

knowing through making

An investigation into the construction of hand-knotted textiles and their collective application as textile space-defining elements within the interior.



by Liesl Wherry

Submitted in partial fulfilment of the requirements for the degree Master of Interior Architecture (Professional) to the faculty of Engineering, Built Environment and Information Technology.

UNIVERSITY OF PRETORIA

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"Now all glory to God, who is able, through his mighty power at work within us, to accomplish infinitely more than we might ask or think."

(Holy Bible, Ephesians 3:20)



PROJECT SUMMARY

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ABSTRACT

Currently textiles are mostly employed within the interior in a very traditional and conventional way. The discipline of Interior design does not exploit the uniqueness of the material nor does it fully explore its potential. Textiles offer underutilised potentials. If the evolution of the interior design discipline from upholsterer to decorator to interior designer contributed to the devalued status of textiles within the interior, the research aims to reevaluate this position and to reclaim valuable lost territory through alternative textile applications. These alternative textile applications are a re-interpretation of traditional textile applications and construction techniques.

The dissertation investigates the construction of hand knotted textiles and their collective application in the formation of textile space-defining elements. The process culminates in textile space-making. The in-depth exploration that leads to the creation of these textile space-defining elements, is initiated by the translation of traditional rope knotting techniques into alternative textile fabrication methods. Through this translation the project exploits the unique, and often latent characteristics of textiles as a material that can be flat but three-dimensional, weak but structural and soft but rigid.

With this in mind, the dissertation employs a hybrid research strategy which combines the Practice-based Research method and the Action Research method. 'Knowing through making' therefore signifies a definite shift away from the more established research methods that operate from the 'known to the unknown' towards Practice-based Research which operates from the 'unknown to the known'. Further, 'Knowing through making' implies research processes where data is 'created' or made instead of 'collected'.

UITTREKSEL

Tekstiele word tans op 'n baie tradisionele manier toegepas in die binneruim. Die dissipline van binne ontwerp benut nie die material ten volle nie en kan dus ook nie die volle potensiaal daarvan verken nie.

Tekstiele bied daarom onderbenutte potensiaal. As die ontwikkeling van die dissipline van binne ontwerp van stoffeerder tot versierder tot binne ontwerper, gelei het tot die verminderde tatus van tekstiele in die binneruim, beoog die navorsing om hierdie waardevolle grondgebied te herwin deur tekstiele op alternatiewe maniere aan te wend. Hierdie alternatiewe toepassings is dus 'n herinterpretasie van tradistionele tekstiel gebruike en konstruksie tegnieke.

Die verhandeling ondersoek die vervaardiging van handgeknoopte tekstiele en gesamentlike toepassing daarvan in die vorming van tekstiel ruimte-defineerende elemente. Die omvattende ondersoek wat lei tot die skepping van tekstiel ruimtevormende elemente, begin by die vertaling van tradisionele touknoop tegnieke en alterntiewe tekstiel vervaardigings metodes. Deur vertaling ontgin die projek die unieke en dikwels verborge eienskappe van tekstiele as 'n materiaal wat plat maar drie-dimensioneel is, swak maar struktureel is en sag maar rigied kan wees.

Met dit in gedagte, pas die verhandeling 'n saamgestelde navorsings strategie toe wat 'n kombinasie van die Praktykgebaseerdenavorsingsmetode en die Aksienavorsingsmetode is. 'Knowing through making' dui 'n definitiewe skuif weg van meer gevestigde navorsingsmetodes af, wat gewoonlike beweeg vanaf 'die bekende na die onbekende' na Praktykgebaseerdenavorsing wat benader word van die 'bekende na die onbekende'. Verder impliseer 'Knowing through making' navorsings prosesse wat data 'skep' of maak in plaas van 'insamel'.





In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertation and theses, I declare that this dissertation, which I hereby submit for the degree Master of Interior Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

Liesl Wherry



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Figure I.I. Micro Macrame, Simone Samuels, 2012 (YTIMG, 2012).



To me the simple act of tying a knot is an adventure in unlimited space.

A bit of string affords a dimensional latitude that is unique among entities.

