

Lending a hand: A phenomenological exploration of the act of drawing

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SUMMARY

Bearing in mind the dearth of research into the phenomenological dimension of the act of drawing by hand, this study considers and explores how drawing may produce humanising effects—including the reflexivity and metacognition that may contribute to nurturing empathy—rather than just cognitive skills such as the ability to draw. To achieve this aim, this study explores hand-drawing as a site for coping, caring, shaping, and connecting. Objectives for this study are formulated and addressed along these lines.

To begin with, hand-drawing is framed as a coping strategy that helps designers to deal with ‘wicked problems’. Secondly, with reference to the phenomenology of Martin Heidegger, the relationship between the hand, drawing and care is considered. Thirdly, with reference to the philosophy of Maurice Merleau-Ponty, the relationship between drawing and a phenomenology of shaping is explored. Finally, with reference to George Lakoff and Mark Johnson’s embodied perspective of metaphorical thought, hand-drawing is articulated as a site where connections are made and empathy is nurtured. To bolster its phenomenological perspective, this study refers to recent research by drawing practitioners.

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DECLARATION OF ORIGINALITY

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Declaration

1. I understand what plagiarism is and am aware of the University's policy in this regard.
2. I declare that this MA dissertation is my own original work. Where other people's work has been used (either from a printed source, Internet or any other source), this has been properly acknowledged and referenced in accordance with departmental requirements.

SIGNATURE



December 2015

CHAPTER ONE: INTRODUCTION

1.1 Background and need for the study

The role of the hand in the act of drawing in design, and its relation to fostering empathic designers, are two diverse interests underlying this dissertation. These interests come from emergent research over the last two decades in drawing and design discourse that impact on the position of the teaching of hand-drawing.

For purposes of clarity, the terms hand-drawing, design and drawer are briefly explained. The term *hand-drawing* includes all forms of drawing, sketching, and diagramming that involve drawing by hand as opposed to digital drawing. The term *design* as used in this study refers to the broad spectrum of creative disciplines where hand-drawing is used for the visualisation and sharing of ideas.¹ Where appropriate, discipline specific conventions for engineering, architecture, textile design, communication design, and product design are acknowledged. Although this study keeps in mind a particular intuitive drawing strategy that is traditionally aligned more closely to Fine Arts approaches, the context within which self-directed intuitive approaches are explored is design.² In professional design industries such as architectural, product, industrial and engineering design, the terms draftsman, draughtsman or draughts person are commonly used to describe one who draws. Following Howard Riley (2002a, 2002b, 2006, 2010, 2012), the operational term in this study for ‘one who draws’ is a ‘*drawer*’.

Within the context of the phenomenologies suggested by Martin Heidegger, Maurice Merleau-Ponty, and George Lakoff and Mark Johnson, this study explores the role of the hand in the act of hand-drawing for design. In particular, this exploration focuses on the role of the hand in the act of drawing and its potential for nurturing empathy³ in designers. In other words, bearing in mind the broad concept of the “citizen designer” who is socially, professionally, culturally, and morally responsible for the impact of their design (Heller &

¹ Referring to recent work in cognitive science by Goel (1995) and Gedenryd (1998), Buxton (2011) suggests designers’ approaches to creative problem solving is not the same as computer scientists and is more like solving puzzles. That is, design can be distinguished by a particular cognitive style. “Sketching” for Gedenryd (in Buxton 2007:96) is fundamental to the design process.

² Jac Saorsa’s (2011a) notion of ‘*Drawing without ideas*’ is exemplary of the technique discussed, but reference can be made to similar drawing strategies promoted by Hare (2002), Riley (2012), Talbot (2012) and others.

³ Although the roots of empathy stem from the German Romantics’ concept of ‘*empathy*’, referring to aesthetic experiences such as “feeling into” the natural world, this study’s focus is more on the human experience related to well-being of the self and of others, which is expanded on where relevant in the study.

Vienne 2003), as well as Steve Garner's (2012:18) contention that drawing is a humanising act, this study speculates that drawing by hand can support the nurturing of skilled, socially responsible designers.

The notion of *empathic design*⁴ developed as a methodology in design practice with designers immersing themselves in the everyday life experiences of real users to get a better sense of what was required to develop innovative products and design approaches (Matteläki, Vaajakallio & Koskinen 2014:70). The focus of this study is not, however, on this kind of empathic engagement. Rather, its focus is on the kind of empathy that is ontologically present in everyone, the kind responsible for caring for the well-being of oneself, others, and the environment. The broad concept of a citizen designer suits this type of empathy in that it suggests designers who are professionally, socially, culturally, and morally responsible for the impact of their work on the world (Heller & Vienne 2003). This study therefore investigates phenomenological relationships involved in the act of drawing by hand for design in relation to the ongoing need for "citizen" designers who 'care' about the impact of their design on "citizenry".

The overarching argument investigated in this study is underpinned by the base line provided by Heidegger's phenomenological ontology, which asserts that human beings have an inherent capacity for care. It is argued that this innate 'caring' can be evoked in the designer's attitudes towards others and their environment. An awareness of this kind of caring attitude that goes beyond drawing may seem obvious, but the possibility that it may contribute to nurturing such an attitude must nonetheless remain open. That said, the focus here is on an ontological and experiential rather than an ethical level, and therefore only implies broader ethical and moral discussions.

The abovementioned concern for nurturing empathic designers through hand-drawing is contextualised firstly within a personal rationale underlining the relevance of the presence of the body in drawing acts, and secondly in relation to two emergent themes in contemporary drawing discourse. The first theme foregrounds the relevance of drawing through a growing network of drawing, and the second positions drawing within an ongoing analogue versus digital drawing debate that negotiates technology's impact on hand-drawing in design.

⁴ Matteläki *et al.* (2014:76) refer to empathic designers in Helsinki, but note that similar interests are evident in the Netherlands, the United States, Italy, Denmark, and the United Kingdom with researchers aiming to soften borders between research and design by increasing sensitivity towards humans and collaborative design processes.

The initial interest in this research started with a spontaneous comment from a student after the completion of a project I initiated and coordinated, which tried to establish how mobile devices could be used to aid daily tasks faced by Community Oriented Primary Health Care practitioners (COPC) in their service to a disadvantaged urban community. Students were given the opportunity to accompany COPC practitioners and volunteers on their routine visits to houses and clinics to identify potential uses for mobile phones to alleviate challenges and complexities experienced by the health care workers. To overcome language issues during the orientation visits, students used spontaneous gestures, signs, and quick drawings to communicate with members of the community. Students posted maps, diagrams, and drawings to promote collaborative communication during the working process, in addition to their visual logbooks and visual and written reflections of their experiences of participative action research in the community. Following Carole Gray and Julian Malins (2004) and Bill Buxton (2007), the project encouraged the use of drawing as a research tool for documenting idea development through, for example, the use of user design processes and user testing. When students were asked about their most profound learning experience during the project, one student commented on how moved she was when her *act of drawing* attracted the attention of bystanders and made them come and talk to her, volunteering information on an 'intimate' basis. The apparent kindness of this social act was mutually appreciated, and according to the student, made her overcome her initial anxiety about interviewing people. Thus, it seems that drawing may be a way not only to connect with other people, but also for nurturing human capacities in the drawer. There is a performative and interactive dimension here, obviously, but this still raised a question whether drawing itself may nurture such capacities. Steve Garner (2012:18) states, "by drawing I provoke modes of interaction that humanise me in other people's eyes".

The student's experience above indicates the primary importance of drawing in the daily, lived experience of design students. The presence of the *act of drawing* draws attention to the French philosopher Merleau-Ponty's idea of the body as mediator, as well as to the concept of "embodied cognition" (Smith & Gasser 2005:[sp]). Embodied cognition is an emerging theme in contemporary drawing discourse and is of relevance for exploring the role of the hand in the act of drawing. Analogous to thinking on one's feet is the idea of 'drawing on the fly', which literally implies 'drawing as one thinks'. The embodied nature of the hand connected to the brain through the act of drawing, to enable the kind of metaphoric 'short-hand' thinking involved in 'drawing on the fly', is the focus of this study. Lakoff and Johnson's

(2003:257)⁵ phenomenological theory positions metaphors not in language, but as an embodied way of thinking, manifesting through multiple utterances of the human body, through speech, actions, and drawing. This study posits that drawing can play a central role in facilitating the different kind of phenomenological experiences discussed in each chapter, in order to develop skills that individuals already possess, but that need nurturing.

While I was attending a conference on drawing and cognition research,⁶ a brief encounter with alternative means of inquiring into drawing at a series of workshops at the Metropolitan Museum of Art in New York (the Met), left me intrigued by the strategies used. My initial skepticism towards the supposedly intuitive nature of some of the means of enquiry, such as observing work from a ground level angle and acting out the poses of sculptures in embodied praxis, was short lived. The enthusiasm of delegates for researching drawing and cognition from an embodied perspective encouraged me to examine related topics, including the benefits of post-reflection strategies. Since I was familiar with Donald Schön's (Schön & Wiggins 1992) notion of reflecting-in and reflecting-on during design processes, the Met workshops made me wonder about using intuitive, experience-based drawing workshops for design students to encourage them to exercise and experience their own bodily acts, mental capacities, and emotions.

Some of the more expressive exercises at the workshop focused on intuitive drawing and mark-making with basic drawing tools such as charcoal or pencils. These exercises spark dialogue between the drawer and the paper in a way that challenges the hand, thoughts, and emotions. Teaching this kind of intuitive drawing approach is advocated by educators such as Angela Brew (2011), Jac Saorsa (2002, 2004, 2011a, 2012), Stephen Felmingham (2013, 2014a, 2014b), Howard Riley (2006, 2012), and Mari Lecanides-Arnott (2014). Furthermore, practice-led research such as conducted by Richard Talbot (2012) and Patricia Cain (2006, 2010) promotes a deductive approach for gaining an understanding of intuitive, embodied, experience-based drawing strategies.

Over the last two decades, there has been a resurgence of interest in the practice and theory of drawing, as well as research on the teaching of drawing (Garner 2012). Examples of seminal publications include Hoptman's *Drawing now: eight propositions* (2002), David

⁵ Lakoff and Johnson co-authored two seminal texts referred to in this study: *Metaphors we live by* (1980) and *Philosophy in the flesh: The embodied mind and its challenge to western thought* (1999)—hereafter referred to as *Philosophy in the flesh*.

⁶ The 2013 Drawing Research Network (DRN) conference themed *Drawing and cognition research* was held at the Teachers College Columbia University and the Metropolitan Museum of Art in New York, 21 to 24 October 2013.

Rosand's *Drawing acts: Studies in graphic expression and representation* (2002); Emma Dexter's *Vitamin D: New perspectives in drawing* (2005), Tania Kovat's *The drawing book: a survey of drawing: the primary means of expression* (2007), Deanne Petherbridge's *The primacy of drawing* (2010), and Phaidon's *Vitamin D2: New perspectives in drawing* (2014). In addition, multidisciplinary initiatives and institutions such as The Campaign for Drawing⁷ and its Big Draw⁸ festival, The Drawing Research Network (DRN),⁹ the International Drawing Research Association (IDRA),¹⁰ the Centre for Drawing: Wimbledon, a Research Centre of the University of the Arts London (UAL), and the Royal Melbourne Institute of Technology argue for the importance of drawing and drawing research. Such initiatives bring together a broad spectrum of disciplines, including Fine Art, Architecture and Communication design, Industrial design, Interior design and Textile design. Although some of the current topics started with Fine Artists and educators, there is a parallel interest in drawing in the design disciplines (for example, Garner (1988, 1999, 2001, 2012); Schenk (2012); Buxton (2007); MacDonnell (2011). The driving force for these design discussions, however, tends to be more critical and shows concern for the teaching of drawing methodologies, the neglect of drawing in design curricula, as well as when and how computer aided drawing should be incorporated into curricula.¹¹

The interest in drawing is not restricted to the creative disciplines and cognitive psychologists and neuroscientists have become participants in the discourse (Garner 2012:21). The 2013 Drawing Research Network (DRN) conference *Drawing and Cognition* showed the application of drawing in the domains of medicine, dentistry, cognitive psychology, and neurosciences. 'What drawing can be', seems to be the current mantra. The online journal

⁷ The Campaign for Drawing was launched in the United Kingdom (UK) in 2000 with the clear intention to raise the profile of drawing as a tool for thought, creativity, and social and cultural engagement. The Campaign, now a sustainable independent charity, maintains its long-term ambition to change the way drawing is perceived by educationalists and the public. See <http://www.campaignfordrawing.org/about/index.aspx>

⁸ The Big Draw festival has become an annual Campaign initiative and is widely supported by leading practitioners in the creative industries and educational institutions. The Campaign's philosophy, that drawing is a basic human skill and that it is useful in all occupations, drives their long-term ambition to get everyone to draw. See <http://www.campaignfordrawing.org/about/index.aspx>

⁹ The DRN was established in 2002 (Garner 2012) as part of the London-based Campaign for Drawing and was joined in 2002 by the New York based Drawing Research Network (DRN). This network encourages debate about all aspects of drawing practice, including theory, philosophy, education, and methodology and they connect an international community of researchers, artists, designers, and educators with social media initiatives, symposia, seminars, and an annual conference.

¹⁰ The International Drawing Research (IDRA) consists of a consortium that aims to advance research into and through drawing; The Centre for Drawing: Wimbledon, a Research Centre of the University of the Arts London (UAL) and the Royal Melbourne Institute of Technology in Australia drive initiatives such as the annual *Drawing out Network* cross-disciplinary conferences.

¹¹ As is evident in the following overview, a few of the bigger drawing initiatives originate from well-established art and design schools in the UK, the United States (USA) and parts of Australasia.

*TRACEY: Drawing and Visualisation Research*¹² hosts discussions about contemporary drawing and visualisation, and supports “open-minded and contemporary interest in drawing activity – physically, cognitively and creatively” (2012).¹³ This interest in the act of drawing is no doubt connected to the rise of new technologies and software, which offer alternative ways of drawing. The process of drawing is often faster and classes for drawing by hand in many institutions, as indicated previously, have left room for digital alternatives such as computer aided drawing (CAD), CAAD (Computer Aided Architectural Design) tools, SketchUp, Autocad, Revit, 3D Studio Max, Rhino in architecture and engineering courses and Illustrator, Photoshop, and After Effects in communication design. The emergence of computers and the continuous flood of software tools have put design education in an ambivalent position regarding whether drawing by hand is still a relevant skill or if digital tools should replace the traditional use of the pencil. Many institutions, even where drawing has long been institutionalised in design curricula, have succumbed to the pressure to introduce new technology at a fast pace, replacing drawing with digital media even for early stage ideation, visualisations, and conceptual development. This tendency has created, according to Have and van Toorn (2012:72), “an intellectual dichotomy of viewpoints; the digital and analogues”.¹⁴ The marginalisation of drawing in education, according to Ben Jonson (2002:247), has become a “touchy issue” where “in the context of digital image manipulation freehand-drawing is no longer a core activity in design education and practice”. He raises concern for a *laissez faire* attitude in some design schools, where there is no expectation for students to “have to draw” but can rather “draw if [they] want to” (Jonson 2002:247). I share Jonson’s concern that over-emphasising the analogue versus digital debate obscures the cognitive attributes of drawing and the role of this connection between drawing and thinking in the design process. Bouchey (2006:[sp]) suggests the possibility of a more rounded view of drawing when stating that “drawing is not simply one of many skills a designer must have—it is absolutely fundamental to the creative and problem-solving process, the heart of what it means to think like a designer.”

