or two years. Students in my group were mostly in their early to late twenties, with slightly more females to males. They came from Germany (a third of the class), Bavaria, Austria, Thailand, Kenya, Russia, Scotland, Ireland, England, Poland, United States, South America, Estonia and Australia. Classes were held in English, however with the diversity of

\textsuperscript{135} Students enrol in a Diploma or Bachelor degree in Design, which is a broadly based - professional designer oriented, education package including specialist courses from many design disciplines and visiting academics.
first languages within the group, I decided early in the project that each student could elect to do their data entry and analysis in the language they were most familiar with; the language which allowed them the greatest freedom for understanding and interpreting the texts they had written. The only provision was that at the end of the project they would reinterpret their final findings into English. This would also be the language in which they were to present their final conceptual development for public exhibition.

8.2.2 Pedagogical perspectives

Tutorials and workshops were structured and conducted by myself with the aid of a teaching assistant. The first hour of each tutorial involved a ‘team meeting’ atmosphere designed to enhance the group’s unity and discourage a ‘competitive’ approach to the ‘Design from Life’ project (this turned out to be unnecessary as the group had an unusually egalitarian esprit de corps). These meetings were run using Experiential Learning techniques such as breaking into small groups to discuss ‘issues of the day’. These break-out meetings were followed by a short presentation from a spokesperson (each person took a turn) from each group who reported to the main group on the subgroups discussions of key issues or learning. This stimulated broader discussion and sharing of information for the whole group.
At all stages, students were invited to be proactively critical in their engagement with the process being used in the project as well as their individual research assignment. It was presented to them as ‘we are developing new research methods here and would like your help’. It was made clear that nothing in the methods being used was so rigidly fixed that it could not be debated or changed if it did not work for them. I tried to make it clear that this was an explorative project and even though the methods had been trialled in Sydney and were ‘safe’ and successful in that instance, I wanted them to personally ‘buy‐into’ the process by developing a sense of ownership and participation in its ongoing improvement.

The project utilised a very similar set of three, ToE worksheets as in the UTS trials (see Appendix 7.03 ToE - SEEing worksheets, Tables 1, 2, 3). Minor changes and improvements to the instructions and definitions were made as they arose in use.

Some students were unfamiliar with MS Excel, and because it was necessary to do the data analysis in Excel136, special spreadsheet classes were held for them in the computer room (in the tutorial’s second hour) in the first few weeks of the analysis. In the early stages of working with the ToE, all students brought their own data into the computer lab and worked on it in a ‘hands on’ environment with the teaching assistant and myself.

136 In the development of these methods, NVivo qualitative data analysis software was used. This program is much better to use for this kind of analysis however it was unavailable to the KISD students due to site license issues and the prohibitive amount of time it would have taken to train them in the software within the projects schedule. Excel was the next best alternative. His (?) is a key area for further research.
These weekly workshops proved to be highly beneficial in helping students to understand each of the steps in the SEEing analysis phase. In the first few workshops we concentrated on one step at a time. Each week covering another step in the SEEing interpretive process, with at least one workshop on each of the more complex concepts in Steps 3, 4, 5 and 6. This was a deliberately slow process, designed to give students time to fully understand each concept dealt with in the workshop and then to apply this concept to their own data in their own time, in readiness for the next step the following week. This was the tempo until we reached Steps 7, 8 and 9 which were completed by students in their own time after tutorial instruction and discussion.

Throughout this project students were largely self-directed in how they went about gathering their project focussed field research data, writing up field research and analysing their data outside the tutorial times. In this way much of the tutorial time could be focussed on why they were doing these tasks in these ways. Tutorials were intentionally kept relaxed and discursive but focused on discussion and the understanding of the philosophical and practical reasoning for their research activities.

8.2.2.1 Team and Project logistics

Half the students chose to work individually (ten) and half elected to work in teams of two (six teams). The project timeline was split into three phases - Data collection, Data analysis and synthesis and Creative and exhibition development.
Project timeline

Week 1   Introduction to course and concept

Data Collection

Week 2   Step 1   Field research
Week 3   Step 2a + 2b  Research and writing

Data analysis

Week 4   Step 3   Separating fragments of the experience
Week 5   Step 4   Developing plural meanings
Week 6   Steps 5, 6, 7, 8, 9  Distilling out the ‘Superordinary’ elements

Concept development and exhibition

Week 7   Concept ideation
Week 8   Concept realisation and exhibition development

8.2.2.2 Understanding the experience of...

Research topics were chosen by each student according to their personal interests. In this regard, my only instruction was to choose an experience in the everyday world around them, that they were personally motivated towards understanding better. Their diverse choices of topic included a desire to understand the experience of:

...being a passenger in an elevator
...being a passenger of a personal timepiece
...being a student attending a lecture
...buying train tickets from ticket machines
...driving by Mitfahrgelegenheit (agency for arranged lifts)
...going to a classical concert
...going to the park
...jogging
...living in a student house
...having lunch at the ‘Mensa’ (student cafeteria)
…morning swimming in a public pool
…visiting the Köln Dom (Cathedral)
…the snooze button
…visiting small art galleries in Köln
…window shopping in the centre of Köln
…writing a (mobile phone) text message on the go

8.2.2.3 Assessment and other requirements

At KISD students either pass or fail as there are no grades given. Attendance was taken and level of individual participation noted. In this project there were no failures as all students were deeply involved. Compulsory but non-assessable submissions included an individual ToE worksheet from each student in their own language, and a structured Reflective Journal similar to the one used in the UTS trials. The ToE worksheet was collected and has been filed for later evaluation if required.

8.2.3 Student perspectives: reflections on the process

The structure of the KISD Reflective Journal was similar to that used by students at UTS in that it followed a set of eight sequential questions (see Appendix 8.04). This chronological sequence was designed to garner student impressions of the process at key stages throughout the project. The similarity with the UTS Journal, was maintained to facilitate comparison of the two trials if it was later required. While it might be useful from a pedagogical or experiential learning standpoint, such a comparison is not considered valuable to the present goals of this thesis and has been set aside for the moment.
8.2.3.1 Analysis of reflective journal responses

The perspectives put forward in the students’ Reflective Journals were subsequently analysed in NVivo in an effort to evaluate the communicability of the ToE-SEEing methods as a pedagogical concept and their efficacy as design research tools. The results of this analysis are presented within the structure of the following sequential set of questions.

**Question 1: What I am expecting to get out of this research project? What do I think it will be like?**

*Expectations*

KISD students by comparison to UTS students entered into the project more positively. There were of course varying degrees of excitement but a large segment expressed heightened expectations around the possibility of learning something that would improve their ability to design.

“I always searched for different design processes to improve our way of understanding design problems to get better and more efficient results. I hope this will be a really new way to do this and I expect that we could implement this method successfully with real cases in the future” (Student 10).

Their expectations included a desire to be able to better understand “social issues and situations” and the world around them.

“As soon as I got started in experiencing my experience, I found I was noticing so many aspects in an activity I wouldn’t otherwise give much thought about” (Student 03).

This learning expectation was further extended to include wanting to learn ways that enabled them to design from experience and to enjoy a new learning experience in the process.

“With this project, I am hoping to understand the importance in having the designer fully immersed in the design process in order to achieve a design which is based on knowledge but most important, experience” (Student 03).
Uncertainty

As well as their initial expectations around the project, students quite understandably had some reservations. Most of these uncertainties were of a fairly neutral nature, involving feelings of unfamiliarity tinged with fear of what would be expected of them, mixed with the excitement of learning something new.

“I’m not sure about this yet. I have got a lot of questions and the result of the project is not really clear for me, yet. Who, except me, will be interested in the four words I will have in the end? How much information do I have to collect?” (Student 01);

Many expressed a very mature and level headed preparedness to ‘give it a fair go’, to see where it took them and to evaluate it afterwards.

“I am going into this with as little preconceptions as possible keeping my mind open until I have done it, accept the way it is done and do it, then question it afterwards, because I have no idea exactly what it is about at the moment” (Student 02).

The uncertainty and reserve expressed by these students can be understood in the context that for many of them this was their first year, first project, first experience at KISD and the university. With this understanding it is commendable how prepared they were to approach the project with such maturity.

Question 2: What was it was like, trying to understand what the ToE was asking for, and using it for the first time? What difficulties did I have?

This question probes the impact on the students of their first encounter of working with the ToE in the Excel format. I have subdivided their responses into beginning middle and end phases.
Starting out

Most students had difficulty initially coming to terms with the complexity of the ToE as a concept and particularly how to work with it as an Excel spreadsheet.

“So tired of this bloody spreadsheet that I have forgotten what the experience was actually like. I feel I should go back and do the experience again, because my experience is no longer my experience, it is a bunch of cells and numbers in excel” (Student 02).

Even though the steps and instructions were clearly provided and many said these were helpful, the process is an abstract subjective process requiring a constructive and receptive mind prepared to wrestle with the work and accept a non-positivist right and wrong perspective. It is fluid, abstract and quite forgiving. Students were often “afraid of doing something wrong” (Student 01) even though I encouraged them to relax with it and not worry so much, telling them repeatedly that there was no right or wrong and to simply do their best with it. The following gives an inkling of the resolve with which many students approached the task while also hinting at their anguish.

“I found myself trying to reuse a theme I had already written so I wouldn’t end up with lots of similar themes. A disadvantage of this was that I realised I was forcing themes onto fragments even if it only had a small relation. I then reverted back to phrasing a new theme for each fragment so it had a strong link to the corresponding fragment. Then, after sorting it, I could group similar themes together and if necessary, rename it to one broader theme. As I then progressed onto developing the meanings from the themes, I realised that often there were multiple meanings stemming from fragments which fell into different themes. Consequently, I went back to reorganise my fragments so that they appeared under each relevant meta-theme, and giving them their corresponding theme name” (Student 03).

Many wanted a ‘crystal ball’ view of the end product given to them. They regularly asked to know where this was going, so they could plan for it. This is an expected response to insecurity and normal thinking for an organised
mind. It follows the ‘tell me where you want to go and I will draw a map of how to get there’, type of thinking that designers are used to using. The problem with the ToE process is that the researcher does not know the destination and must go through the journey to find out.

“I wouldn’t mind knowing what’s coming and how we will have to use and present our findings. Just to know what to expect, rather than to just start working on it” (Student 05).

Initially coming to grips with the terms used in aspects of the ToE and the descriptions of steps posed difficulty for some students, particularly those whose first language was not English.

“Not all of the words in ToE were clear for me from the very beginning, but after reading the descriptions of every column, I could understand it more precisely. It seemed to be so complicated; there were so many different divisions. I was a bit overwhelmed with the amount of unknown words” (Student 07).

The SEEing process

Once into the analysis steps, students seemed to relax a little even though the process became more tedious and arduous, many referring to it as time consuming and repetitious. Because of this many struggled to find shortcuts and more efficient ways to deal with their volumes of data.

After working with ToE and putting all of my data into it, it seems much more clear and understandable. It is also much easier than I thought. I had some moments of hesitation because I didn’t know were to put some of my data, but I decided to do it in the way I feel and not worry too much about it” (Student 07).

“Although often boring and frustrating (there is so much to do!), I found the ToE a very detailed and concise way of recording and analysing data. It was very satisfying to get to the final steps and see the outcome of all my work” (Student 05).

Language continued to be an issue in the interpretation stage as would be expected. Some commented that in wrestling with the interpretations in one
language, another made it clearer and through this wrestling process they arrived at a clearer understanding of the aspect of the experience they were studying. So in some ways language difficulties can be an advantage. Definitely, in endeavouring to teach these methods, language issues continued to hinder my communication of many of the more abstract examples of interpretation.

“Working with someone in English which isn’t their first language, so many long discussions about the exact meanings of words. Taking even longer because of it, but interesting, and developing themes that exactly represent how we want it to both need to agree and understand all the words. I have never thought about the English language or words so much” (Student 02)

Quite a few wished they could start the process again so they could get it right or alter the way they had done it, so as to do it more efficiently. This shows that they had reflected on their supposed mistakes and had learned from the experience. A universal reaction was that ‘next time’ it would be much easier.

Aftermath

Many of the comments dealing with how students felt after using the ToE, centered on their frustration with just getting up to speed. It seems that once they engaged with the exercise they found it heavy going but do-able, generally coming out of it with a deeper understanding of the experience and the process. Some issues however, highlighted opportunities for improvement. A number commented that the Cognitive Experience section was difficult to understand. The Cognition and Connation definitions provided were confusing they said and also, probably because of this, many found these aspects very difficult to recognise within an experience.

Cognition refers to the conscious thinking component of a persons internalised ‘thinking’ and Connation refers to more complex thinking.
related to externalised intentions or ‘doing’. These concepts will need deeper
explanation and in a manner that students can more easily relate to in future
projects.

“I found it relatively easy to fill in the ToE, especially once I got the hang of it. The
only sections I found hard were the ‘reflective’ and ‘reflexive’ parts” (Student 05).

“It would be better if the cognitive and contextual parts of ToE were explained
better. To be honest, I am still not sure if I understood them. Maybe giving them
names that anybody could understand would help” (Student 04).

Disillusionment and disappoint was expressed in relation to the depth and
intensity of interrogation used in the analysis. Some mentioned losing sight
of the experience within the rigour of analysis and getting lost within its
complexity.

“…as always happens when you think about anything too much - it becomes
meaningless. meaning comes in the mystery, as soon as you try to give these things
meanings and summaries and weightings they lose what they were in the first place
- the little things that make something what it is because you don’t have to think
about them, you just enjoy them. The problem of design research, as soon as you try
to think about it, it becomes inauthentic” (Student 02).

There was encouraging evidence of students reflecting on the process as a
whole and not simply performing the exercise mechanically as instructed. In
the first few weeks they were invited to contribute to the development of the
method and while not all did this openly or publicly in tutorials, there was
much to suggest that they did this in private.

“I thought more about things when I didn’t have to think about them, if that makes
any sense?” (Student 02).

These first explorations of the ToE left many with surprising and rewarding
outcomes, suggesting they were done correctly, that is, without overly
‘directing’ or forcing their interpretations.
“I later discovered it enabled a deeper understanding of the experience” (Student 03).

“I was a little surprised that some of the themes continued right through to the end. I didn’t think some of them were so impressionable in my experience” (Student 05).

“I discovered some qualities of our experience that I would not have thought of before” (Student 11).

I am sure that the ‘discoveries’ or ‘surprises’ uncovered by some students helped to motivate others to look more closely at their data for similar finds.

**Question 3: Now that I have entered all my data into the ToE, and worked with it for a while, what do I think of the ‘ToE’ experience? How do I think about it now? What might I do differently, next time.**

This question continues the theme of Question 2 but goes beyond students’ first impressions to focus on their experiences after working for some time with the ToE on their own data, and finishes by probing how their understanding has changed.

The majority of students expressed some version of ‘it’s interesting’. Their comments suggested it had provided a good source of interesting ideas and access to interesting aspects of the experience. The project had given them a new design research tool that they might find useful in the future. It had at least in this instance, enabled them to know an experience inside out through a structured form of analysis.

**Subjectivity**

One of the most common and fundamentally important concerns faced by students involved the subjective relationship they had developed with the experiential data. This concern for validity undermined the confidence of many students, prompting them to question the value of their findings. Some felt that because they had gathered the data, they had analysed it and they
had developed the findings that it was completely subjective and would not be understandable by or interpretable to others. While many said they had attained a profoundly deep personal understanding of their chosen experience, they did not trust that this understanding reflected anything other than their own personal views of it. This kind of doubt became more intense and personally threatening when they considered the upcoming exhibition, which was to be a public display of their understanding. They worried that others simply would not ‘get it’, might misunderstand the experience presented or worse, dismiss it as a shallow representation from their own imagination.

*It is now my challenge to communicate them ‘in a machine’ so people do understand them. Words only say so much. How do we know if anyone else’s perception of anything is the same as my perception? How do I know that ‘blue’ is the same colour for me and for someone else? How do you explain it?...and these four words don’t mean the same to anyone else except me, so presenting them doesn’t manifest exactly what I mean my them”* (Student 02).

Strangely, in some, this feeling could not be shaken by the knowledge that their understanding had originated from experiential data drawn from many sources other than themselves; that they had also become immersed in the experience and learned its language to the point of being an ‘expert’ interpreter of its various meanings. It is remarkable that in these moments of self-doubt the supportive aspects of the process seemed to be forgotten.

*More uncertainty*

The entire process was strongly defined by uncertainty. This is no surprise because if the outcome was in any way certain, there would be no need to search for it. Students wrestled throughout the project with various forms of uncertainty. They expressed the previously mentioned uncertainty coming into the project, uncertainty during the process as to whether or not they
were doing the process ‘right’. In the middle they were uncertain about the correctness of their interpretations and towards the end all of these uncertainties combined into their uncertainty about the outcome of their work.

“Now I have just finished giving the topic to all of the fragments and I am not sure if what I did is ok, because in different fields of experience many of the data’s fragments are being repeated and that is why some of the topics repeat quite often even if it is a different aspect of experience...I am not sure if this is the way it is supposed to be, we will see ha ha” (Student 07).

To their credit, students continued to labour through their uncertainties, to wrestle with the many moments of doubt, striving to suppress their natural desire for clear ‘answers’ to present themselves. It was not ‘easy’.

“There were many moments I just had to make a pragmatic decision (on how to get a meaning out of a fragment / how to transform an essential meaning into a Superordinary element, and so on) instead of a clear or obvious choice” (Student 11).

After the success of the exhibition and the positive acknowledgements they received from its many viewers, their relief was palpable and they became more certain about their outcomes.

What might be done differently?
Preparation for doing the ToE was the starting point for where some thought they would do it differently next time. Commonly, they said they should have initially gathered more diverse or meaningful data, as well as written more as they researched, rather than leaving it until the end.

“Next time...hmmm I would try to collect more data at the beginning, perhaps find some more interesting way to collect them and record them” (Student 07).

They mentioned the need to allow more time for analysis and generally managing their time better due to the time consuming nature of the process.
and never far away the criticism of using Excel, which only slowed things down even further.

In terms of the practicality of working with the ToE and the Seen analysis process in general, students’ comments are quite diverse. They mentioned sticking points and suggestions such as:
- maybe not working so methodically down a column but also across
- capturing fleeting feelings about the experience as it happened, rather than presuming to remember it at the next stage. This problem comes both with Excel and doing something for the first time.
- saving the different versions of the ToE during the progression through the steps. This made it very hard to backtrack through the steps and thus refer to corresponding data.
- Take a little bit more time for understanding the meta-themes to avoid putting each sentence in almost each meta-theme.
- Try to get to the [Superordinary] words much quicker.
- Work with NVivo to do the analysis faster.

One student summed up the frustration of working with a new method and the ‘next time’ concept quite well.

“I’d do a whole lot differently next time, but this is too hard to describe. I think everybody has to make this experience by himself. I also think that everyone would do it differently” (Student 11).