For an uncomplicated strand is a palpable object that, for all practical purposes, possesses one dimension only. If we move a single strand in a plane, interlacing it at will, actual objects of beauty and utility can result in what is practically two dimensions; and if we choose to direct our strand out of this one plane, another dimension is added which provides opportunity for an excursion that is limited only by the scope of our own imagery and the length

-Clifford W. Ashley, The Ashley Book of Knots, 1944: 8.

of the rope maker's coil. What can be more wonderful than that? "

he dissertation investigates the construction of hand-knotted textiles and their collective application in the formation of textile space-defining elements. See Figure 1.1. Hand knotted macramé, (left and on poster 1). This process culminates in textile space-making. The comprehensive exploration that leads to the creation of these textile space-defining elements is initiated by the translation of traditional rope knotting techniques into alternative textile fabrication methods. Through this translation the project explores the unique, and often latent characteristics of textiles as a material that can be flat but three-dimensional, weak but structural and soft but rigid.

Chapter one provides a short discussion on interior design and decoration as background to the study. This is followed by the design premise. The design premise leads into a series of research questions, whereafter it introduces the concept of 'Research through making'. This is followed by the aims and delimitations clarifying the intent of the study. Further, a hybrid research strategy is introduced. This hybrid research strategy forms part of the dissertations contribution and is therefore discussed in more detail later within the document. The section describing the research methods is followed by the definition of terms. The chapter concludes with a chapter to chapter summary of the dissertation.



research through making

|.|. BACKGROUND

The acknowledgement of the interior design discipline as separate from that of architecture is primarily a twentieth century phenomenon (Gurel & Potthoff, 2006: 218). As construction and material technologies have advanced, interior design has evolved and grown with it. As a result, this specialised discipline is rapidly becoming more predominant in the building industry (Edwards, 2011: 231). This contributes positively to the complexity of the field, but creates conflict between the disciplines of Architecture and Interior design as professional boundaries need to be redefined.

For a number of years Interior designers have emulated the process of architecture in order to legitimise the profession of interior design (Hill & Matthews, 2007: 11). Hill and Matthews (2007: 11) states that the interior design profession should assess its relationship with architecture and re-position itself in terms of its masculine counterpart. Further, Havenhand (2004: 35) states that this emulation of the architectural profession unintentionally '...supports the system that ensures [interior design's] supplemental position.' Not only does this place interior design as supplemental to architecture but also defines interior design as less than architecture (Havenhand, 2004: 35). The idea that emphasis should be placed on the differences between the disciplines of architecture and interior design is expressed by Havenhand (2004: 40) in A view from the margin: Interior design:

In a new strategy of interior design that celebrates its marginal position, and therefore a wider, more complete and more robust view of interiority, issues such as materiality, sensuousness, decoration, nurturing, self-expression, desire and mothering which have been deemphasized in a male, rationalist, architectural framework would be brought to the foreground" (Havenhand, 2004: 40).

Havenhand (2004: 42) refers to elevating the theoretical position of the feminine within the discipline and acknowledging its marginality, as a strategy for establishing a distinct identity for interior design.

Instead of emulating architecture, interior design should emphasize its uniqueness and draw attention to its otherness

Additionally, the emulation of architecture by the interior design discipline could be seen as an attempt by the discipline to distance itself from interior decorating (Chalmers & Close, 2007: 78; Havenhand, 2004: 35; Hill

& Matthews, 2007: 11; Sanders, 2002). However, Königk (2010: 40) states that '...interior decoration (especially as far as colour, surface treatment, furnishings and material choice is concerned) is an intrinsic aspect of interior design.' And that to deny [interior decoration] would be '...to deny a portion of the discipline's being.' Hoskyns (2007: 85) is of the opinion that interior decoration utilises many materials and tools that are also key to the discipline of interior design. Hoskyns (2007: 96) further mentions that the discipline of interior design should not exclude these processes but rather '...unpick...transform and reclaim them...'

Zamberlan (2013: 110) is of the opinion that it is precisely the decorative aspect of interior design that allows it to '...operate as a specialist discipline distinct from architecture.' Similarly Hill and Matthews (2007: 12) states that by distancing itself from interior decorating, interior design negates the component of the discipline that ensures that it remains unique and its services desirable.

See Figure 1.2. Representation of the perceived relationships between interior design, decoration and architecture, poster I (page 6). The diagram is a representation of relationship between interior design, decoration and architecture as part of the reflection process employed within this dissertation. Refer to section I.5. Methods and CHAPTER 2: Methodology for further clarification.