¹² *TRACEY* is based in the School of the Arts at Loughborough University. See <http://www.lboro.ac.uk/microsites/sota/tracey/journal/res.html>

¹³ The *TRACEY* philosophy is based on a spirit of sharing and its activities include conferences, symposia, and print and online publications (Sawdon *et al.* 2012). See <http://www.lboro.ac.uk/microsites/sota/tracey/philoshy.html>

¹⁴ Concern for an apparent lack of sufficient drawing skills amongst design students may be seen because of how drawing is taught at design schools (Schenk 1991; Garner 1999; Jonson 2002; Bouchey 2006; Hawks 2010; Manus *et al.* 2010; Goldschmidt 2011; de Vere *et al.* 2001 & 2011; Fava 2012a). The insufficient development of drawing competence spans different design disciplines such as fine arts (Manus *et al.* 2010), architecture (de Vere *et al.* 2011, 2012), engineering and product design (Yang & Cham 2005; Garner & Steers 2012; Evatt 2006), textile and visual communication design (Schenk 2013), game design (Manus *et al.* 2010), and user experience design (Buxton 2007), but this is not the primary focus of this study.

This study acknowledges the abovementioned concerns for the consequences of neglecting or undervaluing drawing, although this is not the primary focus. Rather, I contend that drawing by hand may have other benefits. One of these is that drawing by hand may help to foster empathic attitudes. A great deal of research, as the literature review below demonstrates, is concerned with the connection between drawing and cognition. Drawing shapes thinking, but the question whether the particular type of thinking allows for a deeper internalisation of empathy and the experience of that empathy, remains largely unexplored.

Seminal drawing theorist Pamela Schenk¹⁵ (2012:422; 2013:18) concludes that despite major professional and technological changes, traditional drawing “remains a kind of ubiquitous device, for example an adaptable tool that the designers of today can use as necessary, much as did the designers in the pre-digital era”, particularly to enhance thinking during the ideation phases of the design process. Despite general support for drawing as an essential tool for designers to visualise and share ideas and to support a wide range of tasks required in design practice and processes,¹⁶ Schenk (2014:42-49) points out concern by senior designers that “the creativity of young designers will be impaired if they are not encouraged to learn to draw”. Still, even if the use of drawing in the design process has been completely transformed by digital tools, traditional paper-based methods of drawing remain most effective in aiding spontaneous and creative approaches to design thinking (Schenk 2013:5, 2014).¹⁷

In addition to Schenk’s (2013) critical concern for the teaching of drawing methodologies and the neglect of drawing in design curricula, she raises issues such as when and how computer aided drawing should be incorporated into design curricula. She points out that the merging of digital capabilities with traditional drawing practices is encouraged by some institutions, while clarity and understanding of digital technologies and its impact on the design process is lacking. Schenk (2013) therefore encourages academics to “take stock” of advantages of traditional drawing methods in a contemporary context, thereby prioritising

¹⁵ Schenk’s (1991, 2005a, 2005b, 2007, 2012, 2013, 2014) extensive body of research considers changes both in the industry and in education, and gives a good overview of the role of drawing before and after the introduction of computers in design. Her research involves the investigation and analysis of several hundred individual designers’ experience of designing in a commercial environment, particularly with regard to their use of drawing. See [https://pureapps2.hw.ac.uk/portal/en/persons/pamela-schenk\(2a5ca1be-f5ba-4ab6-aa71-d24337dc41a9\).html](https://pureapps2.hw.ac.uk/portal/en/persons/pamela-schenk(2a5ca1be-f5ba-4ab6-aa71-d24337dc41a9).html)

¹⁶ Schenk (1991, 2005, 2007); Johnson (2002); Goldschmidt (2007, 2011); Van der Lugt (2005).

¹⁷ This view is shared by Goldschmidt (2007) and van der Lugt (2005), among others. Van der Lugt (2005:120), while encouraging sketching in idea generation groups to promote creative thinking and to store memory, emphasises the importance of stimulating designers’ engagements with their own individual idea generation cycles and re-interpreting their own ideas, even within sessions of collaborative thinking.

change in design and manufacture. *Sketchfest*,¹⁸ an augmentative module introduced to improve senior students' sketching ability for product design engineering, is an example where action was taken to address a lack of sketching prowess in senior students' earlier projects. Ian De Vere, Gavin Melles and Ajay Kapoor (2012) point out that students' familiarity with *designerly ways* and a competence in CAD failed to compensate for their lack of sketching skills. This study is interested in their connection between a lack of explorative or reflective practice, a reliance on CAD, and weak drawing abilities (De Vere *et al.* 2012).

The 'loss' of drawing skills evident in graduate portfolios from prominent design schools in the mid-twentieth century is captured in the article "Is drawing a lost art?" (Bouchev 2006). The article clearly articulates how practitioners experience the apparent 'loss' of drawing, which may also indicate the loss of some collateral value that drawing skills may provide. The question arose concerning the lack of *process drawing* in graduate portfolios (Bouchev 2006). The following comment by Frank (in Bouchev 2006) clearly shows a preference for messy drawing over digital images that do not show thinking transparently.

When candidates bring me a portfolio, typically I see little, if any, evidence of the developmental work that led them to their final design. They have pushed the 'delete' button, or drawn over the previous idea. I don't see sketches, thumbnails, and any evidence of process, of a progression of ideas in which things were ruled out or emphasised. It's as though the prospect's training valued perfection of presentation over transparency of thinking. I tell people I want to see sketches, drawings on napkins, all the messy, human, hand-made things. And when I ask them to think outside the box, I don't mean only the conceptual one—I mean the computer, too.

Drawing as a means to make thought transparent is one collateral value attached to acts of drawing by hand that may be lost along with drawing skills. According to Bouchev (2006), the skills to show thoughtful developmental work to explain why and how final design decisions are made are invaluable during education and practice. He emphasises that "drawing is not simply one of many skills a designer must have—it is absolutely fundamental to the creative and problem-solving process, the heart of what it means to think like a designer" (Bouchev 2006).

According to Frank (in Bouchev 2006), software stifles the creative imagination of designers by limiting their options in providing a range of pre-determined choices. One tends to forget the seemingly *intuitive* choices that exist in an ontological "world of choice" (Bouchev 2006).

¹⁸ The *Sketchfest* curricula initiative aims to address engineering student and graduate deficiencies in perspective sketching, ideation, styling, and explanatory and technical sketching.

Bouchev (2006) adds that each version of a software programme is conceptualised and developed by specialised teams with cutting edge knowledge of the human brain and behavioural functioning to ensure that users experience an immediate sense of gratification when selecting the ‘right’ option. Bouchev (2006) argues that designers think differently when confronted with selecting icon-based options onscreen, as opposed to thinking through self-generated sketches. He points out that exploring alternative options for design through sketches, builds up an “experience-informed recall system” (Bouchev 2006). Without a history of thinking through sketches, the knowledge based on a personal history of problem solving is limited. A tendency to return to traditional approaches can offset the loss of creativity engendered by a reliance on CAD (De Vere *et al.* 2011). For the purposes of this study, it is the *attitude of care* that goes into reflecting on different possible solutions for a problem that is most important.

The importance of developing the ability for quick sketching has implications for design curricula. For these quick reasoning tasks, literally to draw as one thinks, Gabriela Goldschmidt (2003:72) argues that mindless ordinary drawing approaches are insufficient. These more inventive problem-solving tasks rather require ability for using representational acts such as drawing to reason with ‘on the fly’ (Goldschmidt 2011; Schenk 2014:53). As with the previously mentioned *experience-informed recall system* (Bouchev 2006), the main ingredient of tacit knowledge¹⁹ – to draw ‘on the fly’ – is gained through experience, also known as ‘fingertip knowledge’ or ‘craft knowledge’ (Henderson 1999:30). Goldschmidt’s (2003) reference to this kind of intuitive, spontaneous, inventive process and its connection to the thinking process is of particular interest for the drawing strategy that artist and educator Jac Saorsa’s (2011a) *Drawing without ideas* workshop aims to advance.

The findings of Saorsa’s (2011a) *Drawing without ideas* workshop²⁰ are briefly summarised in *An ontological exploration of creative drawing practice and its relevance to design education*. Although brief, they provide pointers for consideration in the planning of similar workshops for design students. Saorsa’s approach to *Drawing without ideas* is proposed in this study to be a strategy for nurturing empathy for individual coping in a design context. In

¹⁹ *Tacit knowledge* is a term coined by Michael Polanyi (Henderson 1999:31) referring to a form of non-verbalised knowledge—a personal way of knowing through experience. This kind of knowing in action that requires taken for granted practice-orientated skills.

²⁰ Although this discussion may give the impression that this workshop happens in one session, it spanned several weeks and shorter sessions. For this study however, with the limited time available generally for design drawing, the intent is to conduct ‘power workshops’ in shorter periods. This needs to be tested in practice, which within the scope for this study this is not practical.

order for its relevance to be understood in this study, the workshop's process is briefly discussed.

The *Drawing without ideas* process consists of two stages, both involving a sequential process of the intense layering of both additive and subtractive marks. Key to the spatial environment is the absence of distracting objects. Participants respond only to the white paper and subsequently the marks on it, therefore excluding reference to external sources. The first of these stages focuses on the physical act of intuitive, spontaneous mark-making; that is, of responding only to the marks already on paper. The challenge posed in the second stage of Saorsa's workshop requires 'rubbing down' mark-making from the first stage and seeing the process of losing the "specificity" of the initial layer of marks. The contentment experienced with initial expressions of creative freedom for some participants, according to Saorsa (2011a), led to a resistance of going on to the next stage of 'rubbing down' marks made in the first stage. Feelings about "destroying something" by having to rub it down limited some participants to repeating the initial process several times on separate drawing sheets, rather than "rubbing down" marks from the first phase of the drawing, however hesitant they were. This feeling of preciousness about 'personal mark-making' can possibly be likened to the possessive ownership or pride sensed when putting down one's autographic signature, and may also have something to do with the 'trauma' experienced by having to destroy one's marks.

The comments of participants are integral to making sense of participants' experiences. It is therefore significant that Saorsa (2011a) records verbal descriptions of the spontaneous comments that participants share about their drawing experience. Saorsa (2011a) displays these comments for discussion at the end of the workshop. She mentions the apparent surprise of the participants with the confidence of their own responses, and this highlights the relevance of giving an opportunity for self-reflection and articulation of responses after workshops of this nature.

Concerning the question whether "drawing practice is close to primary instinct", Saorsa (2011a) draws an analogy between primary instinct and intuition, stating that both are "derived from something very profound in all of us, and it is certain that drawing must have some original relation to primary instinct in that it involves the expression of a feeling or of an idea". She emphasises, therefore, that drawing is not only about instinct. Participants of the *Drawing without ideas* workshops draw on a 'profound' resource embedded in their body, which includes thinking, emotions and tacit knowledge.

Although many participants initially experienced anxiety when “destroying something”, perseverance with the rubbing down process was noted by Saorsa (2011a) to give a “deep-seated understanding”, thus overthrowing certain myths about control in drawing practice. Those who persevered began to understand that drawing is not exclusively “a constructive activity characterised by a sequential addition of marks”, but owing to the dialogical nature of the drawing act, consists of adding and subtracting marks, not only in a sequential manner, but using a strategy of “non-linear, methodological multiplicity”. The initial marks ‘invite’ the drawer to enter into a dialogue, but also include a freedom of choice regarding how to respond. Building up many layers of adding marks in charcoal and rubbing it down using a putty eraser as a tool for drawing, creates a “complex multi-layered work”. The surface represents the ongoing experience of a symbiotic relation between adding and subtracting, manipulating the dynamics of the surface. The dynamic of this process of ‘clearing’ parts of previous work by rubbing down or erasing, and adding charcoal marks to parts, is that a symbiotic relationship develops between grappling with the physical material and drawing from internal sources. Inevitably, if one immerses in the act of drawing, the experience becomes emotive. It promotes the self-understanding that is necessary for empathy.

Saorsa (2011a) notes that some participants enjoyed working within the less defined, more confused scenario, not limited by constraints of conventionally acceptable representational imagery and being free to explore more meaningful options “in individual emotional terms”. The value of bringing an interpretative and therefore more unclear or less definitive aspect into the drawing process, even if the individual is expected to work through anxiety with particular acts of drawing, means that the drawer is ‘put on the spot’ and forced to make choices and to take an emotional stance. Perceptions, interpretations and responses by the individual drawer, prompted by propositions within the work, govern the progress of the creative work. The decisions and actions by the individual keep the process meaningful, and allow the drawer to perceive, interpret, add or subtract as the work takes shape. Saorsa (2011a) notes that there is no prescribed sequence for working, leaving the drawer free to follow a process that can digress, change digression, and repeat itself. Saorsa (2011a) writes,

As such, it can be related to a dialogue, the ‘conversation’ that the artist himself has with his own work. Just as a conventional conversation is a self-perpetuating process where emotion is clearly related to the interpretation of meaning which leads to a specific understanding, and which in turn leads to further interpretation and so on, the ‘creative dialogue’ both internal, in the drawing itself, and external, in the nature of the practice, also depends on meaning.

Meaning and emotion, for Saorsa (2011a), are crucial factors in the ‘communication’ between fine art and design practice. She suggests that during early stages, there is a degree of overlapping between procedures followed by the two disciplines’ methodological processes, including degrees of subjectivity and objectivity. She further emphasises that the purposeful nature of designer’s decisions are usually “more orientated toward practical and objective goals”, but this does not mean that the creative nature of the design drawing process—involving subjectivity, interpretative and emotional input—should be overlooked. Furthermore, this hints at a possible softening between the boundaries of the two disciplines.

Particularly significant for this study is Saorsa’s (2011a) finding that the majority of the participants in the *Drawing without ideas* workshops sensed “an increasing awareness of their own emotional engagement”. She notes that “as they grew more comfortable with their natural inclination to express themselves in visual terms”, they experienced a change in attitude towards the work, working faster, more spontaneous and more involved in the “sheer physicality of the mark and the act of making it” (Saorsa 2011a). This led to them participating more productively in the physicality of the process.²¹ Saorsa’s descriptions of drawings made during her workshops indicate a deeply embodied engagement involving the intensity of the experience of the physical act of mark-making, the physicality of the marks themselves and the emotive experience provoked throughout the process of drawing. Participants’ responses were made manifest through an intuitive mark-making process. The process entailed a continuous cycle of mark generation, erasures, regeneration and superimposition that Saorsa (2011a) states were mostly “derived from an emotional response to the experience of the activity”. Saorsa (2011a) observes however, how deeply embedded the general desire for creating things is that are ‘good’ according to conventional or ‘beautiful’ standards. Once participants were engaged in the more expressive process of focusing on the act of mark-making itself and could immerse themselves in the act of drawing, however, it became easier to forget well-practiced habits and criteria for conventional “goodness or beauty” (Saorsa 2011a). By working from tension to confidence, one can say drawing becomes ‘a place’ where one could rub down and erase without fear of what others may regard as good, and thus an ideal context is created for enticing empathic engagement and for responding ‘on the spot’ as is required by ‘on the fly’ sketches as described previously (Goldschmidt’s 2011).

²¹ Saorsa (2011a) noted that many students and teachers “have not allowed themselves the luxury” of such conscious engagement with the act of drawing for many years.