The project itself was for many a very deeply involving and demanding experience. The social and pedagogical ramifications of eight intense weeks together needed a deeper debriefing process than one brief session allowed. This is something that needs further exploration not only as a source of further learning but also as a way of possibly taking that learning to a much deeper level.
“I think that I would have liked to study the ToE more after finishing it. Not to just study the experience more but to study the ToE process. To ToE the experience of ‘ToE’ing’ “ (Student 08).

Question 4: What was it like working with a ToE in a group? How difficult/easy was it pooling our information about this experience together and making sense of it?

Half the class were in groups of two and had slightly different views of the ToE experience from that perspective. Many said that the process took a little longer for them to complete as a team, than their colleagues who were doing it individually, however there were some advantages to this.

“I liked to work in a group and I found that we didn’t have many difficulties on pooling the information due to misunderstandings between us. It was just a matter of time and concentrated work” (Student 10).

In general students commented that they got more out of working as a team. The process of jointly interrogating an aspect of the experience and coming to an agreed understanding deepened their individual understandings.

“It was good to get at exactly what you meant when working with someone, it had to be agreed on, discussed through, and I knew it made sense to more than just me, especially because English wasn’t her first language. It made sense with more than just words in a way” (Student 02).

Efforts to establish a group consensus in interpretation and description of aspects of the experience also enabled deeper layers of understanding to be achieved. The process required them to negotiate an understanding with the other team member that would enable them to communicate a unified interpretation; this drew out a better understanding in each of them. The outcome as a whole was more interesting than the parts.

“Two people’s experiences thought through to their most important, the other person able to supply the words and feelings of the experience which is so difficult to
pinpoint for yourself, because it is always internal whereas documenting it is very external, the discussion acts as a bridge between the internal and the external” (Student 02).

Recording different aspects of the same experiential situation provided a richer diversity of material to work with. Students reported this as an advantage in that it not only broadened their data but added depth to their individual interpretations of the experience as a whole.

“Both of us wrote individual narratives of the experiences we attended together. So we had two narratives of each experience. Apart from both of us using both our own narratives and the other’s ones, we decided to do the rest of the whole ToE separately, each on his own. I think having a second narrative by a person who had the same experience helps a lot to bring in new aspects of this experience” (Student 11).

Question 5: What had I and the group thought about our combined experiences after we had entered all our data into the ToE? How had our thinking about the experience changed .....or not?

This question probes the changes in students’ views of the experience after working with another person on the same experience. Those who answered this question (and there were very few) did not seem to interpret the question as much different to Question 4 above. Generally however, students’ views after working in their groups are acceptably summarised in this student’s comment. “After doing many analysis [sic] of the information I personally changed my point of view about the problems and important topics from the experience and understood more what it was all about” (Student 10).

Question 6: Reflecting back on my comments in week one and how I thought this project was going to play out, what do I feel now?
This question calls for students to directly reflect on their comments made in week one of the project, with the intention of drawing out how they might see things differently now, and what changes in attitude, understanding or skills are evidenced. I have categorised the following responses in terms of Positive, Negative and Mixed.

Positive responses

The large positive response suggests that overall, students were happy with the way the project turned out even though in many cases it was not quite what they had expected. Some went so far as to suggest that they were “still understanding it and getting more excited about the final results” (Student 10).

Some expressed delight with the effectiveness of their end results,

“It is really cool. I never thought it will work out so exact. My Superordinarys express exactly what I felt by doing the experience. At the end it was like mathematics. There was an answer. Without the ToE I could never express my experience as exact as I can now” (Student 04).

…while others seemed to be more happy about their journey of discovery.

“Going closer to an end gives you some kind of satisfaction, and you are really happy to see some unexpected results, some of them are not that surprising but then you appreciate the way which lead you to those conclusions the whole process, the changes within it” (Student 07).
Negative responses

Negativity mostly centred on expectations that were not met. These included unfulfilled expectations of a definitive ‘product’ design outcome, which prompted speculation about the practical value of the method in practice.

“I was a bit disappointed that, contrarily to what we were talking about at the beginning of the project, the results are not applicable directly to designing for the experience” (Student 11).

“I was slightly disappointed not to tackle designing. I am very curious to know how this project process would affect a design outcome. I know that hopefully having learned this method of research it will help with other projects but I think it would have been good to do some sort of design since now we have lots of knowledge about our individual experiences. It seems like a wasted opportunity, not to directly use what we have learnt. I think if we had done some sort of design it would have been very hard but also exciting a completely new approach and outcome” (Student 05).

Individuals also expressed the disappointment they felt with the end results mainly due to their initial lack of experience with the method. Understandably, they wanted to achieve better results and this could have happened if they knew more of what was expected at the outset. While listed as negative, this is a quite positive statement from the point of view that it also indicates learning growth in their desire to do it differently ‘next time’.

“I am a little disappointed in myself that I didn’t make more of an effort to get some more varied experiences from other people. Also I didn’t really gather this information in a creative way. I had had a good idea but there was not enough time to do this, as I would not have had people’s responses straight away” (Student 05).

Mixed responses

Due to the theoretical nature of the project and the highly abstract, subjective qualities of the methods, it is not surprising that students expressed mixed feelings about the project at the end. Principally, these feelings reflected their uncertainty about how the process might be useful to them in the future or how they might integrate it into their future designing.
“I do feel however, that understanding or trying to understand something so much could be very useful in something designed with society in mind, and a ‘poetic machine’ is maybe just another bit of useless design. Interesting, but useless” (Student 02).

Increasingly, students mixed feelings indicate an ongoing reflection on the project, a coming to terms with what they had done in it, how it had affected them and what they had achieved.

“the entire process turned more complex and kind of abstract, although I’m still understanding it and getting more excited about the final results” –Student 10

**Question 7: If I were to summarise my experiences of the last few weeks, in this project, what would I say are the things I am most happy about?**

In answering this question, students’ strongest responses centred around group activities. The productive and supportive aspects of working in small sub-groups during tutorials ranked high on the positive feedback scale. Other comments described the growth of a relaxed spirit and camaraderie among students struggling with similar aspects of the project. This supportive group dynamic, culminated for many in a very rewarding group experience in the high pressured process of designing and mounting the final exhibition of their work. For many students, this was the highlight of the project.

At the other end of the scale, and from an individual viewpoint, a surprising number commented that because of the intense focus on understanding their own an others experiences, they had come to learn something new about themselves or even to get to know themselves better.

Other positive aspects involved the students’ perceived growth in their design knowledge. They embraced the project as a new way to research and to see this research used to improve their designing. Many commented that
they had gained a new insight into design itself and a “new way of thinking about design process” (Student 10).

“The words and their descriptions of course, seem imperative to the designing process. It’s not just about the stats, or even what people need but about how people welcome it in to their lives and react to it. If you can design like that you can really shape the way people consume” (Student 08).

A striking and gratifying aspect of the students’ feedback was their positive acceptance of the intensity of thinking required during the early analysis process as well as the difficult depth of interpretation demanded in the final stages. Grappling with this unfamiliar intensity of thinking, pushed them beyond their normal comfort levels, which at the time irritated and even angered some of them. Breaking through their barriers to thinking was a significant ‘right of passage’, that for many, provided a greater sense of achievement in their final results.

“I am most happy about the thing that in some way I was forced to think about things which seem obvious, and that ‘hurts’ a bit, in the meaning that it is not that easy, you have to fight a bit to achieve something, but I think it is worth it, you are searching for something more ...something that you don’t realise at once.” (Student 07).

“The ToE was a long and sometimes frustrating process but much more satisfying at the final steps, which goes quicker and you can see you are getting somewhere. I am most happy about the outcome words” (Student 05).
Question 8: What are the things I am most unhappy about?

Negative aspects of the project can be grouped into two key areas related to practicality, the project outcomes and the manner of handling volume data. There was a strong perception that the project outcomes were overly subjective and did not provide definitive direction towards practical design ‘solutions’. Students naturally wanted to design ‘product’ style solutions to problems and opportunities they had uncovered within the analysis. It was difficult for them to stop short of artefact style outcomes and to accept that in this project, demonstrating their understanding of the experience was the goal. Their design brief was to objectify their subjective understanding for an exhibition.

“it was not so easy to accept that the aim of the project was finding the four words. I always had the feeling that something else is missing. I always thought there has to be a solution for a problem in the end” (Student 01).

The second practical difficulty related to students difficulties with handling the volumes of data generated within their analysis. Many expressed frustration with the amount of time it took to understand how to tease out the meanings within their experiences and then to subsequently spend more time developing deeper interpretations. This process was exacerbated by the cumbersome and uncreative mode of analysing data in Excel but mostly related to the daunting way the volume of data expanded as they worked with it. They see themselves as designers not researchers, so the methodical research process saw them ‘chomping at the bit’ to design. This made the final outcome even more frustrating (as mentioned above) as results of their work were not a product but an understanding.

“I think it was difficult because as design students we are all used to visualising or designing at some point, but to be filling out a database for 7 weeks, researching for 7 weeks, it was hard to be motivated” (Student 08).
The ‘Design from Life’ exhibition

The final outcome of the project using the ToE and SEEing methods was a public exhibition of the students’ work. This was approached quite differently to how the students had expected it to be. They and others at the university were used to designing and exhibiting ‘things’ as a result of this kind of design research project. I was convinced that an important aspect of this project was to see the change in their thinking and ability to think. As such I was convinced that a less tangible (concept focussed) exhibition was required. One where their designing would not be judged by the artefact on exhibition (which can easily be dismissed as good/bad design or ‘seen it before’ responses) but one that would represent the ‘thinking’ of the student reflecting the understanding they had achieved from the experience. I conceived of it as an exhibition of their understanding of the experience. I asked them to make this understanding ‘manifest’ for others to see and as they had developed a ‘spiritual’ understanding out of the ToE using the SEEing method, a natural hermeneutic iteration would be to give that
spiritual understanding a machine\textsuperscript{137}-like physical form - in this case, a ‘spiritual machine’\textsuperscript{138}. The title used for the Exhibition and in the documentation theme was,

Manifesting the spiritual essence of an everyday experience; a 'spiritual machine'.

The ‘brief’ for student’s individual/group designs was to,

Manifest\textsuperscript{139} the spiritual\textsuperscript{140} essence of the everyday experience you have studied, by designing a 'spiritual machine'.

As well as the exhibition, the students were completely responsible for the design and generation of a number of documents and publications supporting the project and this exhibition. They are too numerous to show here other than to list them in the appendices.

- Appendix 8.05 - Student generated project report
- Appendix 8.06 - Designing from Life exhibition invitation
- Appendix 8.07 – Designing from Life exhibition video
- Appendix 8.08 - Designing from Life exhibition press release
- Appendix 8.09 - Designing from Life publication flyer
- Appendix 8.10 - Designing from Life postcard

8.2.3.2 Summary of the KISD trial

As a trial of the ToE and SEEing design research methods, the KISD trials were highly successful. Students achieved varying degrees of public acknowledgement and recognition for their exhibited thinking, but overall

\textsuperscript{137} Machine: meaning any technological intervention created by man; something artificial created by man. Technology being something that would not exist in the natural world without the intervention of man.

\textsuperscript{138} Spiritual machine: something artificial (man-made) which has, manifests, celebrates or makes evident, essentially human qualities or human-ness.

\textsuperscript{139} Manifest: meaning to make evident to the senses, esp. to the sight; apparent; distinctly perceived; hence, obvious to the understanding; apparent to the mind; easily apprehensible; plain; not obscure or hidden.

\textsuperscript{140} Spiritual: meaning not of the ‘earthly’ world. In this situation this means, not from a ‘form and function’, ‘features and benefits’ perspective, but directly appealing to a higher concept of human-ness.
there was agreement from academic staff and the greater student body that the results were positive, unexpected and rich. While many students laboured under the Excel interface and the volume of data-processing required, there was universal agreement that the project yielded worthwhile design information as well as a rewarding learning experience. Students engaged deeply with their projects, enjoying a positive experiential learning event and achieving publicly commended results.

In regard to communication outcomes, it was a very successful experiential learning exercise with clearly defined learning outcomes evidenced in the student exhibition. The method is complex and difficult to communicate but is quite teachable. Further development in content and presentation should yield improved results. Opportunities to expand the learning were identified, particularly relating to the provision of more theoretical and philosophical background. Student responses to these elements were surprisingly strong.

- From student feedback in the reflective journals the most important points to note include:

- ‘Doing’ the ToE-SEEing process using Excel as a data management tool is cumbersome and tiresome. A more creative and ‘designerly’ interface is needed to maintain a designer’s enthusiasm for this kind of research. It needs to provide a greater sense of fun and fluidity in the analysis.

- The ToE-SEEing can be done by an individual as well as in teams. Slightly differing results are achieved but both offer a deeper understanding of the experience being studied. There is some evidence to suggest the team approach might offer deeper understandings with some qualifications related to group dynamics.

- The ToE-SEEing process showed itself to be versatile and applicable to a wide range of subject experiences including services, usage of consumer
products as well as everyday human experiences of modern living and places.

- Student expectations about the deliverable aspects of the ToE need to be clarified at the outset of the project to help them appreciate and engage with the direction the teaching is taking them during the project.

- More time is needed to settle into the ToE and its component parts. Using examples to explain each of the stages and having practical exercises in the application of each of the steps would acclimatise students better to what is required of them in their own analysis.

- It is debatable whether a ‘dry run’ or preliminary run through all the steps would be beneficial to students who want to understand where the process is going in order to understand what they are doing at individual stages. This could easily backfire with students jumping steps in order to short cut the process and arrive at outcomes that they ‘already see’. The ToE process of understanding is necessarily not easy but it could be easier.

- Clearer descriptions of the ToE components and the steps within the analysis are needed. Students expressed inconsistency in their understanding of the instructions and explanations supplied.

- Students who seriously engage with the process almost unanimously agreed that it is worthwhile and profoundly productive as a design research tool.

- Students’ concerns and uncertainty relating to the highly subjective nature of the ToE process need to be strongly addressed from the outset. This can be accomplished by stressing a combination of practical reinforcement in the rigorous gathering and analysing of diverse field data while at the same time providing them with a solidly supportive, theoretical grounding.
- Highlighting the positive results of others in previous projects may be a way of encouraging students who are struggling with the analysis process.

- Defining the outcome of the research is still a contentious aspect of the SEEing concept. Turning students’ experiential understandings into a design outcome needs further development particularly in defining what constitutes an outcome; should it be the understanding itself; should it be a product or artefact and/or should it be a communicable concept? These are questions for further development.

- A desire for more post-project ‘debriefing’ was strongly indicated and may help cement aspects of the learning experience as well as clarify any outstanding misconceptions about the process.

- The tutorial group and sub-group discussion formats were highly productive for providing support at many levels. These should be developed further as a means of encouraging self-learning and peer support dynamics.

- The ToE process requires an intensity of thinking that designers are not used to and may initially resist, however overcoming this resistance to ‘abstract thinking’ invariably creates a significant sense of achievement and confidence in the efficacy of their final analysis.
8.3 Chapter summary: the (un-identical) twin trials

In Sydney the mode of teaching is more oriented towards a ‘given’ style of teaching where students are presented with materials and detailed instructions in a step by step manner resulting in less experiential learning and more difficulty embracing the abstract concepts entailed. The Sydney trial was further hampered by a lack of time (the course needed to be condensed into four weeks) resulting in many students feeling pressured and becoming less engaged with the exercise. Those that did manage to engage fully did however respond extremely well and in some cases more favourably than their German counterparts.

In Germany it can be seen that perhaps because of the smaller group and the longer time frame, that the manner of teaching the two methods was more inclusive, more experiential and thus more constructive. The mostly older cohort of students in Germany demonstrated a more worldly level of life experience in their willingness to wrestle with the abstract philosophical nature of the methods particularly the SEEing analysis. However this level of worldly pragmatism seemed to work against them later in the project, becoming evident in their difficulty accepting the experiential ‘manifestation’ as the outcome of all their work. They said that they wanted to design not realising that this was what they had been doing all along.

The twin trials produced a wide range of results but it can be said that the methods were well accepted (with some reservations about process) and that they could be confidently taken to another level with further enhancement in the process and/or in delivery. The next logical level to be explored would be to communicate and trial these methods in a commercial or design practice forum, to establish their efficacy as methods for improving understandings of experience and so improve designers ability to design.
In terms of my own experience of both the trials, I have mixed feelings about the results. I am pleased that the methods were able to be communicated effectively to others and in sufficient cases shown to have had a positive effect on the students understanding of an experience and even their general observations of everyday life. The fact that the methods were able to be used to generate a deeper understanding of a selected experience from which to base their designing activities tells me they work in this regard. Just how this deeper understanding of experience might be developed, such that the prospect of better design is improved, was not clearly demonstrated. The UTS studio design components were not linked closely enough for a definitive evaluation to take place. The UAS exhibition outcome clearly showed the students’ understanding of their researched experience was deep and convincing but it did not demonstrate how this might have affected subsequent product or service design. Their general distrust of the level of subjectivity inherent in the methods is a reflection of deeply rooted design ‘process’ thinking which, while this can be ameliorated through rigour and diversity of data collection, needs its legitimacy to be confirmed in a more pragmatic or commercial environment for them to fully accept it. Design outcomes from the use of the ToE-SEEing processes have yet to be fully tested in a comparative or controlled environment. Evaluating whether designing would be improved by the use of these methods will no doubt be troubled by the very subjective nature of designing. For example; what evaluation criteria could be used to judge designs from one designer with tacit knowledge of an experience versus a designer who had used the ToE-SEEing process to understand an experience? Designers vary greatly in their design ability, so how will the benefit in these processes be judged? Ultimately the success of the methods will be largely determined by designers experience of them. This will be the subject of future research
CHAPTER NINE

CONCLUSIONS,
SUMMARY OF CONTRIBUTIONS,
FUTURE RESEARCH

Figure 9.00: Debating the methods with a student at KISD
CHAPTER NINE - CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH

9.1 Conclusion to the thesis

The guiding research question\(^{141}\), ‘how can we (as designers) understand experience? has been partially answered by the two methods developed in the project.

Firstly, the Taxonomy of Experience (ToE) is a method for systematically structuring the collection and processing of qualitative field data about a particular experience or set of similar experiences. This allows a clear picture of the experience to be developed by the researcher and initial (superficial) understandings of its various values to be comprehended.

The second, the SEEing method, operates on the information contained in the ToE to delve deeper into the experience through a series of interactions designed to draw out deeper meaning at each of four stages. At a certain point physical aspects of the experience are sequestered and the most meaningful intangibles remain; these ‘Superordinary elements’ are the essences of the experience. The SEEing process helps these essences to be seen, extracted and communicated for design purposes.

The secondary lines of inquiry mentioned in my discussion of the Research Question in Chapter Five, have also been answered. Expanding on the primary research question they asked; how to define what experience is? How can it be researched? How can it be made understandable and useful to design?