DESIGN PREMISE

Historically, textile was the material of choice for the upholsterer and later the decorater (Sanders, 2002). The evolution of the discipline of interior design, from upholsterer to decorator to interior designer ensures an undeniable link between textiles and interior design.

Hoskyns (2007: 85) mentions that even though interior decoration has a long history with textiles, the relationship between interior design and textile is currently problematic. See Figure 1.3. The issue of decoration, on poster 1 (following page) for an overview of the possible reasons for the interior design discipline's issues with decorating (Sanders, 2002).

Currently the use of textile within the discipline of Interior design is mostly employed in a very traditional and conventional way. The discipline of Interior design does not necessarily exploit the uniqueness of the material and it doesn't fully explore its potentials. If the evolution of the interior design discipline from upholsterer to decorator to interior designer contributes to the devalued status of textiles within the interior, the research aims to re-evaluate this position and reclaim this valuable lost territory through alternative contemporary textile applications. These alternative textile applications are a re-interpretation of traditional textile applications and construction techniques.

1.2.1.

RESEARCH QUESTIONS

١.

What are the possibilities or restrictions that handknotted rope and rope-like materials offer when making interior textile space-defining elements?

2.

What does the construction process and fabrication drawings of a manually constructed textile-based artefact look like?

3.

How does 'Research through making' manifest when conducted within the interior design discipline?

4.

Does the Practice-based Research method offer an alternative approach to the manner in which research is typically conducted within discipline of Interior design?

Due to the nature of the study, these research questions merely form an outline for the study. Further research questions become part of research through making, and can thus be found integrated into **CHAPTER 5: Design application**. See Table 5.5. Test matrix, poster I2 (page 58). Section **I.2.2. Project overview** on poster I on the following page, recapitulates some of the points discussed in this and earlier sections. Also see section **I.3. Aims and Objectives** and section **I.4. Delimitations** on poster I (following page).

1.2.3.

RESEARCH THROUGH MAKING

This dissertation conducts research through the act of making. Knowing through making therefore does not apply traditional or conventional research methods employed within the discipline of interior design, but investigates, learns and designs by making. Refer to CHAPTER 2:

Methodology, for a description of the methods utilized and their application in the design process.

Section I.2.4. Research through making at Taubman College, poster 2 (page 7) offers an example of an educational facility that offers a research course based on the act of making. The poster section also offers example images of projects completed at educational facilities that offer similar courses to Taubman College. See sections I.2.4.1. -I.2.4.5. for example images of projects completed at these facilities.



knowing through making:

An investigation into the construction of hand-knotted textiles and their collective application as textile space-defining elements within the interior.

Liesl Wherry 11008581 Study leader: Elana vd Wath & Raymund Konigk Field of study: Heritage and cultural landscapes

To me the simple act of tying a knot is an adventure in unlimited space. A bit of string affords a dimensional latitude that is unique among entities. For an uncomplicated strand is a palpable object that, for all practical purposes, possesses one dimension only. If we move a single strand in a plane, interlacing it at will, actual objects of beauty and utility can result in what is practically two dimensions; and

if we choose to direct our strand out of this one plane, another dimension is added which provides opportunity for an excursion

that is limited only by the scope of our own imagery and the length of the rope maker's coil. What can be more wonderful than that?"

Clifford W. Ashley –The Ashley Book of Knots, 1944: 8.

1.2.2. PROJECT OVERVIEW

Currently the use of textile within the discipline of Interior design is mostly employed in a very traditional and conventional way. The discipline of Interior design does not necessarily exploit the uniqueness of the material and it doesn't fully explore its potentials. If the evolution of the interior design discipline from upholsterer to decorator to interior designer contributed to the devalued status of textiles within the interior, the research aims to re-evaluate this position and reclaim this valuable underutilised asset through alternative contemporary textile applications. These alternative textile applications are a re-interpretation of traditional textile applications and construction techniques.

The dissertation investigates the construction of hand-knotted textiles and their collective application in the formation of textile space-defining elements. This process culminates in textile space-making. The comprehensive exploration that leads to the creation of these textile space-defining elements, is initiated by the translation of traditional rope knotting techniques into alternative textile fabrication methods. Through this translation the project exploits the unique, and often latent characteristics of textiles as a material that can be flat but three-dimensional, weak but structural and soft but rigid.