Williams (in Arrup Connect 2013) still believes drawing plays a role in drawing details quickly, conveying ideas; resolving complex problems; providing active feedback of ideas presented during meetings, developing new ideas from existing ideas, and in communicating ideas in a global context with people speaking different languages. Entering into industry with an ability to draw one's thinking is not only an asset, but also a necessary tool that promotes thinking, early idea generation, and conceptualisation in problem-solving contexts. Further validation for including hand-drawing in design curricula and beyond is shown in the STEM to STEAM movement. Based on an understanding of the creative and cognitive benefits of design, the STEM to STEAM movement aims to raise the position of the arts to the level of core disciplines such as science, technology, engineering, and mathematics. According to Brew, Fava and Kantrowitz (2012), both artists and scientists use creativity and intuitive judgment along with analytic logic in their thinking processes. STEAM introduces art to nurture students' curiosity and helps them to develop creativity, problem solving, and critical thinking skills.²² Moving the STEM to STEAM agenda, according to Anita Taylor (2014), drawing needs to act as “the connector at the heart of it all”. This notion of drawing as a connector between an individual's thinking and the problems in the world is a core subtext in this dissertation.

As shown above, pressure by practitioners and educators deserves credit for bringing drawing back into design school curricula and for acknowledging thereby the role and value of thinking with a pencil in the hand, particularly for early idea generation processes. Judging from reports by members of the design industry and design education as discussed here, the kind of problems experienced do not simply have to do with the lack of drawings, but go deeper to indicate a lack of thinking associated with hand-drawing and the collateral values evoked through drawing. The brief discussion of Saorsa's *Design without drawing* workshop expressed the value of exposing designers to exploring mark-making spontaneously and intuitively on a visceral level.

Having established that even in the context of digital tools, the design industry and education have identified a need for quick sketching, this study also examines how the hand may support these 'quick-thinking' skills. Again, the purpose is to find how potential collateral, such as the humanising benefits of drawing by hand may evoke empathy, or in the Heideggerian sense, evoke 'care' by taking appropriate action within a particular context. Thus, nurturing hand-drawing for the purpose of this study means nurturing the human capacity required by designers to design for 'other' people, since drawing is a likely site for

²² See stemtosteam.org

empathy. Responding to things '*on the spot*' or '*on the fly*', means relating to the issue at hand, but also relating to one's thoughts and even visceral feelings. As such, this study argues that the act of hand-drawing may represent a site in which latent empathy might surface, and where empathy or attending to the presence of the other, might be nurtured.

1.2 Aim and objectives

Drawing has thus far been considered from a number of different angles, including the importance of quick sketches (Arrup Connect 2013), more mindful drawing (Goldschmidt (2003:72), inventive problem-solving, the value of drawing '*on the fly*' (Henderson 1999:30; Arrup Connect 2013) and Saorsa's '*on the spot*' challenge requiring drawers to '*make marks without preconceived ideas*' to make discoveries about their experience of the physicality of mark-making, thinking and feeling. The relationship between drawing and professional design practice was highlighted, and the connection between drawing and analytic thought, especially in the STEM to STEAM movement, was mentioned. What is common in all of these is the connection between the '*act*' of drawing and thinking, and the experience that links the two. Nevertheless, as intimated above, the phenomenological dimension of this experience has been neglected in favour of more strictly scientific research. Therefore, the degree to which drawing may produce humanising effects rather than just cognitive skills is downplayed or completely neglected. This, then, is the focus of my research: to arrive at a better understanding of the role of the hand in the act of drawing in design by exploring collateral benefits (other than an ability to draw) such as the reflexivity and metacognition that may contribute to nurturing empathy. To achieve this aim, I have identified the following objectives:

- to ascertain the role of hand-drawing as a coping strategy in design, which is characterised by so-called wicked problems;
- to explore, with reference to the phenomenology of Martin Heidegger, the relationship between drawing and care;
- to consider, with reference to the philosophy of Maurice Merleau-Ponty, the relationship between drawing and a phenomenology of shaping; and
- to consider the ontology of drawing as place where connections are made with reference to Lakoff and Johnson's embodied perspective of metaphorical thought.

1.3 Theoretical framework and methodology

Since a rich description of the act of drawing is envisioned, a phenomenological exploration is undertaken to offer a theoretical framework and methodological parameters that resonate with the act of making embodied, experiential, and empathetic meaning.²³ According to Wertz (in Findlay 2009), “[p]henomenology is a low hovering, in-dwelling, meditative philosophy that glories in the concreteness of *personworld* relations and accords lived experience, with all its indeterminacy and ambiguity, primacy over the known”. Findlay (2009) suggests that an interpretative and critical phenomenological methodology is useful because it is “responsive to both the phenomenon and the subjective interconnection between the researcher and the researched.”

Following the views of Brew, Fava and Kantrowitz (2012:79) that drawing represents a visible trace of cognitive processes recording perception and experiences, “not just with our brains, but our hands and bodies as well”, this study focuses on hand-drawing’s collateral benefits and on what emerges during the act of drawing rather than on drawing as the material result of art practice. The connection between the hand and drawing is argued to evoke empathy, and empathy is thus examined as a collateral benefit of drawing. Amy Coplan’s (2011) theory on empathy is used to narrow down empathy’s meaning and to outline how it is understood in this study (see Chapter Five).

Considering my vantage point as an educator, it should be noted that while education is not the main focus of this study, the study has implications for a design education context. Although a critique of a drawing curriculum does not fall within the scope of this study, I maintain a critical position. Therefore, pointers for curriculum revision or changes, particularly regarding pedagogical approaches in the teaching of drawing and ultimately for the professional development of the individual, may result from this study. There is therefore also a reflective stance in this study, from my perspective as a teacher with twenty years’ of experience in teaching drawing.

Owing to my Fine Arts background, I associate closely with many of the practice-led studies examined.²⁴ This adds a subjective perspective to the process of sense making in this study. Historically, many design degree courses developed from Fine Arts courses, and it took

²³ Phenomenological researchers generally agree that our central concern is to return to embodied, experiential meanings aiming for a fresh, complex, rich description of a phenomenon as it is concretely lived (Findlay 2009).

²⁴ Rogers (2008), Roberts and Riley (2013).

some time for design to develop its own curricula. McGuirk (2009, 2011) traces the origins of a controversy in Art and Design curricula to a battle for higher education status, to the use of the term ‘*disegno*’ in the early 1560s, occurring in the name of the first known *Accademia del Disegno* in Florentine. The use of the term ‘*disegno*’ went hand in hand with the “emergence of an elaborate epistemological theory around drawing” (McGuirk 2009:[sp]) in efforts to elevate the intellectual component of the visual arts to the par of other ‘higher’ established intellectual courses such as mathematics. David Rosand (in McGuirk 2009:[sp]) links the controversy around the concept of ‘*disegno*’ to its location “at the very boundary between mind, hand, idea and form”. McGuirk (2010:11) further refers to Dewey’s view of a *Zeitgeist* in which “the aristocratic tradition ... [that] looked down upon material things and upon the senses and the hands, was still mighty”.

Giorgio Vasari²⁵ attempted to sidestep dilemmas around the position of art through a holistic theory that integrated *disegno*’s intellectual and embodied aspects and promoted a liberal arts approach (Liukkonen & Pesonen 2008). As is evident in the work of Leonardo da Vinci, the signature style for the liberal art of the Renaissance was ‘marked’ by an intellectual curiosity of accomplished artists and ‘designers’ and their explorative, spontaneous, gestural approaches to drawing. According to Liukkonen and Pesonen (2008), in *The lives of the artists*, Vasari alludes to artists requiring a “lending hand” to promote their art and design:

It goes without saying that the arts must have been discovered by some one person; and I realize that someone made a beginning at some time. And of course it is possible for one man to have helped another, and to have taught and opened the way to design, colour, and relief; for I know that our art consists first and foremost in the imitation of nature but then, since it cannot reach such heights unaided, in the imitation of the most accomplished artists.

The quotation above raises three issues that are addressed in this study. Vasari’s statement alludes firstly to a context of teaching. Secondly, it suggests that “the arts”, including individual artists, are in need of ‘aid’—a notion interpreted as aligning with the study’s title that alludes to lending a hand. Thirdly, it questions the ‘origin of art,’ a notion explored in Chapter Three. Thomson (2014:[sp]) describes Heidegger’s preferred philosophical terms of art—as an ‘*a-lêtheiac*’ struggle to ‘dis-close’ or ‘un-conceal’ (*a-lêtheia*) that which conceals (*lêthe*) itself, an ‘essential strife’ between two interconnected dimensions of intelligibility (revealing and concealing), which Heidegger calls ‘world’ and ‘earth’. Heidegger’s doctrine of

²⁵ Vasari’s *Vite de’ più eccellenti architetti, pittori, et scultori Italiani* (1550-68, *The lives of the artists*) is often described as the most important book on the history of art ever written, although it is not deemed to be very accurate in terms of facts on artists’ lives, but popularised the term ‘*Rinascita*’ or Renaissance (Liukkonen & Pesonen 2008).

ontological historicity therefore frames the origins of art as something only to be revealed in the historical unfolding of truth. Discovering the essence of art, and why it matters, also brings an understanding of being. According to Thomson (2014:[sp]), Heidegger's belief that "art is the becoming and happening of truth" refers to "how great artworks help establish the implicit ontology and ethics through which an historical community understands itself and its world". This hints that a more embodied perspective on drawing is required.

Such a perspective would also need to take into account the historical context of design thinking. In a broad overview of the origins of design thinking, referring to "the study of the cognitive processes that are manifested in design action", Rabah Bousbaci (2008:38) draws attention to a "generation game" whereby three generations of theorists each frame design methods differently. Bousbaci (2008:41) identifies design theorist, Horst Rittel's initial definition of design as a science with a rationalist "problem-solving" bias that fits in his second-generation design method stream. Rittel's input on design and planning processes laid the ground for the recognition that design, owing to it having "no stopping rule", gives more than one solution for the same problem, that makes it difficult to define criteria by which to understand it, and therefore becomes "a wicked problem" (Bousbaci 2008:47). His insight about the ill-defined, ambiguous nature of problems—known as 'wicked' owing to the indeterminacies that require re-framing by designers—affords him a landmark position in both the second and third generation of design thinking (Bousbaci 2008:38). According to Richard Buchanan (1992:97), Rittel was searching for "an alternative to the linear, step-by-step design model of design and design theorists". According to Rith and Dubberly (2006a:4), Rittel's model requires logical processes of informed, ongoing inquiry—namely, the "design rationale"—but he acknowledges trusting the formation of designers' views based on their "instrumental knowledge", also referred to as tacit knowledge.

Bousbaci (2008:40) emphasises the need for a completely post-rationalist model of the designer with appreciation for the significance to poetics, rhetoric, phenomenological hermeneutics, and ethics, and he thereby gives preference to "the reflective practitioner". With reference to Herbert Simon's notion of designers with bounded rationality, from a phenomenological perspective, Bousbaci (2008:50) focuses on factors that "bound" rationality within human action. Rationality is only one part of all human faculties and condition (Bousbaci 2008:50). Therefore, Bousbaci (2008:50) states that "what really bounds rationality in human action is nothing more than all the other parts which comprise the human existence as a whole: poetics, rhetoric, hermeneutics, and ethics", and emphasises that "when humans act, they act as whole humans".

For this study, Bousbaci's (2008) three generations model provides a frame of reference for returning (in Chapter Two) to the use of an intuitive, spontaneous arts-based hand-drawing strategy in order to train the body to develop and use tacit knowledge for dealing with indeterminacies, uncertainties and ambiguity in situated contexts that require on the spot, fast-paced decisions, that only the drawer can make. The views of proponents of the first generation, Bousbaci (2008:38) argues, were "based on a strong reaction against intuitive, artistic, and 'beaux-arts' vision of the design process", peaking during the Renaissance and was prevalent until the early 1950s. Support for a more "logical, systematic, and rationalist view of design activities" from the late 1950s to the early 1980s, as suggested by Bousbaci (2008:38), diffused spontaneous approaches to design. The modernist 'form-follows-function' mantra of the Bauhaus design was a high point for rationalist design thinking and possibly the nail in the coffin for the freestyle approach to drawing in design. This caused a rift, whereby drawers were distanced from the manual, embodied and situated nature inherent in drawing. Although there are exceptions, this rationalist inclination is still entrenched in a drawing and design context (McGuirk 2009:[sp]). Carving a niche for design in higher degree programmes in the humanities seems to have resulted in relinquishing a unique contribution by Fine Arts to cognitive development. Accordingly, encouraging the spontaneous engagement of the 'whole body' in drawing also dwindled, a condition that Saorsa (2011a:1) believes should change in order to 'mend' the longstanding 'rift' between art and design.

In Saorsa's (2011a:1) conceptual framework of *Drawing without ideas* from an ontological phenomenological perspective, the signature 'look' of the spontaneous mark is encouraged, but the focus is on how the emotive and cognitive experience associated with this strategy can benefit holistic being. The sequential process involved in Saorsa's (2011a:1-13) strategy relates loosely to Merleau-Ponty's view that the body has an inherent capacity for skills acquisition, a mechanism of spontaneously 'grasping' how to respond to cues from the environment (such as white drawing paper), and through experience the body stores knowledge, adapts and improves 'coping skills,'²⁶ even in terms of emotive responses (Dreyfus 2002). Both as artist and as theorist, Saorsa (2013) gives meaning to human nature as a source of empathy for 'lending a caring hand' to promote well-being in the teaching of drawing and health related contexts.²⁷

²⁶ Hubert Dreyfus (2002) applies Merleau-Ponty's concept of the body's way of searching for equilibrium, and for planning instructional sequences to optimise skillful coping.

²⁷ As discussed in Chapter Two, nature's part in the process of promoting wellness in the lives of cancer patients and care-givers, features prominently in metaphors used by Saorsa (2013), such as osmosis and Gilles Deleuze's concept of the rhizome.

The notion of skills acquisition that promotes habitual ‘coping skills’ relates to the way Saorsa’s (2011a:1-14) instructional sequence for intuitive art-based drawing starts with the familiar and gradually requires more intense involvement. Her communication of this drawing strategy is explored based on Hubert Dreyfus’s (2002:367) interpretation of two central concepts in Merleau-Ponty’s *Phenomenology of perception*, namely, the intentional arc and the body’s involvement in getting a maximal grip. In the following quotation, Dreyfus (2002:367-386) explains and extends his notion of ‘coping skills’ or the development of habits, by referring to an idea by American biologist and theoretical neuroscientist Walter Freeman:

The intentional arc names the tight connection between the agent and the world, viz. that, as the agent acquires skills, those skills are "stored", not as representations in the mind, but as dispositions to respond to the solicitations of situations in the world. Maximum grip names the body's tendency to respond to these solicitations in such a way as to bring the current situation closer to the agent's sense of an optimal gestalt. Neither of these abilities requires mental or brain representations. Rather, simulated neural networks exhibit crucial structural features of the intentional arc. Moreover, Walter Freeman's account of the brain dynamics underlying perception and action is structurally isomorphic with Merleau-Ponty's account of the way a skilled agent moves towards obtaining a maximum grip.