\(^{141}\) The research question was discussed more fully in Chapter Five
Defining experience as an entity has been formalized to some extent by using the ToE to structure, the capture of data about an experience, enabling a more detailed and momentarily clear view of it to be considered. How experience might be researched has been demonstrated throughout this paper culminating in the two methods described here. The methods presented continue to acknowledge the intangible and ephemeral nature of experience, understanding that while it might not be captured, fixed and labeled, a useful understanding can still be achieved. Focusing the SEEing methods on an experience of interest makes the experience understandable and accessible to the designer. The final distillation of an experience down to its Superordinary essences, provides a concise representation of that experience, enabling it to be communicated to others.

The ToE and SEEing methods have shown themselves to be communicable to and learnable by others. The structure of the methods as they currently stand, were developed in such a way as to enable them to be taught to design students. This was achieved. The learning evidenced (particularly in the German trials) showed that the methods could be learned and significantly enhance design thinking. The ToE – SEEing processes are not only idea generators, but generators of ‘authentic ideas’. They have not yet been tested in commercial environments but with adjustments they may also be useful to decision makers in fields outside design where understandings of human experience would be beneficial. The understandings generated by the application and use of the SEEing methods are such, that a third party, not directly involved in the original ToE research experience, may be presented with, consider and discuss the results, but will not have the full depth of understanding that the original researcher will have gained. A personal understanding of the language of the
experience is required to effectively take the ToE information into the final phase using the SEEing methods. Throughout the SEEing process, a deep and intimate understanding of the experience is also generated within the researcher/designer providing a rigorously constructed but openly subjective perspective on which to base design decisions.

Following the SEEing methods and applying them to carefully collected and interpreted field data, can provide deep understanding of both the mundane everyday aspects of an experience as well as a concise understanding of the Superordinary essences contained within the experience. Considering that both the Superordinary and the everyday aspects of an experience is a way of bringing more information and perspectives into the conversation which constitutes designing.

How can we (as designers) understand experience? I have answered this research question in a quite pragmatic way. Experience can be understood in a designerly way by deeply engaging with a particular experience and then using the methods developed in this research to explore the deeper layers of meaning contained within it; thereby new knowledge that was not previously available is made available to better inform the designers' decisions. This then, is knowledge not only for designing but also about designing, because it also informs the way in which designing is done. I have therefore not only answered the question how to understand experience but also, importantly, how this information can be made useful in design.
9.2 Summary of contributions

Through the research project described in this thesis, a number of new ideas have been developed and partially demonstrated.

1. A useful general model for observing, documenting, framing and communicating an experience in the form of a ‘Taxonomy of Experience’ (ToE).

2. A useful systemic process (SEEing) for analysing experiential data, which enables distillations of the ‘Superordinary’ essences of an experience to be ‘seen’.

3. The SEEing methods applied to the ToE of a given experience, provide a rigorous, auditable process of handling qualitative information on which to base alternative and often divergent design decisions.

4. Prototype software process flowcharting for the ToE and SEEing methods described above that show how each stage of the research and analysis is conducted.

5. Prototype models and templates for how the ToE and SEEing methods might be pedagogically communicated to others.

6. The manner in which these methods generate a deep systemic understanding of an experience in a design researcher when used to study a specific experiential situation, makes a different type of knowledge available to the greater palate of information a designer can draw on for making design decisions.
CHAPTER TEN

REFERENCES AND APPENDICES
CHAPTER TEN – APPENDICES AND REFERENCES

Appendices list

The Appendices for this thesis are only available in digital form on the CD attached to the inside back cover of the manuscript. This has been done due to the large number, volume and scale of some of these files (especially large Excel spreadsheets) and also due to their multimedia nature (video files).

Hyperlinks to all appendices are included in the digital thesis version included on the CD

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- Appendix 2.01 Transport industry background
- Appendix 3.01 Comparison of phenomenology and ethnography
- Appendix 5.01 Adiva experience sample
- Appendix 5.02 Adiva riding log sample
- Appendix 5.03 General research statement
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List of references

In-text and listed references are presented in Harvard -UTS style\(^{142}\) based on AGPS Style Manual 6th edition.


Bousbaci, R. & Findeli, A. 2005, 'More acting and less making: A place for ethics in architectures epistemology', *Design Philosophy papers (online)*, vol. 04.


Bunbury, S. 2005, 'It's time to learn to love your Dalek', *Sydney Morning Herald (Home / technology)*, May 10.


Carroll, L. 1866, Alice’s adventures in wonderland, Macmillan and Co. Ltd., London.


Croftt, M. 1998b, 'Interpretivism: The way of hermeneutics', in S. Hill (ed.), Book of readings, Qualitative research, University of Western Sydney, Sydney.


Delucchi, M.A. 2002, 'Overview of the lifecycle emissions model (LEM)', University of California, Davis.


Dobinson, K. 2003, 'Sustainability of Cities and their Transport', Australasian Transport Research Forum (CD volume), ATRF, Wellington, NZ.

<http://jdr.tudelft.nl/articles/issue2004.01/Art5.html>.


Fry, T. 2006, 'Object-thing philosophy and design', *Design Philosophy Papers (online)*, no. 1.


Geanellos, R. 2005b, Qualitative data analysis workshop, UWS, 21March 2005,, overhead slide, Sydney.


Glanville, R. 1999, Re-searching design and designing research, School of Design, Hong Kong Politechnic University.

Glanville, R. 2005, 'PhD research mentoring meeting', personal communication, Friday, 30-09-05, Canberra, Australia.


Higgs, J. 2003, 'Structuring qualitative research', *Association of Qualitative Research conference*, Centre for Professional Education Advancement of the University of Sydney, Coogee beach, Sydney.


Huit, W. 1999, 'Conation as an important factor of mind', Presentation thesis, Valdosta State University, Valdosta. US.


Low, N. & Gleeson, B. 2003, Making Urban Transport Sustainable, Palgrave Macmillan, Houndmills, UK.


Redstrom, J. 2005, 'Towards user design? On the shift from object to user as the subject of design', *Design studies*, vol. 27, no. 2, pp. 123-224.


Sofoulis, Z. 2003, 'Driving scenarios in Australian car ads', *Roundabout*, University of Sydney, Sydney, Australia.


Valle, R.S. & Halling, S. 1989, 'An introduction to existential-phenomenological thought in psychology', in R.S. Valle, King, M. and


van Veggel, R. 2005, 'Where the two sides of Ethnography collide', *Design Issues*, vol. 21, no. 3, pp. 3-16.


Willis, P. nd, *Expressive voice in education research: Showing what its like*, University of South Australia - Adult and Vocational Education, School of Education.

Wilson, C. 2006, 'Phenomenology as a Mystical Discipline', *Philosophy Now (online)*, no. 56, p. 19.


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Fachhochschule Köln
Cologne University of Applied Sciences
Jahresthema


Die KISD, die seit langem für ihre übergreifenden, verbindenden und integrativen Ansätze bekannt ist, will damit nicht nur interne Synergien schaffen. Fokussierung und Konzentration auf Themen, nicht auf Disziplinen oder Professionen sollen die Zusammenarbeit mit Partnern aus Wirtschaft, Forschung und anderen Hochschulen erleichtern.


Ergänzt wird das Programm durch kurzfristig angekündigte Vorträge und Lehraufträge externer Partner aus Wirtschaft, Lehre und Forschung. Internationale Gastdozenten, ein elementar wichtiger Bestandteil der Lehre an der KISD, werden bezogen auf dieses Thema eingeladen.

Prof. Philipp Heidkamp
Direktor

Veranstaltungen zum Jahresthema sind mit diesem Icon gekennzeichnet.
After a series of two semester topics (WorkScapes and Matter) Public/Design is the comprehensive annual subject at the Köln International School of Design in the academic year 2006/2007.

Most of the 12 areas of expertise will offer projects and seminars related to this subject looking at aspects of publicity, public space and urbanism in its broadest sense from different perspectives in order to raise up the most important questions and find new perspectives and solution approaches. This means a lot more than just furnishing our cities, it will also put design forward as a strategy of intervention in public discourses (or about making discourses public and accessible).

KISD, well-known for its comprehensive, connective and integrative approaches, aims at more than just creating internal synergies. Focusing and concentrating on topics, not on disciplines or professions, should ease the cooperation with partners from business, research and other universities.

The summer has opened the focus; the results will be used as a basis for further projects and seminars in the actual winter term, made public by a symposium during the IMM / Passagen in January 2007 and a publication. This will create a platform for our results and approaches and enable us to open the dialogue with experts from various areas of the Public/Design discourse.

The actual programme will be complemented by additional short-term projects and lectures of external partners – reacting on the insights we will have during our process.

Prof. Philipp Heidkamp
Head of School

Events related to the yearly topic are marked by this Icon.

Es geht um die visionäre Auseinandersetzung mit dem Thema Bewegung.


Voraussetzungen:
Schwerpunkt in diesem Projekt ist die überzeugende Visualisierung der Konzepte und Ideen mittels Skizzen, Renderings sowie CAD.

Held in English on request

Schöner Produkte nie klingen

Productsounds

Verschiedene Produkte werden im Hinblick auf ihre auditiven Eigenschaften wie Resonanzen, Raumklang, usw. untersucht. Die gewonnen Erkenntnisse sind die Basis für ein verändertes oder neues Sounddesign, um die Nutzung oder Wertigkeit des Produktes zu verändern. Zunächst werden neue Sounds "virtuell" gestaltet und idealerweise im Produktdesign umgesetzt.

Research of auditive attributes of products. New design of productsounds. Changing of productdesign to implement the new sound.

Held in English on request

Auto in Public

Erarbeitet werden Beispiele, wie und wo mit neuen und alten Technologien an Fahrzeugen Licht für andere Ansichten, Akzeptanz, Athmosphären und Sicherheit gesorgt werden kann insbesondere im Hinblick auf die Äussernwicklung von Fahrzeugen, insbesondere im Himblick auf die Tatsache, dass Fahrzeuge einen wesentlichen Einfluss auf public design haben.

Can we use new technologies in car lightning, to give a car another image, standing in the street by night and day.

Held in English on request
Big Block: Design Concepts


Voraussetzungen:
Kursteilnahme sowie Anwesenheit Dienstags 13.00-17.00 sind Pflicht während der gesamten Semesterzeit! Kalender für Review-Treffen und "kritische Runden" am Donnerstag wird gemeinsam festgelegt.

You would like to know what design concepts are and how to implement them efficiently? "Big Block" provides you with a unique overview in design methodologies using Paolo Tumminelli's Context-Concept-Implementation-System. This long term project starts with a crash-course: from context-analysis (companies, brands, people), through concept-definition (content, target, strategies) down to the selection of appropriate implementation tools, the delivered information will provide a solid base for the next steps. These begin with the selection and analysis of a company (Brands, products, services). To facilitate exchange within the group we'll focus one branch/industry. Based on the analysis, each student will develop a concept for a new product or service to be launched by the selected company. During the project you may train your presentation skills through several "critical rounds" within the group and in the presence of competent special guests. A KISD-Presentation rounds up the work done. This is certainly a challenging project with a lot of things to do and to learn for students of all semesters.

Pre-requisites:
Attendance to the crash-course and to meetings on Tuesdays between 1 and 5pm are compulsory for all participants! Thursday-Meetings for project review and "critical rounds" will be agreed upon case by case.
In Zusammenarbeit mit dem KISD Forschungsprojekt „Das römische Köln“ und den Unternehmen Cine+ und Bluespace (beide aus Köln), werden wir im Rahmen dieses langfristigen Projektes einen kurzen Reenactment-Film erstellen, in welchem Teile der bereits in 3D rekonstruierten römischen Bauwerke mit realen Darstellern kombiniert werden (Virtuelles Studio). Hierin wird sich der gesamte Prozess des audiovisuellen Arbeitens abbilden – von der inhaltlichen Entwicklung, der gestalterischen Planung, der Produktion selber, bis hin zur Postproduktion – sicherlich ein anspruchsvolles und spannendes Projekt.

Voraussetzungen:
Der Besuch technischer Seminare im Bereich AV (After Effects / Final Cut / Cinema 4D etc.) ist notwendig.

In cooperation with the KISD research project „The Roman Cologne“ and the Cologne-based companies Cine+ and Bluespace, we are going to produce within this longterm project a short reenactment film, using sections of the already existing 3D reconstruction of the roman city in combination with human actors (virtual studio). Within this project, we shall go through the whole audiovisual process, ranging from the development of the script, the creative design of the film, the production itself and finally to the postproduction - surely a challenging and demanding project.

Pre-requisites:
Additional visits of technical seminars in AV Design (After Effects / Final Cut / Cinema 4D etc.) are a precondition.


In co-operation with the Instituto Superior de Diseño Industrial (ISDI), Havana an intercultural project will be realized. The precise subject will be elaborated by the project participants together with the ISDI. The project includes a trip to Havana in the second part of January 2007. The project work in Havana will be carried out together with the Cuban students. Furthermore an excursion to the “pico turquino“ (Sierra Maestra) will be organized for the Cuban and the German students.
Play: Second and First Life

Kooperationsprojekt mit Central St. Martins, London (Prof. Simon Bolton, Course Director Product Design).


Um die Aspekte Community und Social Web zu verstehen und anzuwenden, steht zu Beginn des Projektes eine ausführliche Analysephase.

3-5 Studierende erhalten die Möglichkeit, dieses Projekt als Austauschprojekt mit Gastsemester an der Central St. Martins in London zu machen. TeilnehmerInnen, die sich für diesen Austausch interessieren bitte vorab bis 10. September eine Mail an heidkamp@kisd.de

Voraussetzungen:
Da auch 3 Studierende aus London im Austausch hier sind ist Englisch Voraussetzung für die Teilnahme. Ebenso wird von allen Teilnehmern intensives Einarbeiten in die nötigen Methoden und Technologien erwartet. Achtung: Projekt endet erst im März!

Cooperation & Exchange with Central St. Martins, London (Prof. Simon Bolton, Course Director Product Design)

Based on the game/environment "Second Life" we will develop enhancements, additions, applications, services or products. Those may be developed for Second Life itself, for the "real World or for references and connections between those worlds.

To better understand the aspects of communities and the Social Web, an elaborated analysis phase will be take place at the beginning of the project.
Mittelfristige Projekte/medium term projects

Prof. Dr. Brigitte Wolf  DM
Michael Soendermann

Nr. 1317
Beginn: 10/10/2006
Ende: 30/11/2006
Woche: 41 - 48
Tue, 10:00 - 12:00
Thu, 10:00 - 12:00
Raum: 226
Teilnehmerzahl: 12

Alles ist Design — nichts ist Design
Everything is design — nothing is Design


What is Design? What is the economic impact of design? What are the future perspectives for designers in the “creative industries”? The objective of the project is to elaborate a pilot study presenting the design activities in Cologne and the economic importance of “creative industries” in the region. Design will be explored and described as economic factor and as professional category. For this reason we will evaluate international reports and carry out our own empirical explorations. The results will be summarized in a report that will be discussed with experts from Cologne.

Prof. Dr. Michael Erlhoff  DT
Ian Coxon  IF

Nr. 1349
Beginn: 10/10/2006
Ende: 30/11/2006
Woche: 41 - 48
Tue, 10:00 - 12:00
Thu, 10:00 - 12:00
Raum: 306
Teilnehmerzahl: 15

Design for life

This project is about developing understandings of everyday human experience. What better way to do this than to be a part of the experience to be understood. You will choose an everyday situation that interests you, deeply insert yourself into that experience and get to know it so intimately, that when you are called on to design for it, you achieve extraordinary results.

This is a great opportunity for personal growth in design thinking. Using two new design research methods, you will explore ways these methods can be used to produce innovative new design ideas. More importantly, you will experience ways of understanding the world that add unprecedented richness and depth to your design thinking.
Mittelfristige Projekte/medium term projects

Prof. Jenz Großhans DK

Nr. 1371
Beginn: 10/10/2006
Ende: 30/11/2006
Woche: 41 - 48
Raum: 240
Teilnehmerzahl: 20

Kauf mich!
Buy me

Projektpartner:
Koelnmesse GmbH


3. Am Ende soll ein Designmodell stehen, welches auf der Messe ausgestellt wird. Für die Kosten des Modellbaus ist ein bestimmtes Budget vorhanden. Wie immer bedeutet dieses Projekt eine Menge Arbeit (auch während der Passagen!), bietet Ihnen aber auch großartige Chancen. Und, ganz besonders interessant, Sie bekommen Zugang zur ISM, dies ist normalerweise so gut wie unmöglich.


5. Because of the huge success I will offer in cooperation with the Koelnmesse GmbH a new project. We will focus on the world of sweets, and your work will be shown at the ISM Cologne, the largest and most important sweet and biscuit fair in the world.

6. First we will do some research, then we will develop new products and packagings for tomorrow and the day after tomorrow. The concepts should avoid the obvious solutions, presenting instead a glimpse into the future.

7. Ultimately, a design model will be required, because we will be exhibiting at the trade fair. A budget will be available for these construction costs. As usual, this project will involve a lot of work, but will present you with great opportunities. And, most notably, you will have access to the ISM, which is normally almost impossible without a gun.

8. Attention! The project is calculated for the first half term up to November 30. The trade fair will start on January 28th, so you can use more time for the model making. Please have in mind that you are supposed to be at the trade fair from 28th to 31st January.
Mittelfristige Projekte/medium term projects

Prof. Philipp Heidkamp  IF
Dipl. Des. Roberto Lopez

Nr. 1342
Beginn: 10/10/2006
Ende: 30/11/2006
Woche: 41 - 48
Tue, 14:00 - 17:00
Thu, 10:00 - 13:00
Raum: 303
Teilnehmerzahl: 15

Held in English on request

KISD Public Show

Übrigens: das wird das erste große Ereignis in der neu renovierten Galerie, dem neuen Foyer, der neuen guten Stube sein!

This year KISD will continue the great success of the "Long Night of the Museums" in 2005, where more than 1500 visitors came to see a KISD exhibition. For the "Long Night" on November 4th, we will develop an exhibition, where we put project works and graduation works in scene creating a great experience for all visitors.
The works will be show mainly digital by projections and interactive installations. Here we will make use of the Transparent Display System and optionally also the Interactive Table of 235 Media. The exhibition might also be shown at the Entry2006 in Essen at the end of november.
By the way: this will the first event in the newly renovated Gallery, Foyer and Gute Stube!
Mittelfristige Projekte/medium term projects

Mashup


Links zum Projekt unter http://kisd.de/~rj.

Pre-requisites: curiosity and open mind, knowledge in web publishing (HTML, XML, Flash) and programming will help you a lot.

Museum Project

Die Präsentation eines Museums (noch zu bestimmen) wird kritisch überprüft und dann besucher-gerecht neu konzipiert.

Voraussetzungen: Sie sollten am Anfang des Projektes mehrere Museen untersuchen und dazu möglicherweise kurze Reisen unternehmen.

The presentation of a museum will be critically revised in order to lead to a new audience-oriented concept.