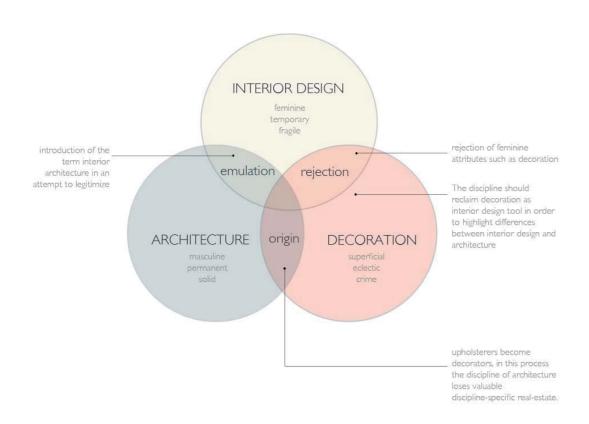


- I. Explore the use of hand-knotted rope and rope-like materials in the formation of space-defining elements within the interior
- 2. Manually construct a textile-based artefact/object as the creative outcome of
- 3. To explore and advance knowledge through the act of making by hand within the discipline of interior design
- 4. To explore and advance the use of the Practice-based Research method within

the discipline of interior design

1.4. DELIMITATIONS

- The study will not investigate the chemistry or science involved in the composition of textiles
- Although the study considers a varied selection of textiles, the design investigation is limited to the specific use of hand knotted rope and rope-like materials as the primary manual construction material
- The study does not investigate textile use within the domestic interior but places focus on textile use in public spaces
- Although the test samples that are made employ found material, the study is not an exercise in the upcycling, recycling or re-using of found materials.
- The study submits to the method of Practice-based Research where the artefact is the creative outcome of the study, therefore the site for intervention is mainly an application space for the final design and will not be analysed in depth.



(above) Figure 1.2. Representation of the perceived relationships between interior design, decoration and architecture (Based on authors own understanding).

(right) Figure 1.3. The issue of decoration, photo collage by author, text as summary from (Sanders, 2002).





New professional figure:

The development of the curtain wall eradicates the distinction between the inside and the outside of architecture. Invention of "built-in" furniture underscores the difficulty of determining where one practice ends and the other begins.



Decorators assume the role of the upholsterers. The first decorators were amateur self-taught society women. House-decoration ceases to be a branch of architecture as the responsibility falls to the decorator.

Status of ornament:

The western architectural tradition identifies

womanliness with "artifice", thus associates

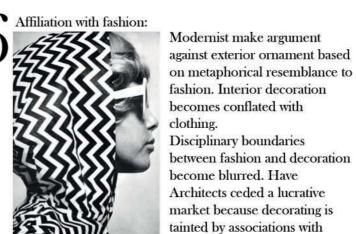
ornament with femininity. Gender prejudice

considered additions potentially corrupting

manliness with "authenticity" and

repudiates ornament as ornament is

integrity of buildings.



Architectural self esteem:



fashion and femininity?

Division of labour:

Interiors of upper-class

upholsterers rather than

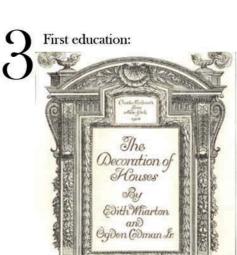
"Upholsterers corrupt the

spatial integrity of buildings."

dwellings outfitted by

architects.

design is inherently feminine and conducted by women or effeminate gay men accounts for the field's inferior status. Interior design threatens the self-esteem of many architects and therefore, architects ultimately disavow interior design as a way of overcompensating for masculine vulnerability. Emulation contributes to the interior design discipline's marginalisation and



The decoration of houses (1897) was seen as the first handbook for the modern interior decorator. The book was seen as a way to understand the fundamental principles of the art and to bridge the architect/decorator divide. Instead of bridging the gap, it enhanced the divide.

Thus the relationship between architecture and decoration now mirrors the relationship between women and domestic space: The house is presumed as the female domain, and housewives are subject to their home-owning husbands.

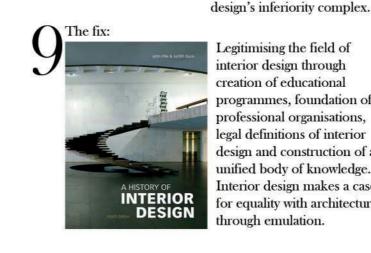


Interior, fashion and theatre attracts a disproportions men, as gay men are already marginalised for their apparent femininity, they are less reluctant to assume occupations that are traditionally deemed feminine.