Repeated practice, as expressed above, leads the body to respond unreflectively, often without deliberation (Dreyfus 2002:367). For Dreyfus (2002:367), cognitive science’s explanation of proprioception and kinesthesia²⁸ that the physiology of the nervous system aids the ‘storing’ of skills in the body, enabling ‘muscle memory’ and thus provides support for Merleau-Ponty’s notion of ‘storing’ skills in the body. Through the proprioceptors in the muscles and joints, proprioception and kinesthesia play an integrated role in the body’s awareness of its position and the movement of its parts (Dreyfus 2002:367). These unreflective responses occur because one’s body, through practice, has stored the skills required (see Cain 2006, 2010; Talbot 2012; Saorsa 2013; Felmingham 2014). “Whether a system of motor or perceptual powers, our body is not an object for an 'I think', it is a grouping of lived-through meanings which moves towards its equilibrium” (Dreyfus 2002:367). A return to an embodied drawing approach therefore exposes drawers to unreflective and emotive experiences that mirror the process of learning to cope with wicked

²⁸ Proprioception refers to sensory organs (spindles) in the muscles giving the ability to understand cognitively the position and balance of the body in space such as being upright, sitting or stretched. Kinaesthesia refers to movement in the body and gives understanding of the body’s behavioural aspects. See <https://www.youtube.com/watch?v=yKfpBGicqNQ>

design scenarios. This mirroring further legitimates the phenomenological framework of this study.

The ontological position taken in this study is anti-foundationalist²⁹ and is informed by constructivism. Whereas an anti-foundational and constructivist approach would mean taking cognisance of the subjective and experiential nature of social phenomena and their meanings that are constructed continually by social actors, a phenomenological perspective anticipates that individual experiences are subjective and are likely to show different responses to social contexts, owing to the visceral nature of personal experiences. It implies not only that social phenomena and categories are produced through social interaction, but also that they are in a constant state of revision owing to the continuous changing nature of social reality (Bryman 2001:16-18). A constructivist ontological stance differs from an objectivist view, claiming that social phenomena and their meanings have an existence that is independent of social actors. Ontology is concerned with the nature of being, of a reality that exists whether we are consciously aware of it or not. Ontology is therefore what one may know, just as epistemology refers to how one knows. The foundation of this research is the idea that the act of drawing by hand represents an embodied experience with an integrated and closely bound relationship to cognition. The kind of knowledge that exists is the kind that is unobservable, but although findings are likely to be more idiosyncratic than generalizable, can become known through embodied experience. The foundation of this study, therefore, is the idea that the act of drawing by hand is an embodied experience with an integrated and closely bound relationship to cognition and the context drawing aims to serve. This integral view of the 'intentionality' in the act of drawing/designing for a context that requires drawing/designing, justifies a phenomenological stance. This stance is supported by the understanding of how the symbiotic relationship between being *in* the world and *of* the world affects all human acts—what one thinks and what one does, derived from Merleau-Ponty. From a design point of view, this stance suggests that design requires an empathic relationship between the designer and the design context.

1.4 Literature review

A number of seminal sources have already been mentioned in the previous sections. Owing to the diversity of interest in drawing, the literature for this study draws on research from a broad spectrum of design (including experience-based design), drawing and education, as well as from contemporary drawing discourse that in turn draws on cognitive psychology,

²⁹ A foundationalist ontological position entails believing that the world exists independently of one's knowledge of it.

neuroscience, and philosophy. Data on the embodied use of drawing strategies is collected from practice-led research studies by artists and educators, as practice-led research has become acceptable within qualitative research methodologies.³⁰ The practice-led approach brings forth knowledge that can only be known through the experience of the (artist- or designer-) researchers and their habits and processes of drawing, and what they learn from these processes on practical, emotive, and cognitive levels. The value of these accounts is in their focus on individual art practice, which is simultaneously a conscious reflection on cognitive activities. This includes recording personal experiences while engaging in the act of drawing and in a reflective, critical, and academically accountable manner. Theoretical explorations that regard drawing as a primary tool or catalyst for thinking include writings by Laseau (1980), Tversky (1999), Fava (2012a), Have and van der Toorn (2012), Riley (2012), Kantrowitz (2012), Brew *et al.* (2012), and Felmingham (2014).

As argued in this study, the hand is not simply a tool for drawing. Knowledge on what the hand is capable of doing is emerging in contemporary research on drawing. Considering Merleau-Ponty's notion that ideas are given as bodily experiences and are not produced in the mind only, enquiry in this study is guided by questions such as: Can the hand work independently? Can the hand think? Can the hand speak? Can the hand shape the mind? Theorists from different disciplines contribute to this debate. The origins of intelligent hand action and a broad perspective of the peculiar faculties of the hand are indicated in neuroscientist Frank Wilson's book *The hand: How its use shapes the brain, language, and human culture* (1998). His research also implicates the social role of the hand. To support this, architect Juhani Pallasmaa (2009) and Firat Soylu, Corey Brady, Nathan Holbert and Uri Wilensky³¹ (2014:1-21) focus on the hand's role in embodied tool-use as a critique of Cartesian-inspired substance dualism.³² In a compilation of essays edited by Zdravko Radman (2013), *The hand, an organ of the mind: what the manual tells the mental*, the overarching question is "How does the hand shape the head?" In an essay by Gallanger (2013), *The enactive hand*, it is implied that the hand has enough agency to bring about change independently from the mind, and is thus involved in sense-making. Based on an enactive account of vision that entails that perceptual awareness is changed by how the body moves, the hand's role is "always a significant part of the perceptual equation" (Brew 2011:3). McGuirk's (2008, 2010) notion of *knowing by hand* echoes Merleau-Ponty's view of

³⁰ This is evident in the practice-led research by Cain (2006, 2010), Talbot (2012) and others.

³¹ Soylu specialises in educational neuroscience (see <http://education.ua.edu/people/firat-soylu-2/>).

³² René Descartes's explicit argument for substance dualism, differentiates between the extended nature of the body in relation to the thinking nature of the mind claiming that these two things are distinctly different in nature and "can exist independently of each other". See <http://documents.routledge-interactive.s3.amazonaws.com/9781138793934/A2/Descartes/DescartesDualism.pdf>

memory stored in the flesh. Other phenomenological properties of the hand include touch (Harty 2012) and gesture (Mc Neill (1992). Magalhaes and Pombo (2013:172) suggest that by “‘adding’ the hand to the brain – the shape to the content / the matter to the idea – stands for the approximation to the truth that images demand”. By this, they mean that beyond drawing’s function as technical instrument, the author’s hand adds poetic expression to the idea, leaving “the performance of the presence” of the drawing action that results from the hand-body. The idea and the means of expressing the idea, therefore comes from the same body. The hand, however, ‘has the last say’ in that it can leave traces of its presence.

In the article *Lightning and rain: Phenomenology, psychoanalysis and Matisse’s hand*, art historian Ed Krčma (2012) reveals the hand’s involvement in involuntary drawing as an autonomous agent interacting with its environment. He examines the drawer’s experiences when discovering that the hand can play ‘truant’, acting on its own to add value to the communicative content of drawings. It is often said in drawing instruction, ‘the pencil is an extension of the hand’ and Bridget Riley (in Brew 2011:12) states that “it is as though there is an eye at the end of my pencil, which tries, independently of my personal general-purpose eye, to penetrate a kind of obscuring veil or thickness”. Kantrowitz (2012:6) asks, “How is it that our hands can sometimes reach out and grab hold of that which is outside normal awareness?” It is her view that metaphor “becomes realised through marks on paper” and that drawing “can capture what ‘lies beyond the threshold of normal perception’” (Kantrowitz 2012:6). She reminds us of the ‘hidden hand’, as suggested by Lakoff and Johnson (2003, 1999). Their view that there is a hidden hand that helps with metaphoric thinking suggests a different dimension to the hand, hinting also at one of the motivations for ‘lending a hand’, as reflected in the title of this study.

The interdisciplinary nature of the sources mentioned above derives from a shift to a more holistic approach in design, as discussed by Bill Buxton³³ in his seminal text *Sketching user experiences: Getting the design right and the right design* (2007). The contemporary design environment requires collaboration by designers and engineers specialising in communication design, interface design, and industrial design, including expertise from fields such as architecture, environmental graphic design, illustration, and film-making. In user-experience design, designers work with engineers specialising in software, usability, and software development. Buxton (2007:37) emphasises that although both are essential, neither design nor engineering has a sufficient skillset to perform the tasks on their own and therefore need

³³ Buxton comes from a background in the arts (music) and technology (computer science) with some experience as a company executive (Buxton 2007:13). His book is primarily about product design requiring “dynamic behaviour due to the incorporation of embedded digital technology” (Buxton 2007:5).

to share ideas, knowledge, and skills. The traditional practice of sketching is a means to share, but for Buxton (2007:37) it can also be extended to put experience “front and centre in design”, as echoed in his view that “[t]he only way to engineer the future tomorrow is to have lived in it yesterday”. Experience plays a central role in how we come to an understanding of how external things work, but also about ourselves. The communal understanding of the language and communicative intent of different kinds of hand and digital drawing are important factors in order to share ideas, as seen in taxonomies of drawing by Buxton (2007), Riley (2002a, 2012), Schenk (2007), and Farthing (2013).

Goldschmidt (2003), Kantrowitz (2012), Saorsa (2011b), Buxton (2007) and others use the metaphor of a conversation or a dialogue to discuss aspects of the drawing process. The way the individual relates to what is drawn is assumed to be an engagement of an integrated reciprocal nature and can be described as an ongoing conversation (Saorsa 2011b), dialogue (Goldschmidt 2003:88), or a rhythmic interaction between the drawer’s hand and the material traces inscribed on the drawing surface (Kantrowitz 2012:2). Buxton (2007:116) argues that

... sketching introduces a special kind of dialectic [conversation/dialogue] into design reasoning that is indeed rather unique. It hinges on interactive imagery, by a continuous production of displays [sketches] pregnant with the clues, for the purpose of visually reasoning not about something previously perceived, but about something to be composed, the yet non-existent entity which is being designed.³⁴

Buxton (2007:116) shows sketching “as relating far more to an activity or process (the conversation), rather than a physical object or artifact (the sketch)”. Buxton (2007:116) states that “[c]ertainly the physical sketch is critical to the process, but it is the vehicle, not the destination, and ironically, it is the ambiguity in the drawing that is the key mechanism that helps us find our way”. This is a notion supported by Kantrowitz (2012:3) who argues that artists and designers often deliberately introduce “accidental indeterminacies” or uncertainty into sketches to induce opportunity for discovery. Echoing this, Suwa and Tversky (in Buxton 2007:116) assert that

... designers do not draw sketches to externally represent ideas that are already consolidated in their minds. Rather, they draw sketches to try out ideas, usually vague and uncertain ones. By examining the externalizations, designers can spot problems they may not have anticipated. More than that, they can see new features and relations among elements that they have

³⁴ Goldschmidt (1991) shares a similar view.

drawn, ones not intended in the original sketch. These unintended discoveries promote new ideas and refine current ones. This process is iterative as design progresses.

Saorsa's (2002, 2004, 2011a) encouragement of intuitive art-based drawing strategies shifts the focus of the abovementioned dialogues or conversations to the significance of the 'naked' thoughts of the drawer itself, rather than dwelling on external ideas or on the observation of objects or an environment. The way in which Saorsa (2011a) connects drawing by hand and *Drawing without ideas* in order to start a meaningful dialogue guiding an intuitive drawing process, is therefore examined in this study. If the hand is clearly connected to thinking to the extent that it is a catalyst for thinking in intuitive drawing processes, the implication for design education is that nurturing hand-drawing is likely to be a benefit in a design environment. This contention is supported by Hare (2002), Hawks (2010), Lane *et al.* (2009), Saorsa (2002, 2004, 2011a), Wallick (2012), Roberts and Riley (2013), Magalhaes and Pombo (2013), Soylu *et al.* (2014), as well as Lecanides-Arnott (2014). Such a view is particularly relevant to contexts where computer aided drawing is encouraged in the place of hand-drawing, thereby closing a learning opportunity for cognitive change.

However, while drawing studies like those mentioned above form an important backdrop for the present study, they are not the primary focus. This study's focus is on an understanding of hand-drawing as a humanising activity. This is explored especially with reference to phenomenology. Two phenomenological thinkers are especially important in this regard, namely Martin Heidegger (2001) and Maurice Merleau-Ponty (2002).³⁵ Their respective philosophies are particularly supportive of the contention that a physical action like the act of drawing can help to imbue the drawer with an attitude of care and empathy.

German philosopher Martin Heidegger's phenomenological ontology and his existential and hermeneutic perspective underpin the theoretical paradigm of this study, which focuses on his ontological perspective of being as articulated in *Being and time* (2001). According to Heidegger, *Dasein*³⁶ stands for being-there (Harman 2007:3). In everyday German usage, *Dasein* refers "to the existence of anything at all: whether humans, mushrooms, or chairs" (Harman 2007:3). Heidegger nevertheless restricts *Dasein* to human beings, "since he believes that only humans truly exist in the world, fully open to it [and affected by it], whereas

³⁵ Merleau-Ponty's phenomenological theory is developed from the philosophical tradition of Hegel, Kierkegaard, Marx and Nietzsche, but his strongest influences are from Husserl, Heidegger and Sartre (Simpson 2014).

³⁶ According to Harman (2007:35), *Da-sein*, directly translated, means *there-being*. As used in this study *Dasein*'s '*Da-sein*' refers to it being-in-the-world.

physical objects merely sit around in the world without having any access to it” (Harman 2007:3).

Heidegger’s emphasis on the hand is examined as a metaphor for his whole ontology—as a metaphor for *Dasein*’s being. Heidegger considers the hand from two perspectives; he differentiates between the present-at-hand and the ready-to-hand. Through this differentiation, he brings to light the relationship between humans and the things in the world. Present-at-handedness for Heidegger has a negative connotation, and refers to those things that are physically present and visible based on our understanding of them as concepts, without thinking of any concealed, mysterious layers of meaning or hidden relationships to other things (Harman 2007:176). Ready-to-handedness refers to attributes embedded in tools that make their use so apparent and a part of human beings’ lives that they become ‘invisible’, withdrawing from one’s conscious attention. Only when these tools malfunction do they come to one’s attention; for example, when we struggle to breathe, we become aware of oxygen or the lack thereof (Harman 2007:59,176).

The idea of *Dasein*’s existential dimension, its embodiment in ‘care’ as discussed below, provides philosophical underpinnings for this investigation’s interest in whether and how the hand, in the act of drawing, can help to nurture empathic designers. The possibility is explored that the choice to ‘draw out’, through hand-drawing, may be a way to draw such knowledge into the heart, but given that one is born with a dimension to ‘care’, drawing may be a way to awaken it within the context of ‘being’.

‘Care’ for Heidegger holds a central position in his philosophical system of thought. How human beings take ‘care’ or look after the environment and the space within which they live is the central focus in his later writings. The relationship between earth and sky, divinities and mortals, known as Heidegger’s fourfold, and the human beings who live in these spaces is defined by how they ‘care’ for their environment. From an ontological perspective, ‘care’ entails “sparing and preserving”, which is about “freeing something to be what it is, and to maintain its freeing in ‘presencing’” (Sharp 2011:[sp]). Further implications of the Heideggerian view of ‘care’ are explored in this study.

Building on the work of Heidegger, Merleau-Ponty understands phenomenology as a way of describing the nature of our perceptual contact with the world and providing a way for the direct description of such human interactions. Moran’s (2000) *Introduction to phenomenology* gives a brief overview of what phenomenology is and introduces basic concepts of Merleau-

Ponty's philosophy. Christopher Ben Simpson's (2014:x) interpretation and understanding of Merleau-Ponty's holistic conception of three "bodies"—nature or the physical (the corporeal), the human living body (the corporal) and the human social body (the corporate), makes his *Merleau-Ponty and theology: philosophy and theology* (2013) a seminal source for this study. His descriptive style sketches a clear picture of actions of each of the body's separate parts mentioned above, but at the same time animates the way the parts operate together holistically. For the purposes of this study, the Merleau-Pontian concepts of corporeality, the corporal, and the corporate are visualised as an actively interrelated vertical three-tier structure.