Pre-requisites: You should be prepared to visit a number of museums and to travel in the region.
Mittelfristige Projekte/medium term projects

Prof. Iris Utikal TL
Prof. Michael Gais

Nr. 1350
Beginn: 10/10/2006
Ende: 30/11/2006
Woche: 41 - 48
Tue, 14:00 - 17:00
Thu, 10:00 - 13:00
Raum: 130
Teilnehmerzahl: 15

Held in English on request

plakative botschaften
poster messages

zeichen die ins auge springen, bilder ohne worte, anschläge auf die visuelle gleichgültigkeit.
komplexe botschaften und wie bringe ich sie auf den punkt.
im rahmen des projekts bewegen wir uns nach allen regeln des zeichenverkehrs auf einer rechteckigen fläche, die sich auch plakat nennt.
die konzeptionelle und gestalterische reise wird sich mit der initiative »kein mensch ist illegal« und den demografischen grössen der stadt köln beschäftigen.
in this project we will work on the visuell language of poster design, how pictures affect the consumer, how messages can reach the client.
the concept and visuell journey of this project will take us to »kein mensch ist illegal« (migration problems concerned initiative) and the demografic sizes of the city of cologne.

Prof. Hatto Grosse DFM
Dipl.Des. Andreas Wrede TL

Nr. 1329
Beginn: 10/10/2006
Ende: 01/12/2006
Woche: 41 - 48
Tue, 10:00 - 12:00
Thu, 10:00 - 12:00
Raum: siehe Intranet
Teilnehmerzahl: 15

Projektpartner:
M-real Zanders GmbH

real touch – Papier begreifen


Projektgegenstand sowie Termin- und Ortlichkeiten werden zu Semesterbeginn im Intranet Veranstaltungsverzeichnis bekannt gemacht. Die angegebenen Termine könnten sich also noch ändern.
Mittelfristige Projekte/medium term projects

Prof. Birgit Mager    SD

 Nr. 1336
 Beginn: 05/12/2006
 Ende: 09/02/2007
 Woche: 49 - 6
 Tue, 14:00 - 16:00
 Thu, 14:00 - 16:00
 Raum: 322
 Teilnehmerzahl: 12

 Held in English on request

Projektpartner:
Carnegy Mellon University,
Pennsylvania


Service - Ein Kunststück
The Art of Service

Services are complex and dynamic systems. Linear thinking and representation does not really serve this complexity and dynamics. This project will research notation an specification systems of different art forms in order to find out, wether there are useful transformation opportunities between services and arts. The results of this research shall be documented in a small publication.
Mittelfristige Projekte/medium term projects

Prof. Günter Horntrich    OD
Dipl. Designer Dennis Hinze

OD Nr. 1330
Beginn: 12/10/2006
Ende: 30/11/2006
Woche: 41 - 48
Thu, 15:00 - 17:00
Raum: 226
Teilnehmerzahl: 12

Sportbekleidung
Sportswear

Durch die Kleidung die wir zum Sport tragen, drücken wir unser Lebensgefühl aus und demonstrieren unsere Zugehörigkeit zur jeweiligen Sportart.
Funktionale Bekleidung schützt, reguliert Temperatur, garantiert maximale Bewegungsfreiheit und Performance. Bekleidung transportiert vor allem aber auch Image und dient als Projektionsfläche für Marken und Sponsoren.
Wie aber könnte Bekleidung aussehen, wenn es darum ginge unsere Emotionen darzustellen? Die Leidenschaft des Fans, die Schmerzen des Tour de France Fahrers, das Glück des Torschützen, die 50 jährige Vereinsmitgliedschaft.
Leiden, Verzweiflung, Euphorie.
Wir wollen ein Konzept für emotionale Sportbekleidung entwerfen. Für Sportler, - Profis oder Amateure.

Voraussetzungen:

The use of modern sportswear demonstrates a certain awareness of life as well as our affiliation to a specific sport.
Functional sportswear protects, regulates temperature and guarantees elbowroom and maximum-performance. Particularly, it presents it’s owners personality and acts as advertising space for brands and sponsors.
But how could clothing appear in order to display our emotions?
The fan’s passion, the suffering of the tour cyclist, the euphoria of a goal scorer, 50 years of club membership.
We want to create an idea of emotional sportswear, both for professionals and amateurs.

Pre-requisites:
Personal experienced sport story, sports enthusiasm, being constantly overwhelmed with emotions while sitting in front of the tv.
Mittelfristige Projekte/medium term projects

Stefan Terlinden AV
Nr. 1321
Beginn: 10/10/2006
Ende: 01/12/2006
Woche: 41 - 48
Tue, 10:00 - 16:00
Thu, 10:00 - 16:00
Raum: 507
Teilnehmerzahl: 15

In diesem Projekt soll ein 60 Sekunden langer Stopmotion-Kurzfilm produziert werden. Grundlage ist ein detaillierteres Storyboard. Natürlich darf die Nachvertonung nicht fehlen. Ob Claymation, Brickfilm oder eine andere Technik verwendet wird, ist freigestellt.

Voraussetzungen:
Eine gehörige Portion Arbeitswut und eine eigene Digital-Photokamera mit Stativ sind von Vorteil, aber keine Pflicht.

Held in English on request

In this project you have to produce a 60 seconds long shortfilm. The first step is to produce a storyboard. Later you realise your ideas with stopmotion techniques.

Prof. Björn Bartholdy AV
Nr. 1346
Beginn: 10/10/2006
Ende: 01/12/2006
Woche: 41 - 48
Tue, 14:30 - 16:30
Raum: 306
Teilnehmerzahl: 15


Voraussetzungen:
Dieses Projekt setzt das bestandene Vordiplom voraus, TeilnehmerInnen müssen davon ausgehen, die wesentlichen Reisekosten selbst zu übernehmen.

Held in English on request

Projectpartner:
University of West. Sydney

Within this project we are going to cooperate with students of the University of Western Sydney, developing a conceptual and design approach on an exhibition about Carl Strehlow, a German missionary, being one of the first to document the history of ancient Australien Inhabitants and creating the fundamentals for conservation and research regarding the language of the aborigines. March 2007 our group shall travel to Sydney and work for two weeks on this project and finally present the results. A return visit of our Australien colleagues is planned during summer term 2007.

Pre-requisites:
This project is only available for students with intermediate examination. Participants have to be aware of the travelling costs to Australia.
Mittelfristige Projekte/medium term projects

Michael Eichhorn
Prof. Hatto Grosse
Prof. Prof. Iris Utikal

DFM TL

Nr. 1326
Beginn: 10/10/2006
Woche: 41 - 48
Tue, 13:00 - 15:00
Raum: 238
Teilnehmerzahl: 12


Voraussetzungen: Teilnahme an der Werkstatteinführung, Anwendung der Programme Solid Works oder Rhino sowie Photoshop.

Projektpartner:
Hagen Stiftung Bonn

Transmission

Voraussetzung: Teilnahme an der Werkstatteinführung, Anwendung der Programme Solid Works oder Rhino sowie Photoshop.
Kurzfristige Projekte/short term projects

Prof. Tadanori Nagasawa IF
Prof. Philipp Heidkamp

Nr. 1343
Beginn: 23/10/2006
Ende: 27/10/2006
Woche: 43 - 43
Tue, 10:00 - 17:30
Wed, 10:00 - 17:30
Thu, 10:00 - 22:00
Raum: 306
Teilnehmerzahl: 12

Culture & Interface: Street stalls

Street stalls as an interface between the city life and the city space.

There are many different kinds of street stalls in the city. These street stalls as temporary structures might be serving many different kinds of goods and services in the public space, which must be based on the cultural context of the city life. The aim of this workshop is to explore the meanings of the relationship between "design" and "public" through the survey of street stalls in the city. You will find a new function of "interface" as new aspects of design through this workshop.

Voraussetzungen:
Prof. Nagasawa is Professor at the Department of Design Informatics at MUSASHINO ART UNIVERSITY, Tokyo

Prof. Günter Horntrich OD

Das gelbe vom Ei
Cracking an Egg

Nr. 1332
Beginn: 04/12/2006
Ende: 15/12/2006
Mon, 14:00
Raum: 226
Teilnehmerzahl: 15

Nature has developed it’s own ways of "packaging it’s products". But how can we deal with these objects without any opening-clips, zippers or pull linkages helping us opening their natural packagings?

This short-term-projekt aims at the development of methods of opening an usual breakfast egg considering the user’s cultural and social circumstances.

The final presentation should include a functioning model of an "egg opener" to demonstrate it’s functional capability.

Held in English on request

Projektpartner:
Musashino Art University, Tokyo
Design Report: Internationale Möbelmesse
Design Report: IMM Cologne 2007

Die IMM, Internationale Möbelmesse, zeigt ziemlich alles, was gegenwärtig unter design zu verstehen ist. Bei diesem Projekt produzieren Sie als temporäre Redaktionsmitglieder in journalistisch-kritischer Form ein Bericht (Medium ist noch offen) über Events und Inhalte, gutes und schlechtes aus dem Passagen- und Messeprogramm. Im Kooperation mit der Redaktion des Designmagazins Roger.

Voraussetzungen:
Volle Einsatzbereitschaft in Köln während der Möbelmessewoche.

Pre-requisites:
You must be in Cologne and free during all of the IMM-Fair

Fingerübungen: Editorial Design
Easy Pieces: Editorial Design

Übungen zum Arbeiten mit Texten und Bildern im Rahmen von Zeitungen, Zeitschriften und Büchern

Exercises in using texts and images in the context of newspapers, magazines and books

Fingerübungen: Info Design
Easy Pieces: Info Design

Übungen zur Umwandlung von Daten und Fakten in anschauliche, begreifbare Grafiken

Exercises in the transformation of raw data into tangible, comprehensible graphics
Kurzfristige Projekte/short term projects

Prof. Heiner Jacob CI

Nr. 1357
Beginn: 22/01/2007
Ende: 01/02/2007
Woche: 4 - 5
Tgl, 10:00 - 12:30
Raum: 239
Teilnehmerzahl: 12

Fingerübungen: Zeichen-Gestaltung
Easy Pieces: Mark/logo/sign design

Übungen zum Entwurfsprozess:
Zeichen, Anzeichen, Kennzeichnung, Logo, Symbol, Metapher...

Exercises in a design process:
Sign, mark, index, symbol, logo, metaphor etc

Held in English on request

Prof. Birgit Mager SD
Nicola Richter

Nr. 1218
Ende: 01/12/2006
Woche: 47 - 48
Tgl, 10:00 - 20:00
Tgl, 10:00 - 20:00
Raum: 322
Teilnehmerzahl: 12

Gesten des Dienens
Gestures of Serving


Prof. Günter Horntrich OD

Nr. 1331
Woche: 46 - 47
Mon, 14:00
Raum: 226
Teilnehmerzahl: 15

Im Reich der Sinne
Sensitive Senses


Welche Qualitäten weisen Produkte in unserem Umfeld auf, die beispielsweise unseren Tastsinn extrem anregen?

Es sollen Objekte entwickelt und gestaltet werden, die eine oder mehrere Sinneswahrnehmungen forcieren und/ oder verdeutlichen. Dabei soll mit dem Ziel gearbeitet werden, für alle Entwürfe eine einheitliche Präsentationsform zu definieren, die dem Besucher der nachfolgenden Präsentation eine umfassende Sinnesserfahrung ermöglicht.

We experience our environment by means of our five senses: seeing, hearing, tasting, smelling and touching.
Our sense organs are activated in different ways, partly without ourselves becoming aware of any sensual stimulation.

Which qualities f.e. are featured by products extremely stimulating our sense of touch?
The task is to develop and design objects clarifying and accelerating one ore more senses.

The presentations of all concepts are to be arranged uniformly, which allows the visitor a comprehending sensual experience.
Prof. Heiner Jacob  
Kommunikation mit Zeichen 2006  
Communicating with signs 2006

Kurzfristige Projekte/short term projects

Prof. Dr. Uta Brandes  
Kunstflieger  
Aerobatics/Art Flyers

Prof. Michael Gais  

Held in English on request


You will produce a complex visual statement, a non-verbal narrative on a topic t.b.a. This statement will be sent to a (not German language) partner school where partner students try to read/interpret your work. And they will send us their feedback proving whether your communication has been successful.


Wir gestalten für diese events pick up-Postkarten, um die Aufmerksamkeit für diese Aktionstage zu steigern. Erstmalig im vergangenen Semester durchgeführt, war das Projekt so erfolgreich, dass "kunst:dialoGE" mit uns eine längerfristige Kooperation vereinbart hat.

"kunst:dialoGE" (art:dialogues) is an initiative by art students who successfully manage to interest younger people (18 through 30 years) for modern and contemporary art of the world famous Museum Ludwig (Koeln). They discuss with the people about everything that you would have liked to know about art since a long time anyway: about strange, fantastic, geometrical, pop and other phenomena. 3 "Long Fridays" and 1 "Young Night" are the annual main activities where about 5.000 people show up.

We will design pick up postcards for these events in oder to attract the audience, "kunst:dialoGE" is interested in a permanent cooperation with KISD (i.e. one project once a year) as the project that was carried out for the first time in the previous semester was very successful.
Kurzfristige Projekte/short term projects

Prof. Dr. Uta Brandes GD
Nr. 1360
Woche: 46 - 47
Tgl, 11:00
Raum: 125
Teilnehmerzahl: 12

Langsamkeit
Slowliness


Held in English on request

Prof. Dr. Michael Erlhoff DT
Nr. 1365
Woche: 46 - 47
Mon, 13:00
Raum: 125
Teilnehmerzahl: 15

Magic Design

Manchmal ist Design magisch (image = magie), manchmal gar bloße Augenwischerei. – Nun geht es hier um das Re-Design von Zaubertricks oder auch um die Gestaltung von neuen.

Held in English on request

Prof. W.Laubersheimer PT
Nr. 1322
Woche: 45 - 46
Tgl, 09:30 - 18:30
Raum: 220
Teilnehmerzahl: 12

Präsentieren und Verkaufen
How to be present - selfselling

Ein klassisches Präsentationstraining

Kurzfristige Projekte/short term projects

Prof. Birgit Mager SD

Task Force Service Design

Nr. 1337
Beginn: 06/11/2006
Woche: 45 - 46
Mon, 14:00 - 20:00
Tue, 10:00 - 20:00
Thu, 10:00 - 20:00
Raum: 322
Teilnehmerzahl: 8

Held in English on request

Projektpartner:
Deutsche Bank

Die Deutsche Bank der Zukunft - das ist der Anspruch der innovativen Filiale Q110 in Berlin. Das Konzept wird von den Kunden gut angenommen, der ZukunftsAward des Zukunftsinstituts in Frankfurt wurde Q110 verliehen - alles in allem eine runde Sache.


Voraussetzungen:
Erfahrung im Service Design (Seminar oder Projekt).
Das Projekt wird in der ersten woche täglich stattfinden, das heißt wir sind weder Mittwoch noch Freitag in Köln.

The Deutsche Bank of the Future - that is the claim of the Q110 branche in Berlin. The innovative concept is well accepted by the customers, the concept has already won an award - so far, so good!

The Service Design task Force is invited to go to Berlin for three days to probe the concept from a Service design Perspective. Monday and Tuesday we will prepare the team in Cologne, from Wednesday to Friday we will work in Berlin and present the results of our work to the Q110 Management on Friday afternoon. the second project week we will work on the detailed concept, the review of the project, the internal presentation and the documentation.

Pre-requisites:
Experience in Service Design (Seminar or Project)
The project will work on a daily basis the first week, we will be absent from Cologne Wednesday and Friday.
Kurzfristige Projekte/short term projects

Prof. Björn Bartholdy AV

Twisted Reality
Twisted Reality

Nr. 1348
Beginn: 09/01/2007
Ende: 02/02/2007
Woche: 2 - 5
Tue, 14:30 - 16:30
Thu, 10:00 - 12:00
Raum: Projektinsel Computerlab
Teilnehmerzahl: 12

Held in English on request


Voraussetzungen:
Der Besuch technischer Seminare im Bereich AV (After Effects / Final Cut / Cinema 4D etc.) wäre hilfreich.

Pre-requisites:
Additional visits of technical seminars in AV Design (After Effects / Final Cut / Cinema 4D etc.) would be useful.

Ulrike Meyer DT

Wer bin ich? Was kann ich? Wie zeig’ ich’s?

In diesem Projekt sollen Studierende lernen, wie sie sich so präsentieren können, dass sie nach Abschluss des Studiums einen spannenden Job finden. Der Weg dorthin ist eben nicht unbedingt die Erstellung eines klassischen Lebenslaufs und eines austauschbaren Massen-PDFs. Stattdessen sollen erst einmal grundsätzliche Fragen gestellt werden: ob nicht durch Unterscheidung (von der Menge der MitbewerberInnen), durch Individualität und Authentizität die Chance beträchtlich steigt, am richtigen Ort zu landen.


Students will learn how to present themselves in a way that they will be able to find an exciting job after their studies. Today it is outdated to submit a conventional cv, accompanied by a boring look alike PDF. Instead, it may be much better to reinforce difference (from potential competitors), individuality and authenticity. This may enhance the chance to find the appropriate job.

Dipl. Des. Ulrike Meyer studied communication design with renowned Prof. Bazon Brock at the University of Wuppertal, worked in agencies and as personal consultant in the communication sector. Since some years she is owner of the design agency "Connecting Talents" in Berlin that specialises in bringing together designers and companies.
Kurzfristige Projekte/short term projects

Zeitschrift machen
Creating a magazine


Voraussetzungen:
Das Seminar funktioniert nur, wenn die Teilnehmerinnen und Teilnehmer teilnehmen. Lückenlos.

There are different ways to think about design, e.g., when conceiving a magazine about design. We start off with our own wish and our ideas: which kind of magazine do we want to offer the world? And we have to think about the topic: what to report about design, and how? But we have to go even further: economy, editorial questions, the link to a book, to the internet, and other media. We will visit a printshop and a lith shop. Moreover: Ideas and concepts need a form - i.e. creating the outlines of the content, layout and editorial concept.

The lecturer: Köbi Gantenbein is editor-in-chief of the renowned Swiss architecture and design magazine "Hochparterre". There also exists an online version that has amazingly many visits: www.hochparterre.ch/international
However, Köbi Gantenbei himself is still in favour of the pencil. His conviction: magazines and books exhilarate life and can be economically successful.

Pre-requisites:
The project only works if each participant engages intensively. Complete! Without interruption!
**Master Progress Colloquium**

- Nr. 1368
- Beginn: 10/10/2006
- Ende: 08/02/2007
- Woche: 41 - 6
- Thu, 09:00 - 10:00
- Raum: 122
- Teilnehmerzahl: 10
- *Held in English on request*

Welcome (back) to Cologne! This biweekly colloquium will offer you the chance of individual planning for further studies and professional work. The course will finish with the development and presentation of your personal portfolio.