A possible solution:

discipline.

Emphasize the act of decorating within the discipline of interior design in order to celebrate the differences between architecture and interior design. This could potentially become a strategy to diminish interior designs inferiority complex and assist in the process of legitimisation of the



Legitimising the field of interior design through creation of educational programmes, foundation of professional organisations, legal definitions of interior design and construction of a unified body of knowledge. Interior design makes a case for equality with architecture, through emulation.

prevents interior design from

establishing a distinct identity. The

of architecture, enforcing interior

strategy acknowledges the superiority



research through making PRECEDENT STUDY

Knowing through making signifies a definite shift away from the more established research methods that operate from the 'known to the unknown' towards Practice-based Research that operates from the 'unknown to the known'. Further, Knowing through making implies research

processes where data is

'created' or made instead of 'collected'

(Sullivan, 2009: 48, 50; Nimkulrat, 2012: 2).

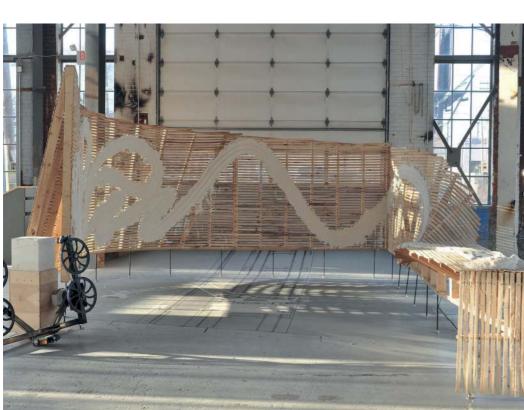
1.2.4. RESEARCH THROUGH MAKING at TAUBMAN COLLEGE

"Historically, research and creative practice have been constructed as "opposites." This is not an unusual struggle in architecture schools, particularly in the context of a research university. This perceived tension between design and research is indicative of age-old anxieties within the architecture field to understand its nature as an "applied art." Design can be a purely creative activity not unlike creative practices in music and art. In other cases, design can be a purely problem solving activity, not unlike research in engineering and industrial production." (Taubman College, 2014).

The Research Through Making programme at Taubman College is focussed on research and creative projects that are grounded in the act of making. Since the inception of the Research Through Making programme in 2009 seed funding has been awarded to realize up to five projects yearly. Projects produced by faculty and student members are publicly exhibited in the Liberty Annex Gallery. The Research Through Making programme is innovative, bringing knowledge back to the studios and to the students themselves.

1.2.4.1. Morphfaux...Recovering plaster as architectural substrate TAUBMAN COLLEGE Steven Mankouche, Joshua Bard, and Matthew Schulte Research Through Making 2011

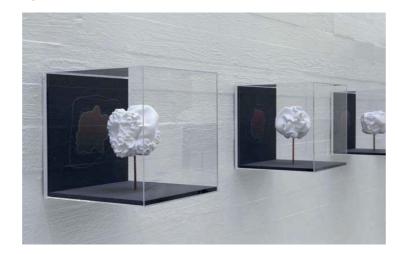
MORPHFAUX (See images below) explores the lost craft of plaster. It considers it's potential for producing thickened architectural environments by means of contemporary digital technology. The research project opposes the flatness of contemporary, standard dry wall construction by exploring the malleability of plaster. Plaster is a material that can be textured and smooth; and thick and thin. In essence the research seeks alliances between human ability and automated capacity (Taubman College, 2014).

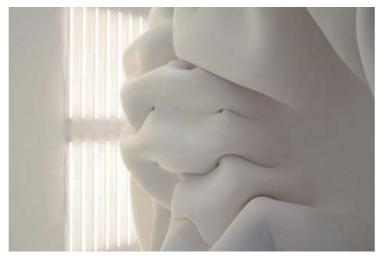




(above) Figure 1.4. & 1.5. Morphaux (TAUBMAN COLLEGE. 2014) (top right) Figure 1.6. & 1.7. Erratic - Digital Geometry and Unwieldy Matter (architecture in the making, 2014) (middle right) Figure 1.8. & 1.9. Honeycomb morphologies (matsysdesign, 2004) (middle right) Figure 1.10. & 1.11. Knit architecture (matsysdesign, 2006) (bottom right) Figure 1.12. Thaw (cita, 2010)