According to Lakoff and Johnson (2009:xi), Merleau-Ponty "used the word 'flesh' for our primordial embodied experience and sought to focus the attention of philosophy on what he called 'the flesh of the world,' the world as we feel it by living in it". Lakoff and Johnson's views on embodied cognition and metaphor are also explored in this study to deepen the phenomenological understandings of drawing as 'care' and 'coping', as suggested by the philosophies of Heidegger and Merleau-Ponty. This focus on the implications of Lakoff and Johnsons' work follows the trend in drawing research of using metaphor to shed light on the hand's role in drawing for design and particularly its potential role to evoke empathy.

1.5 Overview of chapters

In order to address the aim of this study, the following chapters relate to the objectives set out in this chapter. Chapter Two discusses the nature of drawing for design. Considering a need for empathy in design, different views on empathy are discussed, making suggestions regarding if and how hand-drawing can contribute to nurturing empathic designers. The concept of citizen designers in the context of design, as a wicked problems discipline, is also discussed. Phenomenological relationships involved in the act of drawing by hand for design are investigated against a background of the ongoing need for citizen designers who 'care' about the impact of their design on 'citenry' in general. A philosophical position is taken to suggest a strategy for nurturing empathy for individual coping with uncertainties and constant change in the world.

The different views on empathy and particularly the view taken in this study are clarified in Chapter Three. It explores the meaning of caring within the phenomenology of Martin Heidegger and aims to reveal drawing as a means of caring. Care and the origin of a work of art are particular points discussed, especially as they manifest within the larger project of Heidegger's views on *Dasein* and *being-in-the-world*.

Chapter Four, focusing on the phenomenology of Merleau-Ponty, examines the hand's potential role in shaping the mind and drawing as embodied experience. The hand is discussed as an emancipated hand and not as a slave of the body. Merleau-Ponty's chiasmic interlinking between thinking and visualising, the body and its environment, and how these relationships shape one's understanding of everyday experiences, are explored. His emphasis on the importance of taking care of one's body and for allowing it to act through its own spontaneity, to engage meaningfully with others and with things in the world, is also discussed.

Chapter Five foregrounds a closer connection between the phenomenologies of Heidegger and Merleau-Ponty with emphasis on the relevance for exploring the relationship between three variables: 'tools' (the hand and its actions), drawing, and value (that is, empathy with reference to citizen designers). Because of its grounding in empirical studies, Lakoff and Johnson's phenomenological theory is used to confirm Heidegger's views on care and Merleau-Ponty's life-world that includes embodiment and a reciprocal relationship between individuals and their environment. The significance of a few groundbreaking findings by cognitive and linguistic sciences that undo perceptions of the brain as a '*black box*' are highlighted in order to understand cognitive dimensions of drawing. Metaphoric thinking's application to drawing is explored, especially with regard to how a 'hidden hand' helps the physical hand (and its embedded muscle memory) to 'draw and think' simultaneously while making sense of daily experiences. Being empathic, for Lakoff and Johnson (1999:565), is a prominent function of the embodied mind. Considering how the embodied nature of the hand and its connection to the brain through the act of drawing enables the metaphoric 'short-hand' thinking involved in 'drawing on the fly', the possibility that this existing connection can evoke empathy, is considered. This chapter also argues that drawing can be a catalyst for Coplan's (2011:44) conception of 'empathy proper', as opposed to pseudo-empathy. Phenomenological perspectives expressing insights from actual drawing experiences, as captured in practice-led research, are used to describe how metaphorical language shares experiences of abstract and complex issues. Chapter Five considers different views of drawing as a 'place', exploring whether drawing can be described as a likely site for empathy, in which latent empathy might surface and where empathy, as attending to the presence of the other, might be nurtured.

Chapter Six concludes this study with a brief summary of the content of each chapter. The argument emerging in the exploratory nature of the study is also outlined. This is followed by a brief discussion of findings and the contributions made by this study. Limitations of the

study are outlined and suggestions for further research are made. The study concludes with a reflection on the significance of the role of drawing and as suggested by the title, 'Lending a hand'.

CHAPTER TWO: DRAWING TO COPE

2.1 Introduction to Chapter Two

This chapter deals with actions, relationships, experiences and seminal theories that enlighten how relationships function in hand-drawing in design. These things are not objects or artifacts that can be held and examined (such as finished drawings). Rather, they involve a complex set of relationships concerning the drawer's thinking as represented through drawing acts such as sketching and rapid prototyping. As examined in this chapter, with reference to the idea that drawing develops the 'coping' skills of individual designers within a wicked terrain (namely, the discipline of design), these relationships play a part in reinforcing values and contribute to evoking empathy. Recent multidisciplinary research on drawing and cognition, as discussed in Chapter One, confirms how hand-drawing can reinforce and enhance thinking. As an added benefit, this study argues that hand-drawing does not only reinforce and enhance thinking in general, but encourages a specific kind of thinking, namely empathy. Chapter Two provides a foundation for this view in preparation for the phenomenological explorations in Chapters Three, Four, and Five.

This study's position in favour of hand-drawing in design curricula and the encouragement of quick and intuitive sketching approaches, has been clarified. Saorsa's (2011a) intuitive workshop-based, *Drawing without ideas* strategy—discussed in Chapter One—was identified for giving design students an opportunity to explore intuitive mark-making strategies to discover its benefits. However stimulating this intuitive drawing process may be for Fine Art students, many design students are likely to find these processes daunting and frustrating.³⁷ Saorsa's (2011a) observation is that graphic design students find the idea of "drawing without a specific purpose or objective in mind" very challenging,³⁸ noting that initially all participants experience unease with the task. Some participants experienced "difficulty in perceiving their efforts as valid in any 'real' way", mostly because of the requirements of representation often expected in design curricula (Saorsa 2011a). Saorsa's (2011a) observation that a particular design brief may sometimes have built-in constraints, leading to a certain way of responding to the project, relates to Bruno Latour's (2014:[sp]) notion of 'institutional *blackboxing*' (meaning that well-practiced habits govern the outcome).

³⁷ Reflective comments by design students in similar workshops done under my supervision confirmed this assumption.

³⁸ Saorsa (2011a) found that graphic designers fitted into the group uncomfortable with *Drawing without ideas* in the mind whereas Industrial design students were more comfortable with the concept of self-generation.

“*Blackboxing*”, according to Latour (1994:36), also applies to the mediating role of techniques that are difficult to measure, because it “makes the joint production of actors and artifacts entirely opaque”. As with Heidegger’s concept of ready-to-hand, one only becomes aware of technology when it breaks down. He uses the example of watching a presentation and only becoming aware of the data-projector when the projector breaks down. Saorsa’s *Drawing without ideas strategy* focuses the drawer in a direct engagement with the medium itself as an extension of the body and does not set expectations that dictate the outcome, and therefore encourages individual’s intuitive, emotive and even empathic responses. A piece of charcoal is neutral, but in the hand of the drawer, becomes a tool charged also with the drawer’s spontaneous responses, that during responsive engagement may become an empathic relationship. The purpose of focusing on the *Drawing without ideas strategy* process, however, is not for its aesthetic appeal or for its emotive or expressive output, but rather for the internal reflective process that may be generated during the act of drawing. The intense subjective immersion demanded by this hands-on drawing strategy as discussed earlier, further legitimates exploring hand-drawing from a phenomenological perspective. Saorsa’s (2011a) *Drawing without ideas* workshop is thus regarded as a strategy for nurturing empathy for individual coping.

With this in mind, the aim of this chapter is to explore and show a connection between experiences dealing with ‘wicked problems’ in a wicked problems discipline (design) and the consequent advancement of the ‘coping skills’ of individual designers fostered through the practice of drawing. The focus is not so much on defining the actual wicked problems, but rather on how to facilitate an ‘ideal’ educational context for exposing design students to situations so that they are required to confront uncertainty and ambiguity in preparation for coping with design’s wicked problems. The argument of this chapter is advanced along the following lines: design, as a wicked problems discipline, already aims to nurture an empathic approach to problem defining and problem solving, and hand-drawing seems to extend this aim. This basic line of argument is extended in the chapters that follow.

2.2 Wicked problems and empathic design

The following description of a ‘wicked problem’ by Jon Kolko (2012:[sp])³⁹ gives a clear idea of how entangled social, political, and economic issues have become, making it difficult for the expertise of one individual to resolve problems of such complexity. It further highlights the ‘reach’ of its effects. Kolko (2012:[sp]) states that:

³⁹ Jon Kolko comes from a background of industrial design and is the founder and director of the Austin Center for Design, a progressive educational institution teaching interaction design and social entrepreneurship.

A wicked problem is a social or cultural problem that is difficult or impossible to solve for as many as four reasons: incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with *other* problems. Poverty is linked with education, nutrition with poverty, the economy with nutrition, and so on. These problems are typically offloaded to policy makers, or are written off as being too cumbersome to handle en masse. Yet these are the problems—poverty, sustainability, equality, and health and wellness—that plague our cities and our world and that touch each and every one of us.

Design theorist Horst Rittel differentiates between ‘tame’ and ‘wicked’ problems, considering ‘tame’ problems as ‘normal’ issues that designers resolve in their everyday activities (Rith & Dubberly 2006:19). In an urban design context, for instance, ‘tame’ means solving issues to provide water, sanitation and road infrastructures. Rittel’s assertion that design is subjective and that “designers are responsible for their judgments” initiates a shift from viewing design in strictly empirical, instrumental terms to viewing it as a result of human concerns, actions and thought processes (Rith & Dubberly 2006b:6). Rittel thus places the onus on designers for defining and redefining design problems.⁴⁰

According to Rittel, if wicked problems are not re-framed as ‘wicked’, no innovation is possible (Rith & Dubberly 2006a:2).⁴¹ He stresses that to begin to tame these wicked problems, deliberation between all involved parties is required, because traditional and formulaic processes cannot solve them (Rith & Dubberly 2006a:2). Rittel sees design as an argument supported by a theory of action, rather than just being concerned with conscious knowledge. The design process therefore makes the “tracking of arguments” more transparent (Rith & Dubberly 2006a:6).

The communication between designers and stakeholders is nonetheless complex owing to the different points of view and skillsets of stakeholders from different disciplines. Understanding how different stakeholders experience a specific situation requires ‘stepping into their shoes’; in short, it requires empathy. Drawing, as part of the design process, may be one way of encouraging this imaginative act. Through drawing, one does not only ‘get to know’ facts, but is also sensitised to one’s own feelings, as well as to the feelings, attitudes and subjectivities of others.

⁴⁰ Problems themselves are not “given”, since their character changes during solution processes and have to be refined by stakeholders involved. The kind of solution considered, raises questions affecting solution, keeping problems open until they are finally formulated which cannot happen until they are fully understood and solved. Rittel argues that, “in the end, the solution is the problem” (Jonas 1970:[sa]).

⁴¹ Buchanan (in Bousbaci 2008:47) suggests that Rittel’s use of the term ‘wicked problems,’ was taken from philosopher Karl Popper.

The design process, according to Kolko (2012:[sp]) is one way by which wicked problems “can be mitigated” because of how design iteration uses “an intellectual approach that emphasizes empathy, abductive reasoning, and rapid prototyping”. Rapid prototyping, according to Kolko (2012:[sp]) is a quick strategy for the externalisation of ideas and, as with two-dimensional sketching, thus becomes a tool for ‘public making’, working to create visible representations of the ideation process, which involves showing adaptations and idea changes as they develop. ‘*Sketching*’ or ‘*rapid prototyping*’ helps designers to ‘draw’ things into existence, opening up a space for collaboration on further iterations. For Kolko (2012:[sp]), ‘sketching’ and rapid prototyping are also appropriate for visualising non-physical things, such as services or interactions that give “designers the ability to experience things over time and react to these experiences in further iterations”. Sketching and the ability to visualise things that do not yet exist are therefore two of the designer's most important skills (Kolko 2012:[sp]). Both presume a relational dimension to the design process—a dimension that requires empathy.

Cross's (2001:54) alternative approach to a scientific design methodology, foregrounds finding “an epistemology of practice implicit in the artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict”. According to Cross (2001:54), Donald Schön's theory of “reflective practice” demonstrates putting trust in the abovementioned type of abilities displayed by competent practitioners. Cross (2001:54) supports Schön's intentions “to explicate those competencies rather than to supplant them”. By encouraging the abovementioned artistic, intuitive and reflective competencies, which are gained through sketching and rapid prototyping design education stands to benefit by enabling designers to ‘think on their feet’ and respond spontaneously. The emphasis is on empathy, based on the premise that this value can be instilled through drawing and hands-on visualisation processes particularly. Understanding ideas through ‘making and doing’ results from engaging with materials through touch, as in the sketching or rapid prototyping processes mentioned above.

Based on the premise that there may be some correlation between the kinds of uncertainties evoked by wicked problems and the kind of uncertainties experienced when compelled to draw on a blank piece of paper with no specific visual or idea reference, the suggestion is made for creating more opportunity in design curricula for a neutral (and safe) place to facilitate this kind of interaction by implementing Saorsa's (2011a) intuitive, art-based, spontaneous mark-making process. Such a process is examined for its potential to expose designers to drawing differently, increasing the likelihood of them encountering ambiguity,

uncertainty and tension.⁴² Even at a glance, there seems to be a correlation between human experience dealing with wicked problems and the experience evoked through the implementation of an art-based spontaneous drawing strategy in the design curriculum. This ‘wicked problems’ context expects individuals to formulate their own viewpoints on unique problems, allowing them to consider multiple options towards problem solutions, take risks based on their vague ‘gut feeling’, and take responsibility for decisions made ‘on the fly’. Repeated practice dealing with taking the kind of decisions mentioned above can improve the individual’s skills at such tasks.

Furthermore, drawing must be contextualised within design as a human-centered discipline. Buchanan (2004:34) positions design as “an art of making products that serve people”. Human beings and their well-being are therefore at the centre of all design endeavours—even design education. For many years, according to Buchanan (2004:33), design was taught independently of universities because “university education at the time did not recognize the intellectual significance or cultural importance of design thinking.” As alluded to in Chapter One, Buchanan (2004:34) confirms that design education in Fine Arts contexts was often driven by an “obsession with style and self-expression”; however, he emphasises that whatever branch of learning designers’ knowledge and vision comes from, human beings remain “the center of attention”. For Buchanan (2014:35), education needs to focus on developing the skills and values in individual designers. Whereas many individuals may be “born with genius and natural creative talent”, there is also the belief that “creativity in most students can be nurtured and taught” (Buchanan 2014:35).⁴³ Cultivating creativity among students is not achieved “through the imitation of the work of design masters but through the acquisition of design skills and, most important, through an encounter with the problems faced by people in their daily lives” (Buchanan 2014:35).

By focusing on real-world problems and problem solving contexts, educators allow the creative energy and confidence of students to rise, promoting creative problem solving (Buchanan 2004:34). Many students gradually learn through this encouragement to focus their own efforts in creative ways (Buchanan 2004:34-36). Buchanan (2004:35) emphasises that self-expression “is not an end in itself for this form of human-centered design” but that it is rather “a means toward the deeper goal of serving other people”. He states that “[w]e

⁴² There may be design courses or foundation courses where this approach is the norm, but considering the general lack of drawing skills as discussed in Chapter One, it is unlikely that alternative drawing strategies are used within design curricula.