Voraussetzungen:
Nur für Studierenden des MA-Studienganges European Design.

Willkommen (zurück) in Köln!
This biweekly colloquium will offer you the chance of individual planning for further studies and professional work. The course will finish with the development and presentation of your personal portfolio.

Pre-requisites:
Only for MA students (European Design).

Attending this academic seminar, you will be introduced to all thrilling aspects of animation film. By means of numerous examples referring to this issue, from its very beginning until today, we shall go into a critical reflection and discussion. Every participant is going to produce a short animation, being free to choose any technique.

Es geht in diesem Seminar um grundlegende Zusammenhänge und Wirkungen bei 3D-Objekten

Untersuchung an Hand von Beispielen

Aspekte der persönlichen/sozialen/kulturellen Identität werden untersucht.

Daneben geht es um Unternehmens-Identitäten und Corporate Design.

An investigation into aspects of personal, social, and cultural identities. Also: aspects of corporate identity and corporate design.

gegenstand dieses seminars ist die farbe.

Prof. Dr. Michael Erlhoff DT
Nr. 1362
Beginn: 11/10/2006
Ende: 07/02/2007
Woche: 41 - 6
Tue, 15:00 - 17:00
Raum: 119
Teilnehmerzahl: 25

Held in English on request

Ganz einfach: Es geht jeweils um die präzise Analyse und Erläuterung eines explizit gestalteten Produkts (ggf. auch Kommunikationsmittel, Service, Interface etc.). Das hilft beträchtlich beim Verständnis von Design.

It’s very simple: A precise analysis of a product explicitly designed (object, communication, sound, interface etc.) is very helpful to understand design.

Prof. Birgit Mager SD
Nr. 1335
Beginn: 06/12/2006
Ende: 07/02/2007
Woche: 49 - 6
Wed, 10:00 - 14:00
Raum: 119
Teilnehmerzahl: 15

Held in English on request


In lectures, case studies and interactive exercises the basics of Service Design will be explored. At the same time the participants will transform the insights of the seminar into a Service Design process for a customer.
Prof. Iris Utikal  
Prof. Michael Gais

**Wissenschaftliche Seminare/scientific seminars**

**typoundso**

**typeandmore**

Nr. 1351  
Beginn: 11/10/2006  
Ende: 08/02/2007  
Woche: 41 - 6  
Wed, 09:00 - 11:00  
Raum: 130  
Teilnehmerzahl: 20

typografie von den anfängen bis zur gegenwart. wie hat sich dieses speichermedium der sprachlichen information im laufe der jahrhunderte entwickelt? und was werden wir in der zukunft von ihm erwartet? kulturelle hintergründe, technische möglichkeiten, gestalterische anforderungen. praktische aufgabenstellungen begleiten die theoretische auseinandersetzung.

typography from the beginning up to now. how developed the storage medium of language in the past centuries? what can we expect in the future? culturell backgrounds, technical possibilities, graphical requirements. practical exercises will accompany the theoretical discussions.

Prof. Dr. Uta Brandes  

**Write right oder: Design schreiben**  
**Write right in Design**

Nr. 1359  
Beginn: 11/10/2006  
Ende: 07/02/2007  
Woche: 41 - 6  
Wed, 15:00 - 17:00  
Raum: 119a  
Teilnehmerzahl: 20

Ob ein Bild mehr sagt als 1000 Worte oder aber vielleicht doch umgekehrt: Auf jeden Fall gehören Wörter, Begriffe, Sätze, Texte unausweichlich zum Design(verständnis). In diesem Seminar kann man Schreibformen und -strategien trainieren: Es werden Designpublikationen rezensiert und intensiv diskutiert. Eine doppelte Chance: neue Designbücher kennenlernen und kritisch-analytisches Schreiben und Beurteilen einüben.

Whether an image tells more than 1000 words, or vice versa: at any rate words, terms, sentences, texts are absolutely necessary for design and its understanding. This seminar teaches how to write smart and interesting reviews on design publications. You will get to know new design books and will excercise critical and analytical writing.
Technische Seminare/hands on seminars

Michael Eichhorn  TCAD  3-D-Modelling, Raytracing, Animation

Einführung in die Funktionen von Cinema 4D. Im Unterschied zu technisch ausgerichteten CAD-Programmen handelt es sich hier um ein Visualisierungsprogramm. Erklärt werden alle grundlegenden Konzepte zu Modelling, Raytracing (Renderingverfahren) und Animation.

Stefan Terlinden  TAV  Arbeitstechniken in Adobe Photoshop

Nr. 1271  Beginn: 04/12/2006  Ende: 05/02/2007  Woche: 49 - 6  Mon, 09:00 - 13:00  Raum: 408  Teilnehmerzahl: 16
In diesem Seminar werden grundlegende Arbeitstechniken in Photoshop erklärt. Von der Nachbearbeitung eines gescannten Bildes bis zur komplexen Bildmontage, von der Aufbereitung verschiedener Datenformate für den Einsatz in Multimedia-Produktionen oder dem Internet bis zu Vorbereitung sogenannter Maps in 3-D-Programmen soll das komplette Funktionsspektrum Photoshops sowie die Weiterverwendung verschiedener Dateiformate Thema sein.

In this course basic work techniques in photoshop will be explained. We talk about post-processing of a scanned image, extensive montages and the use of different data formats. Nearly the whole power spectrum of Photoshop will be theme.

A workshop for international students is possible on demand.

Stefan Terlinden  TAV  Blockseminar Grundlagen der Videotechnik

Blockseminar mit täglichen Treffen (Montag bis Freitag).
Kameratechnik, Kameraführung, Bedienung des Casablanca-Schnittcomputers und die Produktion eines kurzen Übungsvideos sind die Inhalte dieses Seminars.

Only german lecture
Technische Seminare/hands on seminars

Stefan Terlinden  TAV  Desktopvideo mit Premiere und After Effects
Woche: 41 - 48  Mon, 09:00 - 13:00  Raum: 408
Teilnehmerzahl: 16

A workshop for international students is possible on demand.

Helmut Kreuzner  TPG  Digitale Aufnahmetechnik
Nr. 1300  Beginn: 10/10/2006  Ende: 14/02/2007
Woche: 41 - 7  Tue, 14:45 - 16:30  Raum: 404 (Fotostudio)
Teilnehmerzahl: 8
Für Zeitschriften (Life-Style, Design, Mode) werden Titelfotografien mit Hilfe der digitalen Aufnahmetechnik erarbeitet.

For magazines (life-style, design, fashion) cover-photographies are compiled with the help of the digital recording method.

Michael Eichhorn  TCAD  Einführung in das CAD Programm SolidWorks
Woche: 41 - 48  Mon, 13:00 - 17:00  Raum: 408
Teilnehmerzahl: 16
Grundlagen des 3D-Modellings mit SolidWorks. SolidWorks ist ein technisch ausgerichteter 3D-Modeller (CAD-Programm). Das Grundlagenseminar ist Voraussetzung für die Teilnahme am Seminar "Modellierung komplexer Teile mit SolidWorks".
Technische Seminare/hands on seminars

Dipl. Inf. R. Jungkunz  TDIM  Einstieg in Flash und ActionScript
Starting with Flash and ActionScript

Nr. 1274  
Beginn: 25/09/2006  
Ende: 29/09/2006  
Woche: 39 - 39  
Tgl, 09:00 - 16:30  
Raum: 408  
Teilnehmerzahl: 16

Erst durch Programmierung werden Flashanimationen interaktiv. 

This course is directed to those who are inexperienced in programming languages. We will learn the principles of programming and go first steps with ActionScript.

English speaking guest students should attend the "Flash Starter Workshop".

Dipl. Inf. R. Jungkunz  TDIM  Flash Starter Workshop
(for english speaking guests only)

Nr. 1316  
Beginn: 19/10/2006  
Thu, 14:00 - 16:00  
Raum: 408  
Teilnehmerzahl: 8

This course will be held for english speaking guest students only. It is directed to those people who are inexperienced in programming languages. We will learn the principles of programming Flash applications and go first steps with ActionScript.

This workshop takes place on demand only. Those guest students who are interested should attend first meeting on 19th of october. Appointments for 3 to 4 further meetings will be made then.

Pre-requisites: 
have a look on Flash interface before workshop starts
Dipl. Inf. R. Jungkunz  
TDIM  

**Flash und ActionScript Arbeitstreffen**  
Flash and ActionScript workshop

Nr. 1273  
Beginn: 11/10/2006  
Woche: 41 - 48  
Wed, 13:00 - 17:00  
Raum: 408  
Teilnehmerzahl: 16


Voraussetzungen:  
Flash/ActionScript Kenntnisse (z.B. aus Einstiegsseminar)

This course is directed to people who have already experience with ActionScript. Participants will give special special ActionScript lectures to the group. Themes could be for example video in Flash, isometric 3d applications, physical stuff like gravity or other. Participants are allowed to bring theire own subjects and explain them in front of the group. In a second part of each lesson, it is possible to get help with own flash applications.

Pre-requisites:  
Flash/ActionScript knowledge (e.g. starter course)

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Helmut Kreuzner  
TPG  

**Fotografische Arbeitsfelder**  
Photographic themes

Nr. 1298  
Beginn: 16/10/2006  
Ende: 14/02/2007  
Woche: 42 - 7  
Mon, 15:00 - 16:30  
Raum: 404  
Teilnehmerzahl: 8

Themenfelden aus der werblichen Fotografie, verbunden mit konkreten Aufgabenstellungen aus den Bereichen Werbung, Food, Stills.

Termine siehe Aushang bzw. Intranet.

Each participant solves practical topics from the photographic themes: advertisement, food, stills.

For meeting dates look at the black board or in intranet.

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Helmut Kreuzner  
Technische Seminare/hands on seminars  

Nr. 1299  
Beginn: 16/10/2006  
Ende: 14/02/2007  
Woche: 42 - 7  
Mon, 15:00 - 16:30  
Raum: 404 (Fotostudio)  
Teilnehmerzahl: 8  

Technisches Arbeitsfelder  
Photographic themes  

Themenfeldern aus der werblichen Fotografie, verbunden mit konkreten Aufgabenstellungen aus den Bereichen Werbung, Food, Stills  

Termine siehe Aushang bzw. Intranet.  

Each participant solves practical topics from the photographic themes: advertisement, food, stills  

For meeting dates look at the black board or in intranet.

Dipl. Inf. R. Jungkunz  

Nr. 1272  
Beginn: 06/12/2006  
Ende: 07/02/2007  
Woche: 49 - 6  
Wed, 13:00 - 17:00  
Raum: 408  
Teilnehmerzahl: 16  

HTML/CSS mit Dreamweaver  
HTML/CSS with Dreamweaver  

Basis des Publizierens im Internet ist nach wie vor die Seitenbeschreibungssprache HTML. Um eine Trennung der Gestaltung (des Layouts) von den Inhalten zu erreichen, werden die sogenannten Cascading Style Sheets eingesetzt. In der Seminararbeit nutzen wir das Programm Dreamweaver von Macromedia, um Text-, Bild- oder multimediale Inhalte einzubinden, Seiten zu layouten, Navigation hinzuzufügen und die Website ins Netz zu stellen.  

Voraussetzungen:  

HTML and cascading style sheets (CSS) with Macromedia Dreamweaver.  

Pre-requisites:  
basic knowledge in HTML: see http://de.selfhtml.org/html/  

Michael Eichhorn  

Nr. 1295  
Beginn: 04/12/2006  
Ende: 05/02/2007  
Woche: 49 - 6  
Mon, 13:00 - 17:00  
Raum: 408  
Teilnehmerzahl: 16  

Modellierung komplexer Teile mit SolidWorks  

Aufbauend auf das Grundlagenseminar, lernen die TeilnehmerInnen hier den praktischen Einsatz von SolidWorks, das Modellieren komplexer Teile, die Erstellung und Umsetzung von CAM- und CNC-Datensätzen (MasterCam), den Unterschied zwischen Solid- und Flächen-Modellern (Rhyno) und deren Vor- und Nachteile. Schließlich geht es um Produktvisualisierung und die Schnittstellenproblematik.  

Voraussetzungen:  
Teilnahme am Grundlagenseminar SolidWorks
Technische Seminare/hands on seminars

Johann Stein  
TSK  
Nr. 1303  
Beginn: 25/09/2006  
Ende: 29/09/2006  
Woche: 39 - 39  
Tgl, 10:00 - 17:00  
Raum: 240  
Teilnehmerzahl: 25  
Skizze und Zeichnung als arbeitsgrundlage im Design  
Sketch and drawing as a basic for design  
Grundlagen des Zeichnens und Skizzierens.  
Darstellungstechniken von Ideen und Entwürfen mit  
verschiedenen Medien wie Bleistift, Marker, Filzstift,  
Kugelschreiber usw. Erstellen von Ideenskizzen und  
Präsentationszeichnungen.  
Basics of sketching and drawing. Techics of visualising  
ideas and layouts using different materials like crayon,  
marker, ballpoint a.s.o. Creating sketches of ideas and  
drawings for presentations.

Johann Stein  
TSK  
Nr. 1323  
Beginn: 04/10/2006  
Ende: 06/10/2006  
Woche: 40 - 40  
Tgl, 10:00 - 17:00  
Raum: s. Aushang  
Teilnehmerzahl: 16  
Von der Idee bis 3D I  
Generieren von Ideen und Konzepte.  
Entwurfsarbeit mit Zeichnung und Skizze anhand eines  
Projekt themas.

Johann Stein  
TSK  
Nr. 1324  
Beginn: 08/11/2006  
Woche: 45 - 48  
Wed, 13:00 - 17:00  
Raum: s. Aushang  
Teilnehmerzahl: 16  
Von der Idee bis 3D II  
Umsetzen der Entwürfe aus dem Seminar "von der Idee  
bis 3D I" in Vormodellen oder CAD.  
Voraussetzungen:  
Teilnahme an dem Seminar  
"von der Idee bis 3D I"
Dienstagsvorlesungen
Tuesday Lectures

In diesem Semester stehen wieder die Studierenden im Mittelpunkt: Vorstellung und Diskussion studentischer Projekte und Arbeiten.

This semester we will put again a focus on the students: Presentation and discussion of student’s projects and works.

Held in English on request

Dokumentationen, aber richtig
Documentations

Vortrag und Diskussion zum Thema Dokumentationen. Hier erfahren Sie, warum es Dokumentationen gibt, wie man sie macht und wo die Fallstricke lauern.

Lecture and discussion on documentations. Learn about the why, the how, the does and don'ts.

This lecture is binding for all students in the first year!

However, it is held in German (questions can be asked in English).

Modernism

Nun sind wir ja schon inmitten der dritten Form von Moderne angekommen eben in dem, was angelsächsisch als „Modernism“ bezeichnet wird: Das „Bauhaus“ und all die Folgen, Design im „Nationalsozialismus“, die „hfg ulm“ ... Geschicht, Daten, Namen, Prozesse, Reflexionen etc.: eben all das, was man wissen und verstehen sollte. – Verbindlich ist das ohnehin für alle.

“Modernism” tries to categorize the new movements in architecture, design, music and fine arts. Exploring the Twenties of the last century the lecture will move into the Thirties and Fifties, also. – But sorry: In German only.
Arbeitsgemeinschaften/student working groups

Dipl. Inf. R.Jungkunz

**AG Semesterplanung**

Nr. 1283  
Beginn: 16/10/2006  
Ende: 09/02/2007  
Woche: 42 - 6  
Mon, 13:00 - 14:00  
Raum: 507  
Teilnehmerzahl: 5  


Held in English on request

Prof. W.Laubersheimer

**Archiv- und Dokumentations-AG**  
**Archive working group**

Nr. 1287  
Beginn: 09/10/2006  
Ende: 09/02/2007  
Woche: 41 - 6  
Mon, 13:00 - 15:00  
Raum: 126  
Teilnehmerzahl: 5  

Die Archiv-AG organisiert und optimiert das Archiv des FB Design. Im Archiv werden Diplom-, Vordiplom- und Projektdokumentationen verwaltet.

The Archiv-AG organizes and optimizes the database of the FB-Design.

Prof. Philipp Heidkamp  
Prof. Birgit Mager

**Ausstellungs AG**  
**Exhibition Workgroup**

Nr. 1306  
Beginn: 10/10/2006  
Ende: 06/02/2007  
Woche: 41 - 6  
Tue, 16:30 - 17:30  
Raum: Z4  
Teilnehmerzahl: 6  

Die Ausstellungs-AG entwickelt die Konzeptionen für die KISD-Galerie und unterstützt alle Ausstellungen in der Galerie und an anderen Orten der KISD. Sie ist damit für die gesamte Ausstellungs-Thematik verantwortlich, in gestalterischer, konzeptioneller, praktischer und administrativer Hinsicht. Ein weiteres Ziel der Ausstellungs-AG ist es, die Räumlichkeiten der KISD so zu gestalten, daß die Prozesse, Projekte und Seminare der KISD sichtbar, greifbar und präsent werden.

The Exhibition Workgroup is developing the concepts for the KISD Gallery and supports every exhibition in the KISD Gallery and any other place and space at the KISD. The workgroup is responsible for the whole topic of exhibition at KISD, in respect of the design, conception, realisation and administration.

A further goal of the workgroup is to design the spatial situation at KISD in a way, that processes, projects and seminars become visible, tangible and present.
Arbeitsgemeinschaften/student working groups

Bewerber AG
Applicants working group

Die Bewerber-AG kümmert sich um die Menschen, die an der KISD studieren wollen, sie organisiert den Versand der Briefe und unterstützt die Aufnahmekommission bei der Auswahl und bei den Prüfungen.

Im Wintersemester gibt es nur wenig zu tun, dafür ist das Sommersemester recht arbeitsintensiv – und immer sehr interessant.

Betreuer und Ansprechpartner der AG ist immer der oder die Vorsitzende der Aufnahmekommission, er oder sie wird die Mitglieder kontaktieren.

CI-AG

Die CI-AG ist für die Fortentwicklung beziehungsweise Einhaltung der CI der Köln International School of Design zuständig. Neben der Gestaltung von Briefausstattung, Formularen, Vordrucken und der allgemeinen Signalisation, werden immer wieder Druckwerke ausgearbeitet, die eine langfristig anhaltende Wirkung nach außen haben, was eine gewisse Verantwortung impliziert. Teilnehmern der AG sollte die Komplexität und das verantwortungsbewusste Arbeiten mit einer CI vertraut sein.

Here you will be able to apply your skills on the corporate design of the köln international school of design. There are always things to design and to get them printed from one day to the other, like letterheads, formulars, brochures or a short guide how to use the logo. You have to handle »word« somehow, and to get in touch with all the other projects of kisd going outside, as we are a kind of design police.
The project contains the following elements:

- Systematic representation / formulation of possibilities and visions.
- Layout of a presentation-filing system of actual materials samples.
- Collection of samples and addresses.
- Creation of a digital platform.