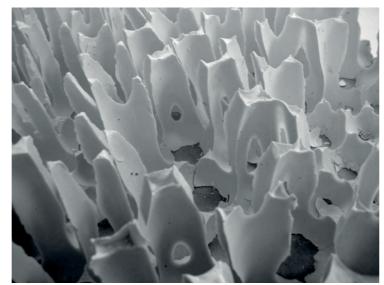
Erratic - Digital Geometry and Unwieldy Matter ARCHITECTURE IN THE MAKING: Architecture as a making discipline and material practice Daniel Norell and Einer Rodhe Research project



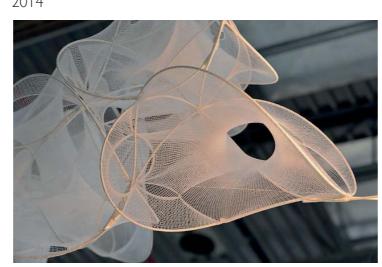


1.2.4.3. Honeycomb morphologies MATSYS & ARCHITECTURAL ASSOCIATION Andrew Kudless MA Dissertation in Emergent Technologies and design





1.2.4.4. Knit Architectures TAUBMAN COLLEGE Sean Ahlquist, Wes McGee, Anthony Waas Research Through Making





1.2.4.5. CENTRE FOR INFORMATION TECHNOLOGY AND ARCHITECTURE Mette Ramsgard Thomsen, Karin Bech and Behnam Pourdeyhimi, NC State University, College of Textiles Masters research project 2010





1.5. METHODS

The dissertation focusses on the making of hand knotted rope-like textiles as part of the manual fabrication of textile space-defining elements. With this in mind, the dissertation employs a hybrid research strategy which combines the Practice-based Research method (Candy, 2006) and the Action Research method (Dick & Swepson, 2013).

The Practice-based Research method demonstrates a contribution to knowledge through the making of an artefact as creative outcome. In this dissertation both the process of making and the products of making are an essential part of the research. The method's success relies on the rigorous documentation of the research process as well as the artefact's role within the creative process. Finally, it requires clear research questions, methods for answering these questions and a context in which the research is carried out (Creativity & Cognition studios, 2015; Makela, 2009: 4; Biggs, 2002: 1). See Figure 1.13. Hybrid research strategy (left). Section 1.5.1. Methods overview on poster 3 (page 16), recapitulates this section.

The incorporation of the Action Research method within the framework of Practice-based Research, assists with the act of making. The iterative and cyclical nature of the Action Research method contributes positively to the development of a well resolved artefact. Within this dissertation the Action Research method will allow for questions to be asked and answered within a specific context. Knowing through making therefore signifies a definite shift away from the more established research methods that operate from the 'known to the unknown' towards Practice-based Research that operates from the 'unknown to the known'. Further, Knowing through making implies research processes where data is 'created' or made instead of 'collected' (Sullivan, 2009: 48, 50; Nimkulrat, 2012: 2).

The hybrid research strategy incorporates various research techniques. Research techniques include:

- Literature reviews
- Precedent studies
- Drawings/sketches
- Observation and documentation
- Analysis and Synthesis
- Making and material exploration

The research strategy is discussed in more detail in CHAPTER 2: Methodology. The Design Process derived from the research strategy (plan, observe and respond) is considered further in CHAPTER 5: Design application.

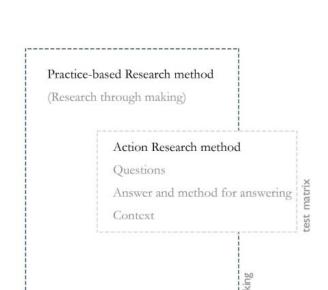


Figure 1.13. Hybrid research strategy.





1.6. Definition of terms

NOTE: The following terms are collected and composed from various sources, including knowledge acquired through making. Sources are indicated where necessary.

TEXTILES: The term textile is derived from the Latin textilis and the French texere, which means 'to weave' (Whewell, 2015). Originally the term represented only fabrics produced by means of weaving. Later however, the term also encompassed fabrics produced by additional methods. Therefore lace, embroidery, nets, threads, cords, ropes, braids and fabrics made through methods of weaving, knitting, felting, bonding and tufting are considered textiles (Whewell, 2015). The term textile within the confines of this study consequently refers to any filament, fibre, yarn or rope that can be processed into cloth or fabric as well as the resultant material.