⁴³ Buchanan (2014:35) raised these thoughts referring to widely held beliefs among Western design educators, as opposed to Asian educators.

serve other people by strengthening their individual dignity and supporting collective social values, all within the pluralism of human experience” (Buchanan 2004:35). He furthermore emphasises that “creativity without the discipline of design skills is almost meaningless for the design professions” (Buchanan 2004:35). Bryan Lawson (2005:302) states that “design is a form of thinking, and thinking is a skill. Skills can be acquired and developed”. In *Understanding how designers think*, Lawson (2005) demystifies some of the challenges of the design process within the design ‘terrain’. He focuses on specific skills that designers have to develop, in order to ‘cope’.

2.3 Coping skills for dealing with ambiguity and uncertainty

Core ‘coping’ skills that designers need to require, according to Nigel Cross (in Lawson 2005:298) include resolving “ill-defined problems, adopting solution focusing strategies, employing abductive/productive/appositional thinking” and using “non-verbal, graphic and spatial modeling media”. Regarding why design problems are so ‘ill-defined’ in the first place, Buchanan (1992:16) argues that the “indeterminate” nature of design problems is embedded in “the peculiar nature of the subject matter of design”, which becomes the problem of the individual designer to approach. Buchanan (1992:16) states that

[d]esign problems are "indeterminate" and "wicked" because design has no special subject matter of its own apart from what a designer conceives it to be. The subject matter of design is potentially universal in scope, because design thinking may be applied to any area of human experience. But in the process of application, the designer must discover or invent a particular subject out of the problems and issues of specific circumstances.

Considering the kind of indeterminacies individual designers have to cope with, Lawson (2005:292-294) adds five further skills that designers require to Cross’s list (mentioned above), the last four of which are relevant to this study. The individual designer requires skills for ‘moving’, ‘representation’, ‘framing’, ‘evaluating’ and ‘reflecting’. Firstly, ‘representation skills’ are used to visualise ideas through drawing and writing to identify, “reformulate and give structure to ill-structured or wicked problems” (Lawson 2005:292-294). The second skill of ‘framing’ applies to the breaking up of design situations to focus on smaller selective aspects of problems, from different perspectives, rather than focusing only on a complex whole.

Thirdly, evaluative skills are applied for the continuous monitoring of design actions. The fourth skill, ‘reflexivity’, implies evaluative skills that align with Schön’s perception of skills that ‘reflective practitioners’ should have (Lawson 2005:292-294). Schön differentiates

between reflecting ‘*in action*’ (versus ‘*on action*’), a concept that applies to the continuous reflection designers do during iterations common to their working processes, reflecting on their current understanding of a problem and on the validity of emerging thoughts. Lawson (2005:299) describes reflection ‘*on action*’ as a higher activity that requires a “mental standing back” to assess the process of what has transpired. Knowing when to reflect on actions “may be one of the most important skills a designer may possess”, but is not easy to acquire or to remember (Lawson 2005:300). To make tricky judgments, designers need to develop skills to know when to reserve judgment and when to explore the alternative ideas that they may have in the back of their minds (Lawson 2005:298).

Lawson (2005:293) positions drawing as “undoubtedly amongst the most central and important” of representation skills. He reiterates Schön’s (in Lawson 2005:293) notion of the ‘conversational way’ by which designers interact with representations, considering representations not as “incidental outputs” but rather as “central inputs to the thought process”. Lawson (2005:293) states that “[a] designer who cannot sketch is likely not to be able to ‘converse’ freely with situations. He emphasises that often designers do not actually make their designs, but instead make representations of their designs in drawings, diagrams, computer models, textual descriptions and physical models (Lawson 2005:293). These design ‘conversations’, including the making of visionary drawings for communicating design ideas, are opened up for conversations, interpretation, critique, the development of lateral thinking skills and the initiation of further ideas.

According to Lawson (2005:298), the ability of design to think along parallel lines, working simultaneously on divergent lines of thinking, seems to be an essential design skill, as is evident in how designers tend to “deliberately maintain a sense of “*ambiguity and uncertainty*” while refraining from deciding on one solution too quickly. The number of alternative ideas and sketches designers make while exploring problems and solutions supports the latter idea. Designers draw on their knowledge about existing solutions and their potential affordances to explore alternative ideas. At the heart of creative production is the designers’ ability to make connections between features within remote sets of ideas (Lawson 2005:301). For Lawson (2005:301), the way designers go about to research “is not just an internal cognitive one”. He explains:

[d]esigners’ ability to execute referential drawings outside the actual process of design seems likely to be central to the development of this episodic knowledge of precedent. In short, designers tend to keep sketchbooks. The skills of observation and recording are thus also central to the ability to store knowledge that may later be used in formulation. Clearly a designer’s guiding

principles will tend in turn to influence the kinds of experiences and references sought out, gathered, reflected upon and stored (Lawson 2005:300).

Inner confidence and experiences in all of the abovementioned skills are factors likely to contribute to coping in contexts where ambiguity and uncertainty may challenge the comfort zones of designers. The domain of drawing is examined as the space within which ‘coping skills’ may be learned. Saorsa (2009:195) regards ambiguity and uncertainty as two important characteristics in drawing, both in ‘abstract’ and in representative drawing. She points out that together, properties of ambiguity and uncertainty “create a tension within a work, a feeling of the ‘unknown’ or the questionable” and thereby increase the value of the art or the design experience beyond its immediate function (Saorsa 2009:195). For her, the experience of tension through ambiguity and uncertainty has a positive outcome in that compositions remain open to interpretation by both viewers and the drawer. She emphasises, however, that artists and designers must manage the tension, keeping a balanced integrity within compositions that opens them up for interpretation rather than making them ‘impenetrable’ or closed for interpretation (Saorsa 2009:195). A balance between intentionally controlled and spontaneous and intuitive mark-making, is the “root of creativity” (Saorsa 2009:195). Intentionality, referring to decisions made by an engaged mark-maker, thus differentiates accidental marks (such as spilt paint splatters) and natural phenomena (such as tracings in the desert) from intentionally controlled intuitive marks as encouraged in *Drawing without ideas*.

According to author and artist Margaret Davidson (2011:178)

[c]onsciousness in drawing is one of those states of mind that, once you reach it, you can’t imagine the time before reaching it. Once you know it, you can’t return to not knowing it. When you become conscious and intentional, you cross over from some realm of ignorance to true awareness”.

Davidson’s (2011:174) implies that the taking of purposeful, conscious decisions with ‘intentionality’ is something one discovers through drawing. Davidson (2011:174) includes conscious awareness of the meaning one intends to present to the viewer—a critical focus for designers and the design judgements they make in the design process. Similarly, there is a moment of transition in Saorsa’s *Drawing without ideas* workshop, when participants reach a level of confidence, when instead of responding reflexively to marks, they take control of the medium and take conscious decisions. Merleau-Ponty’s view on intentionality, discussed in Chapter Four, expands on this topic.

The experience of tension in the presence of the ambiguity and uncertainty associated with spontaneous and intuitive mark-making during the ‘dialogue’ between the drawer and the marks on paper demands intense engagement—an immersive embodied experience. That is, each mark initially invites a response of a further mark by the viewer. After an initial reluctance, the drawer starts to make more decisive, intentionally controlled marks and seemingly takes control of the process. A connection is made therefore between the initial confusion of approaching wicked problems. Once engaged however, overcoming any initial reluctance that may be experienced, empathy within the context of embodied experience offers a direction for approaching wicked problems. It is only when the designer-drawer becomes immersed in the ambiguity and uncertainty of a problem that his or her way of thinking and working—including its iterative, evaluative and reflective cycles—that individual designers’ empathic values become essential coping skills. If a drawing strategy such as Saorsa’s *Drawing without ideas* can be used as a cue to transform tension to empathic immersion, it becomes a tool for nurturing empathy and one of the useful skills designers can benefit from learning.

According to Lawson (2005:14-15), “[d]esign is a highly complex and sophisticated skill. It is not a mystical ability given only to those with recondite powers but a skill which, for many, must be learnt and practiced rather like the playing of a sport or a musical instrument”. He emphasises that “[t]hinking should be treated as a complex and high level kind of skill” that needs to be “analysed, taken apart, developed and practiced” (Lawson 2005:14-15). As with performers and golfers, Lawson (2005:14-15) argues that designers have to be able to act on ‘what needs to be done’, rather than to think about what they were taught. Thus, some decision-making by designers happens seemingly automatically, as if on reflex. Skilled and experienced designers are unlikely to give self-conscious thought to their actions, but “novice students need to learn to develop a balanced design process exploring all the important constraints, whoever generated them, whether they may be internal or external and whatever their function” (Lawson 2005:109). Exposing design students to hand-drawing, using a strategy unfamiliar to their discipline, as argued in this study, means that they cannot draw on practiced reflexes.

Lawson (2005:301) stresses that designers’ particular skill-sets aids them to “collect precedent that helps them to produce solutions that embody the values they espouse”. He states, however, “to make something work in a design process, the skills and values must both be there together”. In reality, design is driven by sets of values (Lawson 2005:301).

'Empathy' is thus positioned as a core skill that designers can develop to be prepared for the problems with which they have to cope.

According to Lakoff and Johnson (1999:309), empathy is "the capacity to take up the perspective of another person", that is, to see things the way another person does. Lakoff and Johnson (1999:291) unpack the logic of moral empathy as follows:

If you feel what another person feels, and want to feel a sense of well-being, then you will want that person to experience a sense of well-being.

Therefore, you will act to promote that person's well-being. The morality of empathy is not merely that of the Golden Rule ('Do unto others as you would have them do unto you') because others may not share your values. This constitutes a much stronger principle, namely, '[d]o unto others as they would have you do unto them.'

This means that having the ability to step into another's shoes in order to understand and share their feelings may be conceptualised metaphorically as a capacity to project one's consciousness into other people, in order to experience 'what' they experience and the way they experience it (Lakoff & Johnson 1999:309). Empathy has a moral dimension and needs to be understood as a form of mediation, another kind of thinking, because one has no direct access to another person's consciousness (Lakoff & Johnson 1999:309). Empathic experiences in a practical context, such as encouraged by Saorsa's (2011a) drawing strategies, become the 'memories' for later experiences to draw on for bigger wicked problems and contexts. It is, however, not the size of the problem that is important for this study. Rather, what is important is the intensity of the experience of being in situations of uncertainty, as with *Drawing without ideas*, as discussed below. This is when the body needs its tools for mediation—the hand and empathy.

Reflecting on one's inner reactions and feelings is concurrent with experiencing the difficulties of conflicting feelings such as exhilaration, doubt and anxiety. It is part of taking calculated versus wild risks, and sensing tension, fear, satisfaction or disappointment while challenged with uncertainties (indeterminacies and continuously changing conditions) during drawing exercises. This dual presence of reflection and experience has the potential of becoming embedded as tacit knowledge. One does not necessarily recall the nature or size of the problems dealt with. Rather, one recalls the tension of the moment of having to come to a decision during a time of uncertainty. The experience of facing a challenge and making on the spot decisions in any future real world challenge, whether in a design context or not, is what one recalls in a time of uncertainty. Drawing and in particular the strategy of *Drawing without ideas* that combines reflection and experience potentially offers a way to evoke

'empathy' as a core competency for coping with one's internal responses to external factors, since it must necessarily involve thinking beyond one's self and considering the possible positions of others.

"Egocentric empathy" according to Lakoff and Johnson (1999:310), means reaching out to others, while trying to preserve one's own values. According to C Daniel Batson's "empathy-altruism thesis", empathy goes hand in hand with motivations of altruism rather than a concern for helping because of personal egoistic values (in Stueber 2014:[sp]). According to Stueber (2014:[sp]), an egoistic interpretation of empathic phenomena is driven by an awareness of "the negative consequences of not helping; such as feelings of guilt, shame, or social sanctions" or an enhanced sense of "recognition of the positive consequences of helping behavior such as social rewards or good feelings. Empathy according to this interpretation induces one to help through the mediation of purely egoistic motivations". These genuinely altruistic motives (together with other egoistic motives) are taken into account by the individual agent in deliberating about whether or not to help. Stueber (2014:[sp]) points out, however, that it is the individual strength of an agent that will ultimately determine whether "the agent will act on his or her altruistic motivations" taking into account also "what costs the agent would incur in helping another person". Helpful behaviour thus serves egoistic ends such as reducing negative feelings to avoid "punishment" or for gaining "specific internal or external 'rewards'" (Stueber 2014:[sp]). In this study, 'empathy' aligns rather with a heart-felt concern for the well-being of others. Lakoff and Johnson (2009:290) position empathy within the context of morality where the general concern seems to be about human well-being. Empathy in this study is therefore one of the core values affecting the outcome of any design undertaking, especially concerning its impact on the well-being of others. This again confirms why creating 'space' within design curricula for designers to explore their own empathic inclinations is necessary and why hand-drawing becomes such a helpful space owing to its ability to nudge designers to get in touch with their empathic dimensions.

In order to establish whether one's own empathic concerns are egocentric, one needs to understand one's own values. Decision-making in design contexts, besides following design's guiding principles, requires an understanding of the nature of one's own values and principles. In order to take a stand, when wicked problems present themselves, one's whole body needs to be in a state of alertness and readiness for making spontaneous, yet firm and appropriate decisions. What is required is a dual concern for one's own values and the well-being of others. Similar to Wilson's (1998:64) discussion of a crane operator's body using its

own mechanisms to maintain a state of alertness so that appropriate action can be taken when a gust of wind suddenly affects its balance, drawers may be training themselves in readiness for fast responses. The crane driver's body does not respond mechanically, but does so because of the 'empathic' concern for 'safety' of the body. This state of alertness comes from years of experience. Drawing is therefore argued to be a place where this kind of experience can be gained and as a place where emotive and tacit knowledge has a voice.

From the 'outside', the world, 'the other' and education can act as 'advisory boards' or 'panels of judgment' guiding students to 'clarify' their values and give them 'tools' to recognise when it is 'appropriate' to act. The 'if and how' of whether individuals may even 'act' depends on a person-centered response rather than on a universal, human-centered response. 'Designerly ways of thinking'⁴⁴ have become helpful for streamlining the design process into a logical cycle, including meaningful evaluative and reflective acts (Cross 2001). Clearly one's knowledge of 'designerly ways of thinking', history, tradition and best design practice, is bound to play a part. 'Designerly ways of thinking' has its own inherent mechanisms for countering the dominance of rationalist thinking. The 'built-in' phases in the designerly way encourage 'listening' to emotive and tacit knowledge gained through personal experience, and to reflect on the validity and relevance of actions planned and actions taken. While supporting the principle of design thinking, however, rather than to focus on clarifying designer's 'personal values', the intention is to cut a bit 'closer to the bone': to the core or heart of human centered design, namely, care—on a personal level. As an individual, one does have the power to intervene, or motivate and empower others. This study therefore argues that it is crucial that one first understands what it is like to stand in one's own shoes at a time of discomfort and insecurity before attempting to stand in another's shoes—meaning to share empathy with them—to care. One has to first empathise with oneself before empathy with others is possible.⁴⁵

Wolfgang Jonas (1970:[sp]) identifies the way designers separate themselves from their own human subjective and emotive experiences as one of design's inherently 'wicked' problems.