Die Digital-AG ist zuständig für den Verleih und die Pflege von Geräten wie Computer, Beamer, Kameras etc.

Beim ersten Treffen am Di, den 10.10.06, zwischen 13 und 14 Uhr werden die Termine sowie die Modalitäten bestimmt.

The Evaluation working group is a research group on the internal understanding, atmosphere and the competencies of KISD students and teaching staff. This semester we will interview the KISD students in order to find out how they judge their own quality and commitment as well as that of the overall "Cologne Model".
Arbeitsgemeinschaften/student working groups

Prof. Jenz Großhans

Gute Stube

Cafe

Nr. 1284
Beginn: 09/10/2006
Ende: 09/02/2007
Woche: 41 - 6
Mon, 18:00 - 19:00
Raum: 11a (Gute Stube)
Teilnehmerzahl: 24

Die Gute Stube ist das kommunikative Herz der KISD. Die Mitglieder der AG sorgen mit ihrem schier unerschöpflichen Eifer und ihren zahllosen Ideen für einen reibungslosen Ablauf in diesem wichtigen Treffpunkt.

Auf Grund des Umbaus wird es einiges zu tun geben - wir wissen im Moment auch noch nicht, was uns erwartet.

The Cafe is the heart of communication of the KISD. The members of the AG provide with their almost inexhaustible eagerness and their countless ideas for a smooth operational sequence in this important meeting place.

Because of the conversion of the ground floor we will have an interesting time - we do not know yet, what is waiting for us.

Prof. Heiner Jacob

International AG

International working group

Nr. 1286
Beginn: 12/10/2006
Ende: 08/02/2007
Woche: 41 - 6
Thu, 17:00 - 18:00
Raum: 239
Teilnehmerzahl: 3

Pflege internationaler Kontakte.
Betreuung der internationalen Studierenden.
Planung von Veranstaltungen.

Establishing international contacts.
Hospitality for the international students.
Planning of events for visitors.

Prof. Dr. Michael Erlhoff

Netzradio AG

Net Radio

Nr. 1312
Beginn: 09/10/2006
Ende: 09/02/2007
Woche: 41 - 6
Mon, 13:00 - 15:00
Raum: 310
Teilnehmerzahl: 5

Diese AG tut, was ihr Titel verheißt: Sie konzipiert, gestaltet und produziert das Internet-Radio der KISD.

The group to work on.
Arbeitsgemeinschaften/student working groups

pr & marketing ag

Nr. 1305
Beginn: 18/10/2006
Ende: 07/02/2007
Woche: 42 - 6
Tue, 19:00 - 21:00
Raum: 310
Teilnehmerzahl: 5

Held in English on request

Hier ist viel zu tun: Fortsetzung und Verbesserung des "KISD Newsletter", Pressemeldungen schreiben, Kontakte zur medialen Öffentlichkeit pflegen, Image-Broschüre etc. Das ist wichtig für KISD, und Sie lernen viel und Praktisches.

That's offering you the normal interesting work: to write, coordinate and publish the "KISD Newsletter" to keep contact with the press .... Much to learn and to enjoy.

Dipl. Inf. R. Jungkunz
Prof. Philipp Heidkamp

w3 AG

Nr. 1289
Beginn: 16/10/2006
Ende: 09/02/2007
Woche: 42 - 6
Mon, 15:00 - 17:00
Raum: 231
Teilnehmerzahl: 5

Held in English on request

Die w3ag konzipiert und entwickelt digitalen Inhalte und Anwendungen zum Zweck der Kommunikation an der KISD nach innen und nach außen. Neben dem Webauftritt der KISD ist die Pflege und Weiterentwicklung unseres Intranet ein zentraler Punkt. Es ergeben sich viele Schnittstellen zu Projekten und anderen AGs.

Am 16.10.06 findet ein erstes Treffen um 15:00 Uhr statt. Der Termin für die regelmäßigen Treffen im Semester wird dort vereinbart.

Voraussetzungen:
Teilnehmer sollten Vorkenntnisse im Webpublishing haben; Motivation und Engagement sind jedoch wichtiger.

The w3ag develops concepts and solutions for the various digital communication media at the KISD. Besides the website of the KISD, the maintenance and further development of our intranet is an essential task. Interfaces to projects and other AGs are evident and have to be further developed and deployed.

In a first meeting on 16th of february at 3pm we will fix an appointment for regular meetings during term.

Pre-requisites:
Participants should have a basic knowledge in webpublishing, motivation and engagement are the most important requirements.
Holz I

In dieser Einführung werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Holzobjekten benötigt werden.

Hierzu gehören:
– Material- und Werkstoffkunde
– Erkennen und Herstellen von einfachen technischen Zeichnungen
– Verarbeitung von Massivhölzern und Plattenwerkstoffen
– Bankarbeiten wie Anreißen, Sägen, Stemmen und Hobeln
– Materialverbindungen mechanisch, wie Schrauben und Nageln
– Unfallverhütungsmaßnahmen und -vorschriften

Holz II

In dieser Einführung werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Holzobjekten benötigt werden.

Hierzu gehören:
– Material- und Werkstoffkunde
– Erkennen und Herstellen von einfachen technischen Zeichnungen
– Verarbeitung von Massivhölzern und Plattenwerkstoffen
– Bankarbeiten wie Anreißen, Sägen, Stemmen und Hobeln
– Materialverbindungen mechanisch, wie Schrauben und Nageln
– Unfallverhütungsmaßnahmen und -vorschriften

Metall I

Hier werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Metallobjekten benötigt werden.

Hierzu gehören:
– Material- und Werkstoffkunde
– Erkennen und Herstellen einfacher technischer Zeichnungen
– Messtechniken
– Blechverarbeitung von Fe-Metallen und Ne-Metallen (Biegen, Kanten, Umformen)
– Bankarbeiten wie Anreißen, Körnen, Feilen und Schleifen
– Mechanische Verbindungen (Schrauben, Nieten, Bolzen, Stiften, Gewindestechnik)
– Einführung in einfache Maschinenaufgaben (Bohren, Sägen, Schleifen)
– Unfallverhütungsmaßnahmen und -vorschriften
Werkstatteinführung/workshop

Eckhardt Selbach

Metall II

Nr. 1278
Beginn: 04/10/2006
Ende: 09/10/2006
Woche: 40 - 41
Tgl, 10:00 - 16:00
Raum: 18/Z3
Teilnehmerzahl: 6

Hier werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Metallobjecten benötigt werden.

Hierzu gehören:
- Material- und Werkstoffkunde
- Erkennen und Herstellen einfacher technischer Zeichnungen
- Messtechniken
- Blechverarbeitung von Fe-Metallen und Ne-Metallen (Biegen, Kanten, Umformen)
- Bankarbeiten wie Anreißen, Körnen, Feilen und Schleifen
- Mechanische Verbindungen (Schrauben, Nieten, Bolzen, Stiften, Gewindeschneiden)
- Einführung in einfache Maschinenarbeiten (Bohren, Sägen, Schleifen)
- Unfallverhütungsmaßnahmen und -vorschriften

Franz Weber

Modellbau I

Nr. 1275
Beginn: 25/09/2006
Ende: 29/09/2006
Woche: 39 - 39
Tgl, 10:00 - 16:00
Raum: 15
Teilnehmerzahl: 8

Es werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Modellen benötigt werden.

Hierzu gehören:
- Material- und Werkstoffkunde
- Erkennen und Herstellen einfacher technischer Zeichnungen
- Messtechniken
- Verarbeitung von Materialien, die für den Modellbau geeignet sind (Hölzer, Thermoplaste)
- Bankarbeiten wie Anreißen, Sägen, Feilen und Schleifen
- Materialverbindungen (Kleben, Schrauben, Gewindeschneiden)
- Einführung in einfache Maschinenarbeiten (Bohren, Sägen, Schleifen)
- Warmformungen von Kunststoffen (Heißluft, Tiefziehen)
- Unfallverhütungsmaßnahmen und -vorschriften
Werkstatteinführung/workshop

Franz Weber

Modellbau II

Nr. 1276
Beginn: 04/10/2006
Ende: 09/10/2006
Woche: 40 - 41
Tgl, 10:00 - 16:00
Raum: 15
Teilnehmerzahl: 8

Es werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Modellen benötigt werden.

Hierzu gehören:
  _Material- und Werkstoffkunde
  _Erkennen und Herstellen einfacher technischer Zeichnungen
  _Messtechniken
  _Verarbeitung von Materialien, die für den Modellbau geeignet sind (Hölzer, Thermoplaste)
  _Bankarbeiten wie Anreißen, Sägen, Feilen und Schleifen
  _Materialverbindungen (Kleben, Schrauben, Gewindeschneiden)
  _Einführung in einfache Maschinenarbeiten (Bohren, Sägen, Schleifen)
  _Wärmeformungen von Kunststoffen (Heißluft, Tiefziehen)
  _Unfallverhütungsmaßnahmen und -vorschriften

Jürgen Ottersbach

Printmedien I

Nr. 1279
Beginn: 25/09/2006
Ende: 29/09/2006
Woche: 39 - 39
Tgl, 10:00 - 16:00
Raum: 218
Teilnehmerzahl: 10

Es werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Druckobjekten benötigt werden.

Hierzu gehören:
  – Druckverfahren und Materialien
  – Analoge und digitale Bilderfassung
  – Layouten in QuarkXpress
  – Logistik der Produktionsabläufe
  – Unfallverhütungsmaßnahmen und -vorschriften

Jürgen Ottersbach

Printmedien II

Nr. 1280
Beginn: 04/10/2006
Ende: 09/10/2006
Woche: 40 - 41
Tgl, 10:00 - 16:00
Raum: 218
Teilnehmerzahl: 10

Es werden Kenntnisse und Fertigkeiten vermittelt, die zur Planung und Herstellung von Druckobjekten benötigt werden.

Hierzu gehören:
  – Druckverfahren und Materialien
  – Analoge und digitale Bilderfassung
  – Layouten in QuarkXpress
  – Logistik der Produktionsabläufe
  – Unfallverhütungsmaßnahmen und -vorschriften
Vorbereitungskurs für die Studierenden, die im SS 2007 im Rahmen des UNIBRAL-Projekts in Curitiba (Brasilien) an der Universidade Federal do Paraná studieren werden. Die brasilianischen Gast-Studierenden werden in diesen Kurs einbezogen.

Voraussetzungen:
Bewerbung für das UNIBRAL-Projekt.

Preparation course for the students which will join the UNIBRAL-project and will study in Curitiba (Brazil) at the Universidade do Paraná in the summer term 2006. The Brazilian guest students will be integrated in the course.

Pre-requisites:
Application for the UNIBRAL-project.


Voraussetzungen:
Pflichtteilnahme am "Diagnostik-Test" am 09.10.2006 um 18:00 im Hörsaal. Ab dem 16.10.2006 findet der Kurs dann regulär von 11:00-13:15 Uhr statt.

This class emphasizes the aural aspects of English. Classroom time will consist of small group work, whole group work and individual presentations.

Pre-requisites:
Compulsory participation at the "Diagnostik-Test" on 09.10.2006 at 6:00 pm in the lecture hall. From the 16.10.2006 on the course will take place regular from 11:00 am until 01:15 pm.
In diesem hauptsächlich online durchgeführten Kurs werden vor allem Kenntnisse im schriftlichen Englisch eingeübt. Die per Internet gestellten Aufgaben werden selbstorganisiert bearbeitet und per Mail an die Dozentin geschickt. Es gibt nur 2 Treffen: Ein Einführungs Treffen am 16.10.2006, in dem die Rahmenbedingungen für den Kurs erläutert werden und ein individuell vereinbartes Einzeltreffen am Semesterende für jeden. Studierende, die erst im Sommersemester an Englisch II teilnehmen möchten, müssen bereits vorher im Wintersemester den "Diagnostik-Test" machen.

Voraussetzungen:
Die Teilnahme am "Diagnostik-Test" am 09.10.06 um 18:00 Uhr im Hörsaal und am ersten Treffen am 16.10.2006 ist Pflicht um den Kurs belegen zu dürfen.

This online course emphasizes written English. Most classes take place virtually through written assignments on the Internet. We will meet twice: Once on the first meeting (16.10.2006) to learn how the course works and a second time individually to discuss the texts you have written at the end of the semester. Those students who plan to join English II in summer term also have to take part in the "Diagnostik-Test" given in winter term.

Pre-requisites:
Participation at the "Diagnostik-Test" on 09.10.2006 at 6:00 pm in the lecture hall and at the first meeting on 16.10.2006 are compulsory for participation in the course.

How to talk

Offenkundig ist nicht immer einfach, öffentlich zu reden oder auch nur im Smalltalk sich zu tummeln und dabei die richtigen Wörter, intelligenten Stil, überzeugende Haltung, Timing und dergleichen zu finden. – Eben das soll in diesem Kurs geübt werden.

Very often it seems difficult to talk, to find the useful words, attitudes, habits etc., this will be trained here. – Sorry: Only in German.
Helmut Kreuzner

**Negativentwicklung**
Film development

Nr. 1296
Beginn: 09/01/2007  
Tue, 13:30 - 17:00  
Raum: 503  
Teilnehmerzahl: 6

In diesem Kurs werden die Grundlagen der Filmentwicklung theoretisch und praktisch aufgezeigt. Termine siehe Aushang oder Intranet.

*In this course the bases of the film development are shown theoretical and practically. Meetings look at the black board or in intranet.*

Cornelia Heising Ass. jur.

**Recht für Kreative: Grundlagen in Theorie und Praxis**
Law for Creative: Basics in theory and practice

Nr. 1307
Beginn: 12/10/2006  
Ende: 01/02/2007  
Woche: 41 - 5  
Thu, 17:00 - 18:30  
Raum: 119  
Teilnehmerzahl: 20


*This course is intended to provide an overview of the field of law as it is relevant to design, while sensitizing students to certain legal problems that are pertinent to both study and professional activities. Both inventive and creative processes as well as the ensuing application of intellectual property involve manifold legal issues. The course covers a spectrum ranging from copyright, contract, and Internet to trademark law.*

Eckhardt Selbach

**Schweißen I**
Welding I

Nr. 1310
Beginn: 16/10/2006  
Ende: 04/12/2006  
Woche: 42 - 49  
Mon, 14:00 - 16:00  
Raum: 18/Z3  
Teilnehmerzahl: 6

A wie Autogen  
A wie Anfänger
Eckhardt Selbach

Schweißen II
Welding II

Nr. 1311
Beginn: 26/10/2006
Ende: 07/12/2006
Woche: 43 - 49
Thu, 10:00 - 12:00
Raum: 18/Z3
Teilnehmerzahl: 6

E wie Elektro
Elektroden und Tisch
Trafo
Schutzkleidung

Prof. Birgit Mager
SD
Kalle Buschmann
Matthias Jakob
Benjamin Schulz
Nr. 1309
Beginn: 27/10/2006
Ende: 30/10/2006
Woche: 43 - 44
Tgl, 10:00 - 17:00
Raum: wird noch bekannt gegeben
Teilnehmerzahl: 24

Teamaarbeit und Projektmanagement

Dieser Kurs vermittelt grundlegende Kenntnisse über erfolgreiche Team- und Projektarbeit und bietet den Teilnehmerinnen und Teilnehmern die Möglichkeit, eigene Stärken und Schwächen besser kennen zu lernen und Fähigkeiten zur erfolgreichen Gestaltung von Teamarbeit systematisch einzuüben. Aufgrund der vielen praxisorientierten Übungen und der persönlichen Entwicklung, die dadurch ermöglicht wird, ist eine verbindliche Teilnahme an jedem der insgesamt 4 Kurstage jeweils von 10.00 bis 17.00 Uhr notwendig. Nur der Mittwoch bleibt zugunsten der wiss. Seminare frei!

Studierende, die an dem Kurs im letzten Semester teilgenommen haben, werden diesen Kurs als Cotrainer begleiten.

Michael Eichhorn
PT
Prof. W. Laubersheimer
TCAD

Tiefziehen, hoch stapeln

Termine siehe Aushang.

Prof. Birgit Mager
SD

Train the Trainer

Helmut Kreuzner  
Nr. 1297  
Beginn: 10/01/2007  
Thu, 13:30 - 17:00  
Raum: 503  
Teilnehmerzahl: 6

Vergrößerungstechnik  
Enlargement technology

In diesem Kurs werden Grundlagen der Vergrößerungstechnik theoretisch und praktisch aufgezeigt.
Termine siehe Aushang oder im Intranet.

Michael Eichhorn  DFM  
Nr. 1373  
Beginn: 11/10/2006  
Ende: 07/02/2007  
Woche: 41 - 6  
Wed, 14:00 - 17:00  
Raum: 508  
Teilnehmerzahl: 10

Von CAD zu CAM

Inhalt des Kurses:
Erstellen von Fräsprogrammen mit Hilfe von MasterCam und das anschließende Fräsen auf unserer CNC-Fräse

Voraussetzungen:
SolidWorks-Seminar Teil 1 und 2
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<td>Medium term / short term projects</td>
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<td>Presentations</td>
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People

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<th>Professors</th>
<th>Areas of Expertise</th>
<th>Telefon</th>
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<tr>
<td>318</td>
<td>Prof. Björn Bartholdy</td>
<td>AV Audiovisual Media</td>
<td>8275-3204</td>
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<td>309</td>
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<td>GD Gender and Design</td>
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<td>310</td>
<td>Prof. Dr. Erlhoff</td>
<td>DT Designtheory and History</td>
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<td>320</td>
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<td>DK Design Concepts</td>
<td>3608</td>
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Lehrende und Mitarbeiter

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Lehrbeauftragte

Carolyn Coit | Englisch
Johann Stein | Zeichnen und Skizzieren
Dipl. Des. Andreas Wrede | Typografie
Cornelia Heising | Recht

Gastdozenten

Ian Coxen | University of Western Sydney
Prof. Tadanori Nagasawa | Musashino Art University, Tokyo
Dipl. Des. Ulrike Meyer | Connecting Talents, Berlin
### People

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### Werkstätten

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### Stud. Arbeitsräume (Schlüssel beim Pförtner)

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### Werkstatt-Öffnungszeiten

Kernzeiten: Mo. bis Fr. 10.00–16.00 Uhr. Werkstattleiter oder Tutoren ansprechen. Vorherige Terminabsprache erwünscht. Werkstattordnung beachten.

### Studios

<table>
<thead>
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### Labore
Audiovisual Media
Corporate Identity
Design for Manufacturing
Design Concepts
Design Management
Design theory and -history
Gender and Design
Interface Design
Ecology and Design
Production Technology
Service Design
Typography and Layout

Cover: Michael Gais
Design from Life

designfromlife.bluearth.net
Design from Life

This was a collaborative project between Köln International School of Design and University of Western Sydney, Australia.