ROPE: A length of thick strong cord made by twisting [braiding or plaiting] together the strands, plies or yarns of hemp, sisal, nylon, or similar material (oxford dictionary online, Meriam-Webster online). Rope is also refered to as cordage.

ROPE-LIKE: Any textile that exhibits similar characteristics to those of rope as defined above or that can be knotted and handled in a similar manner to rope.

KNOT: An interlacing of the parts of one or more flexible bodies forming a lump or knob (as for fastening or tying together) (Meriam-Webster online). An intertwined loop of rope, used to fasten two such ropes to one another or to another object. A knot even when not in use, will hold its shape or form (Ashley, 1993).

TENSILE STRENGTH: The average strength of new rope under laboratory conditions (Boatsafe, 2009).

BREAKING STRENGTH (BS): The greatest stress especially in tension that a material is capable of withstanding without rupture. The minimum BS is considerably greater than the safe working capacity (Boatsafe, 2009).

SAFE WORKING CAPACITY (SWC): Safe working capacity, also known as safe load or work load limit, is the maximum load that can safely be applied to a particular type of rope. The safe working capacity for most kinds of rope is between 15% and 25% of the tensile strength. The difference between the BS and SWC is due to the application of a safety factor (SF) (Boatsafe, 2009).

BLOCK AND TACKLE: A Block and tackle is a system of two or more pulleys with a rope or cable threaded between them, usually used to lift or pull heavy loads. The pulleys are assembled together to form blocks and then blocks are paired so that one is fixed and one moves with the load. The rope is rove (threaded) through the pulleys to provide mechanical advantage that amplifies that force applied to the rope (Royal Canadian Sea Cadets, 2015).

DEVELOPED TERMS: The following terms were developed during the design and making process. The terms relate specifically to the fabrication of the textile samples. Application of the terms can be seen in **CHAPTER 5: Design application.**

CORD TYPE SET: (CTS) Any collection of cords within one sample that are of the same material.

PRIMARY CORD: (Pr) The main carrying cord in any cord type set.

SECONDARY CORD: (Se) The cord secondary to the primary cord in any cord type set.

STRUCTURAL CORD: (SC) Any cords forming the structure or carrying the weight of any Filler cord type set.

FILLER CORD: (FC) Any cords forming the infill or body of a sample and is fixed by means of knotting to any Structural cord type set. The Filler cord does not carry the weight of the sample unit.

ANCHOR POINT: (AP) Any point or fixing place to which a textile can be fixed using various configurations of rigging hardware. (See Rigging details on poster 32, page 84 + 85 for selected rigging configurations).

1.6.1.
LIST OF ABBREVIATIONS

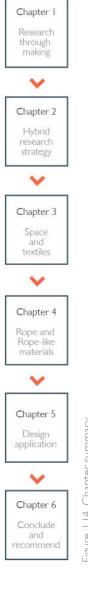
ABOK: Ashley Book Of Knots AR: Action Research PBR: Practice-based Research



1.7. CONCLUSION: OVERVIEW OF CHAPTERS

CHAPTER I: Introduction, is a concise outline of the dissertation. It introduces the reader to the aims of the study as well as provides the boundaries and extent to which the study will take place. CHAPTER 2: Methodology, provides a description and justification for the use of the Practice-based Research method and the Action Research method. This hybrid research strategy informs the decision making process throughout the design development and production. CHAPTER 3: Literature study, identifies and discusses the concepts and theory of traditional and alternative space-defining elements. These concepts form the basis for the design response. CHAPTER 4: Material overview, introduces the reader to rope and rope-like materials, and situates the material of rope within the larger realm of textile and textile production. CHAPTER 5: Design application, presents the conceptual approach, test sites and design response. (All data for the design process is located within the Appendices). The chapter also contains the final technical design solution. CHAPTER 6: Final reflections concludes the dissertation with a personal reflection, a description of the contributions of the dissertation as well as recommendations for further study. See Figure 1.14. Chapter summary (right).

The dissertation document is structured to contain posters as part of the document. The poster number is indicated at the bottom of the page next to the page number. The table of contents indicate posters in yellow text.





"look what architecture can't do."

-Petra Blaisse