⁴⁴ Design as a methodology and as a subject or field of inquiry was launched in the early 1960s at a Conference on Design Methods held in London. Pressing issues following the Second World War required decisive techniques for managing civilian developments such as operations research. Skills for using new scientific and computational methods were also required. Science, technology, and rationalism were the key ingredients for overcoming the human and environmental problems caused by the War.

⁴⁵ According to Lakoff and Johnson's (1999:311) 'moral nurturance metaphor', although one has a sense of responsibility to nurture other human beings, it is as immoral not to care for oneself, as it is not to care for others. The essence of moral nurturance "is empathy and compassion for others. It focuses not on one's own rights, but on the fundamental responsibility to care for other people" (Lakoff & Johnson 1999:310). Empathy is necessary to understand what others need and is thus a tool to reach others in order to gain this knowledge.

To describe how artists and designers think separately of scientific capabilities of artists or designers either a "black box" or a "glass box" metaphor is used. Jonas (1970:[sp]) finds first generation methods, attempting to be scientific problematic because they do not take the designer's subjectivity into account. Design ability, he argues, is the essential characteristic through which knowledge of the world can be obtained and one's involvement in the process cannot be overcome. Rittel (Becker 2004:[sp]) highlights the uniqueness of design activities for coping with difficulties rather than positioning them into a rationalist model.⁴⁶ Rittel's (in Bousbaci 2008:46) seemingly contradictory "rationalist problem-solving" view thus confirms that design's problems are "wicked problems". He sees design as a logical process of informed ongoing inquiry, including the "design rationale". Rittel (Rith & Dubberly 2006b:4) also includes trust in the formation of designers' views based on their "instrumental knowledge". The reasoning of designers for Rittel is that it entails a process of argumentation, unlike problem solving (Rith & Dubberly 2006b:4). According to Rittel, the kind of thinking that happens during design's iterative planning process, where designers are supposed to be arguing with themselves and with those they collaborate with, is closely aligned to the kind of thinking in the early idea generation stages of design, especially of a kind that happens through drawing (Rith & Dubberly 2006a).

In the act of drawing, the hand may have the potential to cultivate properties that make the whole bigger than the sum of its parts. In design, this means that besides being able to draw and design, designers have to be able to access qualities in their own personal make-up—their own thoughts and abilities to be reflexive and critical. Practices in these skills are likely to affect their attitude towards what they see 'out there' and to how they approach problem solving. Even the fastest, roughest sketch makes a designer's thinking and point of view explicit and share-able with others, making it also social and political.⁴⁷ This again underlines the importance of how creating 'powerful' sketches can get designers to be in touch with their values, reflective and argumentative skills, and to approach uncertainties with a critical attitude.

Following from the above, two critical viewpoints of Rittel (Rith & Dubberly 2006a:2) are relevant for this study. Firstly, he was critical of existing design curricula that did not prepare designers for approaching the planning of problems and proposed a goal-oriented approach to design education, a notion that Buchanan (2004:34) takes further in his view on reflective

⁴⁶ According to Becker (2004), Rittel challenged first generation rationalist problem-to-solution assumptions in design by shifting his interest to designers' reasoning in what has become known as second-generation assumptions.

⁴⁷ McCoy (2003:8) emphasises that design is political and associated with power.

human-centered design⁴⁸ in university programmes. Rittel's planning model⁴⁹ helped to encourage and organise critical discourse during planning processes, providing a transparent design process rationale system aiming “to explicitly capture, structure, and represent the deliberations and reasoning that occur during planning processes” (Rith & Dubberly 2006b:6). Secondly, Rittel criticises the attempts of artificial intelligence researchers to mimic the brain by “simply confirming knowledge” and instead proposes finding research tools or “mental crutches” for enhancing “natural intelligence-reinforcement systems” that cast doubt, point out ignorance, and thus be more useful by opening up new possibilities (in Rith & Dubberly 2006b:6; Churchman *et al.* 2006:18-20).

With reference to the analogue versus digital debate noted in the previous chapter, it may be argued that the consequences of relying on external approaches such as using a computer too early in the design process may detach designers from their own thinking and from experiencing empathy. Rittel comments on this: “as my eyeglasses don't see on my behalf but help me to see better, one might use the computer not to think on one's behalf but to reinforce and enhance one's own ability to think” (in Churchman *et al.* 2006:19). He thereby suggests that tools or “mental crutches” do not replace human skills, but can be used to enhance one's “natural intelligence”. Rittel opposed the “widespread attempts at constructing expert systems like computers” because even though these systems embodied vast amounts of expert knowledge, “freeze-dried prejudices”, rather than “pursuing the aims of artificial intelligence” (in Churchman *et al.* 2006:19). Rittel proposed to use ‘tools’, even though they may seem ‘less ambitious’ and do not think on one's behalf (as a computer promises to do); a more promising strategy would be “to reinforce and enhance one's own ability to think” (in Churchman *et al.* 2006:19).

The ontological structures that designers of the ‘inner worlds’ of computers create provide paths for users to take, seemingly ‘intuitively’. In other words, instead of designers imagining possible solutions, they are given pre-identified options to choose from. These quick options give designers the illusion of finding the appropriate solution. According to Bouchev (2006:[sp]), however, choosing the best option ‘button’ (by implication from a selection of pre-coded potential options) gives designers a false sense of gratification; whereas thinking of a few options in quick sketches, would have encouraged designers to think differently about

⁴⁸ From his positioning of design in the liberal arts as a humanistic art, Buchanan (2004) places design thinking in the service of people to promote their collective dignity by inventing signs, objects, interfaces, and systems empathically and thoughtfully.

⁴⁹ Rittel proposed a planning model that is a “cybernetic—goal-oriented and involving feedback—process” later called Issue-Based Information Systems (IBIS) (Rith & Dubberly 2006b:5).

the design problem and of its context (rather than to ‘discover’ instant solutions). Designers’ strength lies within themselves and pressing a button of pre-coded choices means neglecting a rich source of creative, inventive and metaphoric thinking.

In order to make meaningful decisions with regard to the social impact of design towards humanity and to the environment in which designs are used requires a competence in design skills, but also a social and political consciousness with an emphasis on sustainability. This marks a move beyond Bauhaus aesthetics that celebrate *form follows function* towards becoming more responsible designers (Heller & Vienne 2003:7). The abovementioned attitude asks designers to be more in touch with the people and cultural contexts where designs *live*, but also with the way that cultures within which students live and learn, impact on their own lives, requiring a critical attitude, a notion that in a design context means being citizen designers.⁵⁰

2.4 Conclusion to Chapter Two

As suggested previously, empathy is a valuable skill for designers to understand how to approach wicked problems. The *Drawing without ideas* workshop, discussed in Chapter One, offers a process for coming to grips with intuitive mark-making and helps to transform tension into confidence, meaning that the act of drawing in this way can hone a valuable skill for coping. Hand-drawing, as described in this chapter, has a role to play as a coping strategy in a design context, which is characterised by so-called wicked problems, which require designers to think on their feet. Additionally, even at face value, the sensitivities acquired through drawing, seem like an efficient way to sensitise designers empathically for ‘caring’—an idea that is explored further in the next chapter. Ultimately, choices about media, drawing strategies, finding solutions for any challenge in design, and considering design’s effects on other people and the environment are in the hand of the designer and his or her capacity to ‘care’, as suggested by Heidegger. The following chapter therefore turns to Heidegger’s phenomenology to examine a relationship between drawing and ‘caring’ as a way to understand how empathy may be evoked.

⁵⁰ Moral nurturance for Lakoff and Johnson (1999:310) extends concern from individuals to social relations where “the social ties that bind people together into communities” is what is nurtured. According to Gilligan, an “ethics of care” is what makes people help to keep a communal bond in place, but the process may be taxing on individuals resisting the idea or on those helping to keep the social ties (in Lakoff & Johnson 1999:310).

CHAPTER THREE: DRAWING TO CARE

3.1 Introduction to Chapter Three

The previous chapter explored skills needed by designers for coping in the discipline of design, which was contextualised as a 'wicked problems' discipline. In keeping with the role of the citizen designer, empathy was singled out as a core value for inclusion in a designer's toolkit of 'coping' skills. It was proposed as something that equips designers with the sensitivity and insight needed for understanding how people might experience wicked problems. Drawing was then described as a space for evoking and nurturing empathy, since it is something that encourages the drawer to first gain a sense of their own experiences, especially through reflection on practice, before making any attempt to conceive of the experiences of others.

With this in mind, this chapter turns to the work of the German philosopher Martin Heidegger. His phenomenological ontology and his existential, hermeneutic perspective underpin this chapter. Moreover, his ontological 'dimension for care' in particular is examined as the foundational force in one's capacity for empathy. Chapter Three thus focuses on Heidegger's phenomenological stance, arguing that hand-drawing is a useful aid for nurturing a spirit of caring. Essential Heideggerian concepts and terminology are therefore explained. Throughout this chapter, suggestions are made to indicate how Heidegger's philosophical concepts apply to drawing. In order to speculate on how the hand in the act of drawing may help to nurture empathic designers, the concept of *Dasein*, including the existential dimension of care (that is, its embodiment in 'care') is discussed.

Heidegger's *Being and time* (2001), the main text for the following discussion, aims to revive the neglected question of Being through a rigorous analysis of human existence (Harman 2007:56). Macquarrie and Robertson's English translation of that book is consulted as the primary source and is supported by various secondary interpretations such as the one offered by Graham Harman (2007). Despite being critical of some of Heidegger's ideas,⁵¹ Harman (2007:4) offers comprehensive interpretations of Heidegger's key arguments.

⁵¹ Harman's (2007:162-163) primary objections to Heidegger's philosophy includes the dominance that he gives to *Dasein* and its presence in suggesting that the world depends on *Dasein* for its existence. A further dominant view includes that the reality of things are to be found in their relations with all other entities in the environment, complicating explanations both of change and of how to link the simultaneous perspectives that multiple entities can have of the same thing. Harman (2007:163) indicates that Heidegger's Bremen lecture in 1949 acknowledges more independence of things from their environments.

3.2 Heidegger's phenomenology

The significance of Heidegger for any phenomenological exploration cannot be underestimated. He brings human beings and their modes of being into philosophy and encourages a strikingly fresh and rigorous process of thought. His theory gives significance to even the most trivial of everyday activities such as gossip, shyness (of being everyday *Dasein* dictated by 'the they'), and brings such things in line with his central themes (Harman 2007:78). His thinking therefore has significant bearing on understanding hand-drawing, and as is argued further on, understanding its connection with empathy. In fact, Heidegger makes use of the hand as a central metaphor for describing *Dasein's* various modes of encounter. These modes include the ready-to-hand, the unready-to-hand, and the present-at-hand. Each of these is explained in more detail below. Additionally, the following discussion outlines key ideas in Heidegger's system before addressing the way that Heidegger's metaphor of a 'clearing' relates to the act of drawing.

Harman (2007:25) points out that, according to Heidegger, philosophy cannot adequately study reality/life through theoretical descriptions of its outer appearance, because "human life is always immersed in a specific situation" and involved with its surroundings in a very particular way. Heidegger calls this factual aspect of life 'facticity' in reference to the intrinsic fact that there are always aspects obscured from direct observation. With his factual awareness, according to Harman (2007:26), Heidegger's revolutionary approach to philosophy moves beyond "external descriptions of the properties of things" to the study of "real events in their performance or execution". This requires new categories to justify *Dasein's* factual properties to differentiate them from the metaphysical proposition: all objectivity is as such also subjectivity. Heidegger therefore creates the required categories to make a clear distinction between human *Dasein* and passive objects. He also defines the meaning of being through its temporality by proposing the use of time as a horizon for trying to understand being (Harman 2007:39). More is said about this below.

Heidegger's philosophy may be outlined broadly with reference to three philosophical discoveries to which he responds (Harman 2007:59). The first is intentionality, relating to all consciousness as being conscious of something. The concept of intentionality requires beginning with things and the way they make themselves visible, without searching for explanations beyond one's conscious experience. A step up from intentionality is categorical intuition, meaning that phenomena house a richness of embedded layers far beyond what the eyes can see at first. Despite perceiving many things simultaneously in a single view, one does not consciously express details of each layer or the details embedded within the layers

(Harman 2007:40). For example when one sees a blue car, one does not focus on blue as a colour, just as one does not see the car apart from its blueness. Harman (2007:48) points out that for Heidegger “time” is the ultimate concealed layer of everything. As he puts it, time is the primary or transcendental horizon of ontology (Harman 2007:48). The third response relates to the original sense of Kantian *a priori* referring to that “what comes before all experience” (Harman 2007:40).

In Kant’s philosophy, for example, space and time are *a priori*, because in his view one does not discover time and space through experience; rather, experience would not be possible without space and time in the first place. *A priori* is usually interpreted as things that humans may know before an experience occurs. One can relate it to acting on a hunch based on one’s awareness of something’s background knowledge. Phenomenology asserts, though, that the *a priori* is not what humans know first, but what *is* first. Based on the three things mentioned above, Heidegger defines phenomenology as “the analytic description of intentionality in its *a priori*” (Harman 2007:41). This view narrows down the subject matter of phenomenology to intentionality: the presence of phenomena in consciousness. Based on a *a priori* knowledge that things are there, phenomenologists focus on describing things that are “hidden in acts of consciousness” based on an *a priori* belief in things already being there (Harman 2007:41). Conscious experience through analysis may reveal the hidden layers that keep it together, and, above all, the one thing presupposed by all conscious experience namely, Being (Harman 2007:41).

Within Heidegger’s phenomenological ontology based on the hermeneutics of *Da-sein*, *Dasein* means ‘being-there’; that is, according to Harman (2007:35), there where *Dasein* exists is the world. According to Heidegger (2001:236), the impossibility of experiencing *Dasein* ontically as a whole makes it difficult to determine its character ontologically as Being-a-whole. Being as a whole or being as such, according to Harman, is similar to the classical existence/essence distinction. On the one hand, all things simply are (being as a whole). On the other hand, all things are highly specific, with their own characteristics (being as such) in keeping with the nature of *Dasein*’s Being (Harman 2007:173). *Dasein* is both ontic, referring to it as a specific existential entity that is visible and present, and ontological, as being itself. One of its differentiating features is its understanding of its own being, while at the same time being aware that other beings as *Dasein*’s potentially have similar priorities (Harman 2007:57, 176).

According to Heidegger, *Dasein* stands for human existence as being-in-the-world (Harman 2007:3). Heidegger (2001:3) restricts *Dasein* to humans, who, unlike trees and stones, have access to its being. “*Dasein*” is articulated, then, as that for which “Being is an *issue*”; “*Dasein* understands itself in its being” (Heidegger 2001:32). Harman (2007:3) points out that in the common German language, however, the term applies to the existence of literally anything—even stones. Nevertheless, Heidegger does not use the term “human being”, because it is already too loaded with theories and prejudicial meanings of what it stands for (Harman 2007:3). Furthermore, Heidegger focuses on *Dasein* to draw attention only to those aspects of the human being that can be unpacked in a “rigorous, philosophical way” (Harman 2007:3).

3.3 The hand as metaphor for Heidegger’s ontology

Heidegger uses ‘the hand’ as a central means for describing *Dasein*’s modes of encounter with entities. The hand is a tool for drawing and a pencil is often described as an extension of the hand. Objects from the natural environment that are physically present, or visible to human beings by way of concepts are referred to by Heidegger as present-at-hand (Harman 2007:176). This is the first way that Heidegger uses the metaphor of the hand. He differentiates between present-at-hand objects such as rocks and mountains from things in *Dasein*’s environment that are ready-to-hand, indicating tools with obvious ready to use attributes. The attributes of ready-to-hand objects are so obvious that they become almost invisible, and involve humans using them without thinking. Through this differentiation, Heidegger brings to light the relationship between humans and the things in the world.