Project Head__ Professor Dr. Michael Erhoff
Project Leader__ Ian Coxon (PhD candidate)
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John, Pauline
Kay, Jennifer
Lindenbeck, Joachim
Maghavipata, Marissa
Oluoch, Mathilda
Palmi, Maris
Pfaff, Marc
Sheydin, Andre
Smith, Lou
Swiniarski, Rafael
Tauber, Joanne
Tonon, Marcos
Vierling, Sabine
Yeung, Wai Chun (Elaine)
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01_ Introduction

The purpose of this document is to provide at least a partial account of the extraordinary or perhaps I should say the ‘superordinary’ process and experience of a radical new design research project conducted by students at the Köln International School of Design in October 2006. This booklet introduces for the first time, a Taxonomy of Experience (ToE) as the main research tool around which nine steps in the process were undertaken through three stages.

This document, the research work it represents and the exhibition that resulted from it, is a credit to the calibre of students involved in this project. They have my deepest gratitude and respect. The reader can be assured that each student’s comments and reactions to the ToE methods are presented frankly and without mediation.

My deepest appreciation goes to both the academic and administrative staff at the KISD who facilitated, supported and made the entire project such a success. Also a special thank-you to the KISD Club, whose generous support, made this publication and much of the exhibition possible.

I hope you find something interesting, intriguing even confronting in this publication. It is not meant to be a definitive description of the project or the methods but I do hope it encourages you and others to engage with us further in debate. We will always welcome your comments, suggestions and questions.

Ian Coxon
02. The basic target of the ToE

This project is about developing understandings of everyday human experiences. What better way to do this than to be a part of the experience to be understood? A situation of interest was chosen, and then by deeply inserting oneself into that experience and getting to know it intimately, students achieved extraordinary and unexpected results. The experiences were recorded in a Taxonomy of Experience (ToE), while memory and different perceptions were stimulated by photos, video, sound recordings, diary-style writings or other means.

This research method is a great opportunity for personal growth in design thinking. With these methods and findings come innovative exploration of new design ideas. More importantly, ways of understanding the world are experienced that will hopefully add unprecedented richness and depth to design thinking.
03. Taxonomy of Experience (ToE)

**What is a ToE?** This is a new method of working with data in form of text that categorises phrases into groups and filters out what is not very necessary in order to come up with the most important information.

A ToE can be done using computer programmes like Excel and NVivo. This project used Excel as the tool for the ToE.

**Steps in the ToE** The ToE is comprised of nine steps. Each of these is further divided into titles and sub-titles under the categories: Body, Heart, Head and Context.

These categories are the aspects of the experience that impact on the physical body, emotional responses, reflective and reflexive thoughts and contextual aspects of the experience taking place.
Step 1, Submersion and Data capture
The researcher chooses a suitable “experience” and by doing the activity repeatedly, a deep understanding is gained. They can also follow the “experience” of somebody else.

Step 2, Documentation and Texts
The information is collected and turned into text, using tools such as observations, narrative journals, conversational interviews, photographs, videos and sound recordings.
Step 3, Fragments and Themes. The data is then dissected into fragments, which are classified into each relevant section of the ToE under the categories: Body, Heart, Head and Context. “Themes” are then chosen from these fragments.

Step 4, Meanings. The researcher analyses each fragment in order to draw out the deeper meaning. Through determining this he or she acquires a profound understanding of the experience.

Step 5, Essential elements. “How important is this aspect of the experience? Would it be the same experience without it?” The user of ToE interacts with the meanings asking him or herself these questions to find out what is more important. After this the meanings are filtered and reduced to the most essential elements, without which the experience would not be the same.

Step 6, Superordinary elements. Leaving behind many of the form, functional and everyday aspects of the essential elements, the ‘superordinary’ elements emerge. These are the core characteristics of the experience, with emphasis on the unexpected and the poetic.

Step 7, Intensity weighting and ranking. Although most of these elements are important at this stage, not all of them have the same relevant significance. They are therefore sorted according to their value in the experience.
Step 8, Superordinary summaries
The ‘superordinary’ elements are categorised with common names. The researcher develops approximately four words which represent the real meanings of the experience.

Step 9, Superordinary descriptions
The main words chosen on step 8 are clearly described to give a better understanding of the researcher’s meaning of the “experience”.
04_ The ways to use a ToE

The complexity of a text has to be analysed and decoded. The old-school data analyser can take a pencil, underline parts in different colours, categorize them in shared categories. After the categorization the separated content parts are viewable by one category. This method allows filtering out unusable information step by step with the possibility of going back to original context. Since the research of experience contains very detailed descriptions of the experience, large amounts of data have to be extracted. The process takes several steps to get the most important spiritual terms.

print it out and carry a lot of documents. In addition the table gets covered while comparing them. Qualitative Data Analysing software keeps your table clean and allows you to mark up passages, sentences and words and
There is one method but many ways to get there.

**NVivo 2** is designed for researchers who need to combine subtle coding with qualitative linking, shaping and modelling. It integrates the processes of interpretation and focused questioning. Rich text records are freely edited and coded and linked with multimedia. A project starts as soon as ideas start. The software enables you to take qualitative inquiry beyond coding and retrieval, supporting fluid interpretation and theory emergence.

**Excel** is the most common spreadsheet software in world. Of course every other spreadsheet software would do. If it has information cells and a sorting function, you can use it for a ToE. Cells can be assigned with content in one column and with content in another just by writing in the same row. The sorting maintains the relationship between the contents in different columns.
05_ Evaluation of the methods

Why we worked with Excel__ As you would normally need to buy a user license for every student to be allowed to use the program NVivo 2, we had to choose another program solution. The solution had to be already installed in our computer lab and easy to use. That’s why we decided unanimously in favour of Excel, because many of us students had already had some experience with this program. Ian Coxon offered Excel workshops for students without any experience with spreadsheets and explained the way to utilise it for the ToE.

Problems with the ToE in Excel__ We had to carefully analyse every sentence and the steps. The entire process demands complete concentration to be done efficiently. Each researcher had to make decisions himself and try to stay as objective as possible. The program just helped organizing the information added to it through our decisions. Maybe the only problem was just to keep the continuity of deciding consistently and to take the time analysing the data.

Good things about the ToE__ The good about the ToE is maybe that we now have a spatial concept for dividing statements into themes and understand the meanings. It has a structure that might help to understand the truth of statements.

Is it worth working with ToE__ This is a really interesting new way to understand problems, develop solutions from the experience perspective. With this method we can manage a more efficient design process from another point of view, which introduces us to the experiences themselves. This allows us research and analyse deeper and to understand the real experience from real life. This is what we really should make use of when designing.
06_ The topics and subjective experience of the participants

On the following pages are documented the experiences of the students: both their chosen research topic and their experience with the Taxonomy of Experience (ToE).

The different experiences can be seen here accompanied with the reason for their choice. This is followed by the ‘superordinary summaries’ that were developed – many of which came as unexpected and interesting.

Equipped with these words and deep spiritual understanding of their experiences, the students have now developed a new set of values to consider within their design work.

This section gives an overview of how the students dealt with this new design research method, and how it was put into practice.
Bialic, Hania
The experience of living in a student house

Reason. I thought it might be interesting to explore something that may seem obvious for many people, furthermore I’ve never lived in a student house before, so it is a completely new experience for me.

Disconnected. It is hard to get attached to the place not only because of a superficial presence of the others but also because of a constant circulation of the people, they do not stay for a long time in here. Furthermore there is no spiritual connection with the room, in some way it is a rather mechanical way of living.

Egocentric. Living in a single room means creating your little space and characterising it in your own way. What you have is your own specific micro-world. It is about you and your needs only. As long as you are within
the space you don’t need to communicate with the others, you can hear them, but they are on the other side of the wall.

**Institutional** Your home is an institution. You are obliged to follow some rules. It is almost impossible to forget about it, especially if you see the notes with regulations everywhere, which remind you, how to use the kitchen, the bathrooms, the balcony and so on...

**Isolating** People are trying to keep their distance, it is not that difficult as they all have their single rooms. Moreover there is no common space except of the kitchen, but not all of them cook in here. There is still a problem of communication not all of the students speak fluent German. As a consequence you see most people from the same floor so infrequently, you hardly know them.

**Transparent** You are a stranger who is entirely anonymous, you become invisible to the people as they do not care about you and vice versa. You don’t know much about the people on the floor and you feel a lack of interest from their side. You have the impression that the conversations are forced, and you don’t feel like making an effort to improve that.

**ToE Experience** At the beginning it seemed very complicated and mechanical, I couldn’t understand all of the words and descriptions at once, however in time I started noticing that it is a good way to make a proper and deep analysis of an experience.
Bigg, Hamish

The experience of going to the park

Reason _ Design of public space has been approached in many different ways but I wanted to research an alternative method of creating a shared outdoor environment that is not just about aesthetics or horticulture. What is the true essence of a park and how can we design with this in mind?

Sensory Gratification _ Inescapably, there is the obvious but invaluable factor of the park’s contents. Trees, flowers, grass, even the users themselves all provide sensorial stimulation through sight, smell, sound and feel. However, this is just the surface of a much deeper complexity. The different textures of surfaces that we walk on; the breeze on your skin; the fluctuating light levels; the motion and atmosphere created by others and the environment; the rich and subtle background sounds of the park and the city beyond; the variation and dynamism of different areas...the often unnoticed influences on the senses are infinite and vital to the experience. Perhaps the most affecting sensorial factors discovered though were lightness and airiness; they give an enormous sensation of freshness and an almost cleansing effect that are absolutely key to the park experience.
**Exploration** The park is a public landscape for navigation. The choosing of which path to turn down determines where the user goes and will ultimately create a unique and personalised experience as the elements of the park are constantly changing within the realms of time and space. The physical qualities of the landscape urge the users to interact with its twists, turns, ups and downs. This creates excitement and anticipation as to what is ahead and tempts the user further. Upon discovering a new area of beauty or comfort there is a sense that a personal relationship has been built with the park.

**Escape and Relaxation** The park is a haven in which to shelter from the busy and stressed life of the city, a space to take life at a more relaxed pace. It is a place to escape the ugliness of a wholly man-made environment and indulge in nature’s beauty. It is a chance to explore a new medium, other than a professional or domestic scenario, one of far greater purity. Both physical and mental relaxation are key elements to an enjoyed experience. Gentle natural sounds have a calming effect, whilst a comfortable space to just be yourself in or share with companions is essential.

**Shared Experience** Whether with friends or on one’s own, going to the park is ultimately a shared experience with other users. What sets a park apart from normal urban life is humans actually enjoying their surroundings with one another, and the sense of a community spirit. There is no sense of urgency, time has little meaning in this sanctuary from city chaos, and people are people rather than time-driven units.

**ToE Experience** First struggling with the large amount of information, I found it easier as I progressed and was intrigued to discover the depth and meaning that actually creates an ‘experience’. Certainly a thought-provoking tool.
Campbell, Eeva

The experience of texting on your way

Reason_ It is a private thing done within a public display: an everyday experience for some people, whilst others never do it. Is there more to it than doing it just because it is ‘done’?

Secret freedom_ privacy in a public space, being able to say anything you want because no one can see or hear except you. There is also a secret freedom in travelling – it is in between-time and therefore no time but my time, in amongst everything and everyone else.

Text-bridge_ the idea of how a text links you with the person who isn’t there but disconnects you from the people who are – a bridge between only two points, keeping you away from the water below. It can branch to another – a stranger – if there is a connection between me the sender and them as another sender.

Familiarity_ making me feel powerful by knowing these things around my mobile because I’ve done them so often – a power from competence. The way they always stay the same within the machine and are so well known to me is comforting, reassuring and not stressful.

Personalized_ what is developed in the inanimate object because of me. My words, my signatures, my contacts, the feeling of ‘mine’ that come from long and familiar use. It is also something of/from me that is sent with the text: my touch in people’s continuous need of people.
ToE Experience__ As a new process it is time and thought consuming. There is always the feeling ‘I would do it so much better next time’. It made me think a lot about my words and what words really are. It raises issues of what is and what can be ingrained both intentionally and unintentionally in design, and inevitably experiences. It seems to try to name and explain all those nameless things that you feel, know and recognize but don’t consciously think about feeling, knowing and recognizing. And once they are, do they still remain the same with a name?
**Epikhina, Olga**
The experience of being an elevator passenger

**Reason** The experience of being an elevator passenger is one of the emotionally richest and yet trite experiences of modern urban life, its controversial character makes it so attractive. Although elevators have been an object of study for a long time now, and there are many design projects on the topic, I still thought it might be interesting to research it with a completely new tool, the ToE.

**Intimacy** Willed or unwilled intimacy is inevitable in an elevator, because of the small space and short distance between passengers.

**Confinement** One of the core parts of an elevator passenger experience is limitation, restriction of freedom, movement, almost imprisonment.

**Exposure** An elevator passenger is subjected to different influences such as light, noises, close contact with other passengers, all these factors are enhanced in a small space and perceived stronger, extreme light reflected in the mirrors adds to the feeling of being in the spotlight, being stared at, studied by other passengers, exposed, ‘naked’.

An interaction in a general sense always takes place, we interact either with the elevator pushing the buttons and thus giving a command which floor we want to go to, or with other passengers.

**Lightness of being** Lightness of being comes with riding a glass elevator, seeing the scene around you, hearing the sounds, being a part of it yet being elevated above everyone, floating in light, feeling joy, weightlessness and one’s own importance.
**Unconscious** One doesn’t really apprehend the elevator (wir nehmen ihn nicht wahr), and sees it only as facility to take you from A to B, unless there are some extraordinary appealing or irritating factors. One plunges into his thoughts being half-conscious or ‘unaware’ during the trip.

ToE Experience _I was sceptical about the ToE method in the beginning, because it seemed too subjective to me. We are used to the fact that when creating objects for mass consumers one has to be as objective as possible. During the work on my ‘elevator’ experience I changed my opinion completely.

The amazing thing about this method is that one starts analysing the tritest experiences, trying to ‘dig’ deeper and finds more and more inspiration sources, one doesn’t know where the analysis leads to, and the results are sometimes really unexpected. Starting from real life examples one comes to universal conclusions.
Golyszny, Lukas
Pfaff, Marc

The experience of attending a lecture at the university

Reason_ We thought it was interesting to explore such an important aspect of our daily student life from another point of view. We were wondering whether we would be able to discover anything new and unnoticed.

Empathy_ sums up all phenomena that result from being interested in and understanding feelings and motivations of the others. It strongly features the desire to be recognized and valued by those others which is always connected with interpreting other people’s attitude towards oneself. Essential elements are being part of a mass, judging and feeling for others, seeing and being seen as well as curiosity about others’ actions.

Education_ is the summary description for all feelings of gradually growing into a group that shares special and exclusive knowledge and which being a part of is a prerequisite for reaching further personal aims. It also includes judging the importance of contents in respect of such aims. A very significant phenomenon hereof is the feeling of intellectual enthusiasm, a deep fascination for a certain theoretical matter.

Restraint_ summarizes all phenomena resulting from being bound to certain restrictions and limitations inherent to the experience. It includes physical restraints as well as structural coercions.

Focus_ covers all aspects of retaining and shifting attention, zoning out and altering states of consciousness. It is strongly dependent on the higher or spontaneous motivations covered in empathy, education and restraint, but also
has a peculiar way of floating above these other qualities of the experience. Its purest manifestation is the exclusive concentration on a singular perception.

ToE Experience__ At the beginning it was hard to concentrate on what I had experienced in those situations. Which findings did I only interpret as a consequence of my effort of a deeper understanding, and which findings displayed the reality? Additionally we had to examine the impressions of other students, when we asked them to verbalize their own findings. The determination of the meaning of every single sentence led to a deeper insight in some aspects of this experience and motivated to directly begin with the design process. The further distillation to just a handful of main spiritual meanings, does not accurately describe the specific experience anymore and therefore could be misleading. (Lukas Golyszny)

The process of immersing oneself in the experience surely helped to develop a broader subjective perception of it and the method we learned helps a lot to do this in a well structured and comprehensive way. However, I could not fully follow the part in which the ToE claims to go one step further than other methods by creating a deeper understanding of the spiritual essence of the experience. To say it the other way around — this essence seems to be so personal that it stays unclear to me whether it can be communicated, let alone be applied to designing. (Marc Pfaff)
Holzenburg, Arne

The experience of to give strangers a ride (Mitfahrgelegenheit)

Reason__ I never used networks like “mitfahrgelegenheit.de“ (Agency for arranged lifts) before and expected to make an interesting new experience this way.

Ambiguous__ Passengers could be likable or not, accessible or not, smelling or not. They could appear or fail to appear. Some have friendly voices on the phone while others don’t have. The protection of the own privacy – the car – in mind, strangeness leads to substantial insecurity and enormous unfair prejudices. One would wish a double bottom but actual it isn’t there. Nevertheless there are enjoyable situations like discovering similarities, finding interesting topics to talk about or to gain thankfulness.

Self-conscious__ It is not easy to accept that some passengers only want to be carried for little money and therefore accept several inconveniences. Most strangers don’t talk about their needs and thoughts straightforwardly but the driver has to make the decisions, find compromises and try to make it as comfortable as possible for everyone.

Interdependent__ Driver and passengers have to communicate at least to arrange the meeting, maybe also to have a nice trip. Sometimes that is not very easy with strangers you don’t know at all. Furthermore all participants must count on each other to make the tour work. It’s about accepting and adjusting on each other to a great extent.
ToE Experience  Initially the ToE gave me the impression of a very complex and complicated way to distillate our experience. By and by it became clearer but I still think there could be a more comfortable tool.
Ivanis, Christian
Lindenbeck, Joachim
The experience of visiting a classical music concert

Reason__ We are very interested in music. As we like Rock and Electronica, we decided to explore a way of listening we’re both unfamiliar with.

Release__ When you dive into the story, your whole attention concentrates on it. You may forget about the day, the space you are sitting in, and nearly lose all sense of time. It even seems unimportant.

Enthusiasm__ Parts of the performance or impressions of the whole setting cause powerful and overwhelming emotions like happiness, delight or elation. Those intensive moments of pleasure.

Group dynamics__ Exchange by conversation or interaction conveys the feeling of taking part together or joining a group. Applause or emotions of others can force your own emotions.

Sophistication__ Celebrate the evening in a festive and valuable atmosphere, cultural behaviour and the feeling of celebrity can be highly satisfying.
ToE Experience__ On reflection, the stage of finding the meanings was most rewarding. It helps organizing the complexity of analysis.
John, Pauline
The experience of driving by the “Agency for arranged lifts” (Mitfahrgemeinschaft)

Reason is what everyone brings in. It is a very vivid topic, as it has got a lot to do with communication and also getting around. Wanting to know why people do it (aside the financial aspects) and what kind of deep personal experience can be involved in it.

Freedom means stepping out of your usual safety into a world full of uncertainty. Leaving Home, with foreigners in a foreign car on a maybe foreign way, not knowing exactly where they will drop you off. If you accept this insecurity, a feeling of freedom evolves.

Expectations is what everyone brings in. Half, because they evolve out of your needs, other half to extenuate the insecurity. They reach from wanting to have a comfortable journey to real prejudices.

Empathy comes suddenly with a foreign person or someone has it for you eventually. Empathy is really being able to understand what someone wants to tell you, but as well being dropped off right in front of your house when you have been in a hurry.

Participation is to take part in something, that aims towards a goal. The goal is defined by the requirements of each person who shares the experience. Only if everyone takes part in the others situation e.g. by interchanging the places in the car, the target can be met in the best possible way.

Insecurity Your own: It can be hard to communicate what your requirements are in an unknown surrounding to foreign people. The Outside unsecurity: Being foreigner in a foreign place, dependant on foreign people.
ToE Experience. It took me quite long to find all the meanings and themes. When I past that step, it went much quicker. I found it hard to judge out of a subjective point of view, especially concerning the other peoples documentation. Seeing things in so many different ways and writing about them over and over in that fragmented way was interesting and enlightening.
Kay, Jennifer
The experience of the snooze button

Reason_ Every morning I press the snooze button because I crave that extra ten minutes or in some cases two hours sleep. I wanted to illustrate its purpose as either a useful feature or a defect.

Hedonism_ Measuring pleasure as the highest form of happiness and endeavoring to increase this pleasure by constant use. In the context of ‘snoozing’, the snoozer rates this pleasurable experience above all other forms of happiness. The snoozer indulges in this additional sleep and laziness, which appears to be more important than the experience of the day ahead.

Addiction_ The temptation to hit the snooze button and the pleasure that it brings makes you become both reliant and careless.

It becomes an addiction that you can lose control of both mind and body. Once you hit it, you can not stop. Once a snoozer, always a snoozer!

Irrational Denial_ When it comes to the decision of snooze or get up, we lose the capability to make rational decisions, sacrificing essential tasks for snoozing time. We deny all responsibility, as well as our reliance on the snooze button.

Procrastination_ Snoozing is essentially a form of procrastination, where we avoid facing the day and begin to impede normal functioning. Each time we hit the button, we lose productive time and instead, indulge in interrupted sleep.

Illusion_ The short bouts of sleep, shifting between light sleep and consciousness plays with the mind. When we dream in these short periods, it can distort both time and reality,
sometimes with a parallel setting to reality. i.e. dreaming of being in bed, hearing background noises as part of your dream. Repetitive use can leave you in a state of confusion where time has been lost.

ToE Experience_ I found that the ToE was a good way to structure your research and extract the essentials. Although tedious, the act of ?ToE-ing? leaves you with expert knowledge of an experience, without the usual assumptions that we all make during research. I will try to use this method of research in the future, despite the occasional temptation to fling my laptop across the room.
Maghavipata, Marissa Melanie
Oluch, Mathilda

The experience of jogging

Reason. Because it’s interesting and we wanted to experience what Joggers feel. We wanted to find out if we would get addicted like ecstasy; the feeling, like flying.

Happiness. Profound joy that is almost not easy to describe using words. It’s a treasured moment which comes by surprise because it is not expected. The reward of not giving up but pressing on to the goal.

Consciousness. Being aware of how your body functions i.e. how you sweat, hearing your breath, blood circulation, the feeling of warmth and coolness, acquire your own personal space etc.

Beauty. The aesthetic outward appearance of something or somebody that tends to appeal to the viewer. It draws attraction and one feels like their own body has developed to look sporty.

Motivation. Self satisfaction due to reaching ones goals and targets. Seeing the worth of all the effort and energy invested in a certain activity.

Lightness. You reach a point whereby your body gets used to the difficulty of jogging and you seem to be flying when you are actually still running.
ToE Experience__ At the beginning it was exciting because we wanted to find out how it works but later on the monotony became too boring. If we had the chance to use the program “NVivo” instead of Excel it would have been much easier". 
**Palmi, Maris**

The experience of visiting small art galleries

Reason__I have always wanted to visit small Art Galleries, but never had the opportunity.

**Alien__**Many of small art galleries are “alien” to us as very few people know of their existence. They are not well publicised and are therefore hidden in the city. In addition, the entrances to these galleries are not prominent which results in confusion to whether it is open to the public. Usually nobody but the invigilator is inside. As a person enters a gallery, the invigilator who is dressed in a unique way immediately approaches them, invading their personal space by asking questions like, “Can I help you?” In moments like this, one might find themselves feeling insecure and alien-like.

**Impelled__**To feel impelled means to have the feeling that one should be giving an explanation as to why they want to enter a gallery. If the guest is alone he/she would stand in the middle of the room. Their own behaviour and expressions are very apparent, which makes to act unnaturally. This feeling is heightened severely, because the invigilator keeps an eye on you. Visitors might feel impelled to say something to “break” the silence or to like the exhibition, and not be perceived as impolite or rude.

**Imposing__**When a visitor enters to view the art, it might so happen that the owner of the gallery is having a private conversation which is imposing as it makes one feel that he/she should not be there listening to what is being said. However the visitor cannot help but feel rude by eavesdropping on what is being said. Also the conversation about art can be imposing. Being in the room without personal memories and not having a connection to the place is an imposing experience.
**Trapped** In the moment someone goes inside the gallery alone, they get trapped from a demanding narrowness. The silence and narrowness dispossesses them of their personal shelter with no object or person to hold onto. The person from the galleries stands between you and the exit causing you to be trapped, standing in the middle of the little room, being attacked from the pieces of arts, narrowness to the strange person, and burdensome silence.

**Power** The art business is a game with dependant players. If one wants to be a part of this, they need power. The curator of the gallery, who can chitchat better, makes more profit, which means having more power. The consumer has power to buy or not to buy. The artist, who has talent, has power to paint or not to paint. It is not clear, who decides over having talent. It is much chitchat and name-dropping. Anybody who has power is welcome. Art is business.

ToE Experience It is difficult to understand the ToE at first, but it really works!
Sheydin, André
Tonon, Marcos
The experience of buying tickets with KVB ticket machines

**Reason**_ The new digital ticket machines in Cologne are quite new to the people. There were public discussions about them and the software got revised several times. We, the researchers, didn’t use the ticket machine that often (only few times) so that we were able to analyse the experience almost objectively.

**Share**_ The ticket machine is public and is used this way. Often the buying is hectic when you know people are waiting behind you. The passengers behave friendly and even help others when they don’t disadvantage themselves.

**Loss**_ People who use the ticket machine for the first time or are even foreigners are assumed to have certain knowledge about the ticket-rates. The required information is not available at the ticket-machines.

**Decision**_ The passenger has to decide each ordering step starting anonymously. Each step the user encounters decisions to customize the ticket.

**Reflection**_ The passenger and buyer must recognize himself as a buyer. The person must know what he wants and where to go to buy the proper ticket. People must concentrate on the operation in which they unconsciously regard themselves travellers.
ToE Experience__ It was a very interesting and useful experience for us. We learned a new way to transfer problems from the real life in our understanding. Solving problems through design processes requires understanding of the truth of the experience. In this project we got to know a practical method to get closer to the truth. But it is also a new way of developing a complete new design thinking which tries to give a certain experience to the people.
**Smith, Lou**

The experience of using a personal timepiece

Reason__ I have always thought that time was interesting, it’s so fleeting and flexible, yet we try so hard to control it with our watches.

**Coordination** _In the big picture, time is just a fourth dimension in which action and events take place. The system of hours and minutes we use, is just a framework that we have imposed to coordinate ourselves within this fourth dimension, like the longitude and latitude of the earth. Every time we check our watch we are just attaching ourselves into this framework, and coordinating ourselves with the outside world._

**Homeostasis** _Many people are very accustomed to their watch, and cannot live without it. In contrast, some have not worn a watch for years, and don’t miss it at all. This describes a
homeostasis that we come to with our source for the time. You learn to be comfortable with or without it, and which side you are on doesn’t really matter that much, what is more important is that you are comfortable with it.

Craving_ The desire to know the time can be so strong at times it becomes like a craving. Once the question comes into ones head it hardly ever leaves it, until it is satiated with an answer of what time it is.

Flexibility_ Our perception of time can be so flexible sometimes it seems to fly past, and sometimes it seems to drag on. It can also be flexible, in that sometimes 5 minutes will fly past without any task being accomplished, and sometimes we can pack many tasks into the same short period of time. It bends, and moves for different situations.

Emotional Attachment_ The user grows an emotional attachment to their watch first, because it is a reliable source for useful information. But more interestingly users become attached to the style of their watch. In most situations the watch is worn daily, and it quickly becomes not only a way to show your style, but a symbol of who you are.

ToE Experience_ The ToE was a bit of a roller coaster. It was really fun in the beginning to be picking the text apart and putting it into the different categories. I felt like I was discovering so much about the experience. It got boring and repetitive more frequently as we neared the end, but overall I feel like I learned so much not just about watch use, but about human behaviour in general by having a chance to pick an experience apart and analyse it intensely.
Swiniarski, Rafael
The experience of swimming in the morning

Reason_ Many people think that swimming in the morning is something only grandmothers do. I thought more about an empty pool and I could not imagine, that somebody would want to go swimming at 7 a.m.. So I wanted to have this new experience and to see if what I and others were thinking, was in fact correct.

Self-reflection_ The most impressive thing to me was that morning swimming is an individual (no groups), very intensive and self-reflecting thing. Because of the water around you, you feel like you are in your own universe and you can think about yourself and the things that are bothering you.

Tranquil_ It is 7 a.m. and it is crowded, but you do not hear any children screaming, talking or laughter. The only thing you hear is your swimming noise, creating a quite relaxing atmosphere where your senses are touching the air and the water.

Quiet communication_ Not to disturb another swimmer or to signal that you want to pass through. You communicate quietly; only by eye contact. This helps you to stay in your own universe and maintain your self-reflection.

Support_ The hardest thing is to wake up at 6 a.m. and to have a reason to go swimming; especially when you are a beginner, afraid or unmotivated. Other obstructions appear before you are in the swimming pool e.g. weather, distance, prejudices, fear or just preparing the swimming stuff. So it is helpful to have a friend or an other person who supports and motivates you at the beginning, and whenever you want to go swimming.
ToE Experience__ It was a lot of work to capture the experience. It was especially hard to split up all my written text into hundreds of bits and to think about all of these. For example if a bit of information describes a positive or negative feeling. But after this step was done, it became more and more interesting. So I looked forward to summarizing all the bits until the essence of four words, which should describe this experience. It was great and I was really surprised at the end.
Tauber, Joanne
The experience of visiting Kölner Dom

Reason__ I am an exchange student here at KISD and for my first project I wanted to choose an experience that is unique to Köln.

Momentary Insight__ This is a moment when you suddenly become aware of yourself in a greater sense of space and time. It is as if you were looking down from above to see yourself as one body amongst the crowd of others. For a brief moment in time we see ourselves or our surroundings from a new perspective and everything seems extraordinarily clear.

Association__ Many of the ‘Dom experiences’ reminded me of other visits to similar buildings. Different things like climbing the tower, looking down upon the roofs below and feeling enclosed all reminded me of previous experiences.
**Overwhelming** The most dominant aspect in all the research is an ‘overwhelming’ feeling. This powerful emotion flows over you and can send a shiver down your back or blow your mind away. “A certain moment becoming overpowered by a feeling of joy, amazement and appreciation.”

**Receptive** This is being aware and in a receptive state to take in the surroundings. We are aware of the details of the building, sounds, smells, light and darkness, comfort, other people’s actions as well as all of the visual aspects of the space. “People walked with their heads in the air, some fast, some slowly. Most people are calm and unrushed and are in a receptive state, enjoying the experience, concentrating 100% and being open to their surroundings.”

**Uneasy** Visiting the Dom can be a daunting and scary experience — it is a place of worship and although most of the people there are tour-ists and not there for religious purposes, you can feel uncomfortable and out of place. Much of this is due being in unfamiliar surroundings and not knowing what to do. Going to a mass was the most significant events in my experience to create this self conscious and anxious feeling.

**ToE Experience** At first I found some of the headings of the ToE very complicated but as I used it more and more I began to get familiar with the terms. The ToE is a way of recording and analysing data in a very detailed and concise way. It was quite satisfying to get to the final steps and see the outcome of all my work.
Vierling, Sabine

The experience of having lunch at the Mensa

Reason—Though I do not enjoy having lunch there and sometimes rail against the “Mensa”, I often go there. What’s behind all this? What happens there?

Discomfort—It appears to me, that most of the students have their lunch at 13.00. At this time the Mensa is always crowded. There is a long queue at the main counter as well as at the salad bar and the wok-station. I hate to stand very close to other, unknown people and to wait for a long time. It makes me aggressive. The bad air and the noise are also things that make me wish to leave this place quite quickly.

Averageness—A visit of the Mensa is full of ordinary things. The interior design and the furniture are dull, the food is eatable but not the best and the students are quite unimpressive.

Scarcely anybody stands out from the crowd, neither in a positive or in a negative way, nor because of their appearance or their behaviour.

Monotony—Reaching for silverware, putting small uniform bowls on the tray, the voice of the till girl which asks us to pay 2,25 Euro, the monotonous taste of the food or the sound of the dirty tray when you put it on the conveyer band. All these things are familiar operations and sounds which happen again every time you visit the Mensa. There is a kind of familiarity in this monotony.

Ease—The bad air, the unpleasant, unappetising smell of food, the noise and the hecticness are responsible for the headaches I always suffer after about half an hour. Leaving the Mensa, standing in front of the building and breathing fresh air is especially intensive and valuable. This is a moment when freedom returns.
ToE Experience: It was a lot of work to do and sometimes it was not very easy. Is this thought a reflective or a reflexive one, did I find the right meaning? But after some steps I was really looking forward to the few words, which should finally describe my whole experience. I ended with 12 superordinary summaries and was a bit surprised about the “top four”.
Yeung, Wai Chun (Elaine)
The experience of window shopping

Reason__ I was curious to apply this process of understanding to something that is familiar with many people and is full of sensorial triggers.

Authority__ This status of being in command is primarily embodied as the person is independent in the environment. It consists of being in control of their journey through shops of their choosing and thus the immediate environment that they are in. Due to the way items are displayed in shops, this element may be accentuated as hardly any or even no assistance is required in the process from browsing to decision in purchase.

Influential surroundings__ This consists of the body immersed in the environment, absorbing all aspects of this experience through
the senses which may thereafter alter the person’s actions. This includes weather, mode of transport taken, smells of food, sound of music and sights along the street or in a shop window.

**Magnetism**_ There is an allure to the experience, which keeps people coming back. There are attractions to window shopping including the possibility of finding a bargain, the ever changing range suggesting its uniqueness, being attracted by the window display or to the atmosphere found in shops, cafes or on the street.

**Stimulus**_ Linking directly with the senses, these are the elements in the experience which stimulates the person; either creating a desire, building anticipation, prompting reflective and reflexive thoughts or giving elation. I found this notably applicable to this time of year as there is a great enthusiasm towards the festive season.

**Vulnerability**_ These are the weaknesses that may be encountered, whether it distracts or tempts the person from or into something. They mainly involve the relationship to other surrounding people in that moment.

**ToE Experience**_ I found it challenging striving to encapsulate various aspects of the data into one or two words which effectively reflect the same meanings. It is therefore naturally expected that only the author truly understands their final superordinary summaries.
07. **ToE and Design**

“The Monk as Machine” is an expression describing our final work - design concept which follows analysis of a chosen experience with the use of ToE. The “product” is a manifestation of our understanding of the experience.

Could it be as useful for designers/companies? It is an innovatory way of design creation, it indicates the importance of spirituality and emotions in the design process. Analysing an experience with the use of ToE enables designers to understand it from a totally different perspective.

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08. **ToE and Time**

When the method is being introduced to you, it seems complicated and mechanical. You have to go through all the descriptions to understand it properly. Sometimes you have to ask many questions as every single experience is different and it is impossible to find a universal solution for all of them. As soon as you become familiar with the ToE form the work goes faster and more smoothly. Definitely, most of the time is spent struggling with the meanings.
Using ToE by a company

Pros
new understanding
including emotions
innovatory
surprising
intellectual

Cons
time-consuming
complicated
not self-explanatory
intellectual

To sum up, the ToE can be an interesting way of explaining an experience and a much more detailed way of understanding it. It gives you a deeper analysis that is contrary to statistical methods based on standard questionnaires. However, it takes time to become familiar with the method, and it might be too time-consuming because collecting the data, recording it and putting the bits into ToE form, requires a lot of work.
10. In the future

The future of designing is at a crossroads and one thing is certain; the old ways must change. Companies can no longer afford to ignore the wider effect on humans, of the products they produce. Beyond economic ability companies must now demonstrate environmental and social concern.

These new imperatives will drive the need to understand new ways in which design can interpret economically viable outcomes. Companies and their designers will need to understand more human-centred design approaches to satisfy these needs.

Human-centred methods provide a way to establish an empirically derived but still spiritual design basis, rather than the well trodden ‘form and function’, ‘problem - solution’, features and benefits treadmills. These are the post-industrial
design paradigms that have given us a legacy of catastrophic consumption, global social inequity; even planetary weather change. The unplanned experiential ‘side-effects’ of most current design, highlight a lack of intentional spiritual connection with designed objects; this is what causes most consumers to be unsatisfied by what they buy.

Consumers are continually seduced by a plethora of variety and novelty, but their purchases do not make them happy. They are not touched in meaningful places. They need to be given the opportunity to gather to them things that matter, rather than continuing to waste the earth’s finite resources buying things that are incapable of satisfying their primordial (and largely unsatisfied) need for meaning.

This urgent need for a change in design thinking and social behaviour is refocusing international research attention on developing human-centred methods such as those used in the KISD trials. Methods offering more positive experiences in a less ‘volume’ focussed economic agenda, are actively being sought. In the future, this type of ‘lite’ Design or ‘Design-for-less’ is the way design must proceed, if it is to overcome the negative legacies of the past.
Thanks

We, the students, would like to thank lan for involving us in the ‘fine tuning’ of this exciting and pioneering method of research. ‘Design from Life’ has made us conscious of the ‘experience’ as a complex, emotional and spiritual journey, where ‘superordinary’ elements can inform the way we design. Although the excel version of the ToE inflicted much pain upon us, the outcomes were both rewarding and useful.

We would also like to thank Benjamin for his help throughout the project, and for asking lan the questions we were too scared to ask.

And the whole group – the project would not have happened without you.
12_ Relevant literature

Philosophy
Martin Heidegger, Sein und Zeit (Being and Time)
Hans-Georg Gadamer, Wahrheit und Methode (Truth and method)
Max Van Manen, Researching lived experience: human science for an action sensitive pedagogy
Mihaly Csikszentmihalyi, Flow: the psychology of optimal experience

Design and other theory
Peter Downto, Knowing research: researching, knowledge and designing
Alain Findeli, What exactly is design theory? Wonderground conference Lisbon 2006
Joseph Forgas, Handbook of Affect and Social Cognition

Internet websites
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