Ready-to-handedness refers to attributes embedded in tools that make their use so apparent and a part of human beings lives that they become ‘invisible’, withdrawing from one’s conscious attention. Only when these tools malfunction do they come to one’s attention, such as when we struggle to breathe and therefore become aware of oxygen or the lack thereof (Harman 2007:59). The strangeness of something therefore draws one’s attention to its everydayness (Harman 2007:34-35). In the second stage of Saorsa’s (2011a) *Drawing without ideas* discussed in Chapter One, marks on paper are wiped down and the hand is a useful piece of equipment for the purpose of subtractive mark-making. When the hand is able to perform a task like this fluently and skillfully, this aligns with Heidegger’s articulation of the *ready-to-hand*. When the hand cannot perform its usual acts fluently and skillfully, such as drawing lines, scribbling, gesturing or holding a pencil, owing to an injury, then Heidegger describes the hand as *unready-to hand*. The *unready-to-hand* can refer to a tool that has had its use subverted, as in the case of a hammer that is too heavy to pick up. In the context of

hand-drawing, then, *unready-to-hand* could presume damage to the hand that is temporary, whereas the term *present-to-hand* applies if the damage is permanent. This is something that neurologist Frank Wilson (1998) has examined in his research, where the injury of hands threatened to end the careers of highly skilled musicians, artisans, surgeons, toolmakers, jewelers and others whose occupations required intricate hand activities. In the same way that a hammer, musical instrument, scalpel, or drill is understood by Heidegger as a piece of equipment, so too might the hand be understood. What the hand can do in the context of drawing, however, may be limited only by one's imagination. Arguably, it is the idea of the ready-to-hand that most overlaps with the notion of empathy, since it presumes a more primal level of involvement than what is accounted for by the notion of the present-at-hand.

Understanding *Dasein's* operational mechanics in the context of its full potential means grasping Heidegger's notion of "*ahead-of-itself-is-already-being-in-the-world*"—a conception that includes *Dasein's* "being-alongside other entities within the world" (Heidegger 2001:236-237). According to Munday (2009:[sp]), *Dasein's* facticity refers to its understanding of specific structures 'in advance' that comes from its understanding of its own upper *Being*, of its own position in relation to existing amongst other beings like things in worldspace, that is like *Being-present-at-hand*. As such, *Dasein* understands itself as an entity, bound in its own destiny with others that it encounters within the world. Facticity, Munday (2009:[sp]) explains, involves the presence of a reflexive self-consciousness, of being conscious of one's own existence as an entity *within-the world* and of understanding one's existence of one's *Being-in-the-world* as a fact. In a sense, one becomes an interpreter of one's own understanding of the world and of oneself, differentiating oneself from passive things.

Again, human beings are differentiated from things that are simply present-at-hand, of which aspects are partially visible and partially hidden from sight. Harman (2007:3) points out that "the two faced interplay of shadow and light, veiling and unveiling—the interplay of time" is made possible by *Dasein's* temporality. According to this view, Harman (2007:3, 73) argues that Heidegger follows Kant's notion (discussed in his *Critique of pure reason*) that philosophy cannot explain "the way things are in themselves", since humans have no full understanding of "what lies outside of their human experience." So, things such as time and space for Kant are merely "conditions of possibility of all human existence", while human beings cannot know if these exist independently from themselves (Harman 2007:3). For Heidegger, however, the experience and understanding of all its contributing factors is supreme. Although one can never gain an exhaustive understanding of things, knowledge about them can gradually be unveiled or 'drawn out' of its *forgottenness* (Harman 2007:174).

In this, Heidegger (1977:5) makes use of *aletheia*, the Greek word for truth, meaning ‘drawing something out’, revealing the truth that brings understanding.

For Heidegger (1977:5), technology is a way of revealing, emphasising that “in its domain belongs end and means, belongs instrumentality”, and when understanding what technology represents as means, one “shall arrive at revealing”. Technology for Heidegger (1977:5) therefore is not only a means, but is a way of revealing, and the realm of technology is the realm of revealing ‘truth’. Heidegger links technology to three sources of origin. Firstly, its Greek origins are *Technikon*, referring to “that which belongs to *techné*”. *Techné*, he points out, refers both to the activities and skills of craftsmen and to the poetic mind of the artist. *Techné* is a poetic “*bringing-forth*”. Secondly, he relates *techné* to Plato’s word *episteme*, which imply understanding and being an expert in something. Such knowing, Heidegger (1977:5) argues, “provides an opening up. As an opening up it is a revealing.” Finally, he states that for Aristotle *techné* means the following:

Techné is a mode of *alétheuein*. It reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another. Whoever builds a house or a ship or forges a sacrificial chalice reveals what is to be brought forth, according to the perspectives of the four modes of occasioning. This revealing gathers together in advance the aspect and the matter of ship or house, with a view to the finished thing envisioned as completed, and from this gathering determines the manner of its construction. Thus what is decisive in *techné* does not lie at all in making and manipulating nor in the using of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacturing, that *techné* is a bringing-forth (Heidegger 1977:6).

Considering the above, drawing, even when it uses low levels of *techné*, is a powerful means of inquiry. The hand in the act of drawing may be argued to be the ready-to-hand tool that, as suggested previously, can help to unravel and disclose the knowledge of things. In this sense, the hand with all its attributes is a tool for delving; for shaping and for revealing what there is to see beyond what the eye can see. Through the process of thought and through exploration of touch, the hand becomes a means to ‘bring forth’ feeling and thinking.

In a structural sense, the role of the fourfold in Heidegger’s later writing is comparable to the role of Heidegger’s Being-in-the-world. In the early writing, *Dasein*, according to Sharp (2011:[sp]), “seems to possess the agency and activity, while Being is consigned a purely passive role”. Whereas there is minimal focus on what Being’s ‘dwelling’ is like in Heidegger’s early writing, his later writing reveals more about dwelling and social practices, in the

holistic structure of the fourfold. The following description by Daniel Sharp (2011:[sp]) uses the metaphor of a strange dance or conversation to describe the relationship between being and the things in the context of dwelling in the context of the “earth and sky, divinities and mortals”:

Mortals dwell with things in that they care for them. They build and cultivate things, bringing them forth into appearance. Being, in this sense, needs us to free the things to be what they are, to let them dwell in presencing. Yet the things do a sort of work for us which is not reducible to our being alone. Things articulate the fourfold, transforming spaces into places and imparting to us a holistic context in which we can maintain our social practices. The fourfold is the site where this whole process – this strange dance or conversation between us and the *thing* – takes place. To be a human is to dwell in the fourfold with things.

The fundamental character of dwelling for Heidegger is about “sparing and preserving,” referring to how beings ‘care’ to spare and to preserve the environment or space within which they live or “dwell”. As suggested in the quotation above, from an ontological perspective, “sparing and preserving” is about “freeing something to be what it is”, and maintaining its freeing in “presencing.” Thus, it means “to take under our care, to look after the fourfold in its presencing”. The reference above to Heidegger’s later writing, which Sharp (2011:[sp]) describes as nebulous, is in contrast to the complexity of Heidegger’s earlier writing and in particular his classic text *Being and time* (2001).⁵²

For Heidegger, human beings can question their own existence and have an awareness of death, which makes their existence more ‘real’ (Lawlor 2007:44). Animals, on the other hand, cannot question their own existence and cannot explain death. The article *Animals have no hand* by Lawlor (2007) is based on Derrida’s unique interpretation of Heidegger’s thinking, as always being defined by the idea of “gathering together (*Versammlung, rassemblement*)”. Lawlor (2007:44) refers to a claim by Heidegger in his *What is called thinking*⁵³ that “apes (and more generally animals) have no hand (and have no hand precisely in the singular) implies that they do not have access to gathering, and that means to the phenomenological ‘as such’... [and that] especially they have no access to the ‘as such’ of death”.

⁵² Harman (2007:35) describes *Being and time* as one of the most influential books of philosophy in the twentieth century.

⁵³ Lawlor includes this reference as Heidegger Martin. 1959. *Qu’appelle-t-on penser?* Trans. G Granel. Paris: Presses Universitaires de France.

According to Derrida,⁵⁴ Heidegger calls thinking “Handwerk, a work of the hand” (Lawlor 2007:44). “Handwerk”, however, does not refer to “grasping” in the sense of understanding conceptually. The ‘hand’ is described as “a thing apart from the prehensile organ” (Lawlor 2007:48). For Heidegger, “thinking is not conceptual” for animals, whose “hand is not for grasping. Apes therefore do not think because they have no hand ... they have only prehensile organs” (Lawlor 2007:46). Ultimately, “the hand is infinitely different from all grasping organs—paws, claws, or fangs—different by an abyss of essence” (Lawlor 2007:46). In other words, *Dasein*’s hand becomes an extension of *Dasein*, rather than merely being a tool that allows objects to be passed along, as is true in the case of animals. This idea gives body to the notion of ‘lending a hand’ that forms part of this study’s title.

According to Derrida (in Lawlor 2007:48), Heidegger’s hand is not used only for giving things, “but for giving itself”. Lawlor suggests that the reflexive verb hints at autoaffection in that “the hand gives purely when it gives itself, when it gives the same, autos”. Lawlor (2007:48) suggests that there is no separation of “giving and taking” concerning the hand, as Derrida seems to argue. Lawlor translates this “nontransitive gift, this gift of itself” with “give me a hand”. This, according to Lawlor (2007:48), “is what really defines the hand for Heidegger”. The hand becomes, as it were, a medium of ‘care’.

3.4 Care

For Heidegger, as already mentioned, entities in the world remain partially obscured. He says that things are ‘events’ and not occurrences: “They are not thoroughly graspable from the outside, and are never entirely exhausted by human thought” (Harman 2007:175). Studying human *Dasein* in the non-static contexts of actions, performances or events, according to Harman (2007:26-27), emphasises a requirement for interpreting *Dasein* in terms of viewing time as live events at work. Thus, time is regarded as kairological time that within Heidegger’s philosophy captures the richness of a moment as opposed to calculating time according to an externally observed consciousness of clock or calendar time (Harman 2007:30). *Dasein*’s facticity requires one to grasp a dynamic, yet ambiguous ‘triple temporal structure’ involving an intense interplay between its extreme poles. On the one end, there is *Dasein*’s existential structure of “fore-having”, meaning already being in the world (without having made any decisions), and on the other end another of its existentials, namely “fore-conception, referring to human *Dasein* as being equipped with a specific attitude for approaching its surroundings” (Harman 2007:34).

⁵⁴ According to Lawlor (2007:44), Derrida’s reflections on animality engage his reading of Heidegger, as is evident in Derrida’s “Heidegger’s Hand”.

Heidegger dedicates the first four chapters of *Being and time* (2001) to contextualising aspects of *Dasein*'s whole, namely its worldhood,⁵⁵ its being-in-the world as being-with and being-one's self,⁵⁶ and its being as such.⁵⁷ The first chapter of *Being and time*, where Heidegger prepares his readers for approaching an analysis of *Dasein*, describes *Dasein*'s existential meaning as 'care'. Heidegger's conceptualisation of care as being embodied in *Dasein* is very important for this study. According to Heidegger (2001:237), *Dasein* and its ways of Being manifests in the term 'care', which is used in a purely ontologico-existential manner. Care, for Heidegger, holds a central position in his philosophical system of thought. Considering this tendency of Being which one might have in mind ontically, care does not mean worry or carefreeness. Rather it has a double meaning of two conflicting possibilities namely 'anxiety and solicitude' (Reich 2007). Heidegger (2001:237) states:

Because Being-in-the-world is essentially care, Being-alongside the ready-to-hand could be taken in our previous analyses as *concern*, and Being with the *Dasein-with of Others* as we encounter it within-the-world would be taken as *solicitude*. Being-alongside something is concern, because it is defined as a way of Being-in by its basic structure—care. Care does not characterize, just existentiality, let us say, as detached from facticity and falling; it embraces the unity of these ways in which Being may be characterized. So neither does "care" stand primarily and exclusively for an isolated attitude of the "I" towards itself. If one were to construct the expression 'care for oneself' [*Sebtsorge*], following the analogy of 'concern' [*Besorgen*] and 'solicitude' [*Fürsorge*], this would be a tautology. "Care" cannot stand for some special attitude towards the Self; for the Self has already been characterized ontologically by "Being-ahead-of-itself", a characteristic in which the other two items in the structure of care—Being-already-in ... and Being-alongside ... have been posited as well [*mitgesetzt*].

Warren Reich's (2007:[sp]) overview of the history of care positions Heidegger's notion of care at the center of his philosophical system of thought. At an ontological level, care is "the basic structure of the human self" (Reich 2007:[sp]).⁵⁸ On a deeper psychological level, the experience of care "accounts for the unity, authenticity, and totality of the self, that is, of *Dasein*" (Reich 2007:[sp]). This means, according to Reich (2007:[sp]), that for Heidegger, human beings "are care" and that "care is what we call the human being". That is, the Being of *Dasein* has to be made visible as care, a structural concept that Heidegger (2001:84) points out "has nothing to do with worries, tribulation, melancholy or the cares of life",

⁵⁵ *Being and time*, Chapter 3 (Heidegger 2001).

⁵⁶ *Being and time*, Chapter 4 (Heidegger 2001).

⁵⁷ *Being and time*, Chapter 5 (Heidegger 2001).

⁵⁸ According to Reich (2007), although Danish philosopher Søren Kierkegaard's writing was a primary influence for Heidegger's own view of care, he deviates from Kierkegaard's individualised, subjective, and psychological interpretation of care.

although he acknowledges that ontologically one can come across all of these in *Dasein*. It is also only through *Dasein* that contrary experiences or notions such as ‘gaiety’ and ‘freedom of care’ are ontologically possible.

Considering that drawing may be able to evoke empathy, one can argue that, through empathy such knowledge can be drawn into the heart. Saorsa’s (2011b, 2013, 2014) projects, especially *Drawing women’s cancer* and *drawing out obstetric fistula: Exploring the ramifications of maternal birth trauma through art*, and Lucy Lyon’s (2012) drawings of patients suffering from a rare disease called *Fibrodysplasia Ossificans Progressiva (FOP)* (in which muscle turns to bone), exemplify drawing as a way to develop an intimate empathic relationship with patients, doctors and the general public, literally ‘drawing out’ knowledge through drawing and sharing it in a way that touches the hearts of all involved. This demonstrates again the appropriateness of Heidegger’s view of the hand is a metaphor for *Dasein*’s being, and therefore for care. Lyon’s work reveals the power of drawing to delineate the hidden structures of disease, but at the same time, brings knowledge and understanding to medical researchers, doctors and patients and creates empathic awareness with family members and the public.

Dasein’s Being-in-the-world is an *a priori* essence of its wholeness and at any time; thus, when analysing different aspects of its mode of being, its whole structure needs to be kept in mind. Heidegger’s whole is formed by a triadic structure of three different life-worlds, namely the world of the self, referring to the undifferentiated *Dasein* a world of being’s complementary surrounding, which is nonetheless tied to a specific context, and a world of ‘being-in’ and ‘being-with other entities’. Since actions of humans and their environment are bound in a complementary relationship, in a specific context, nothing can be understood or explained without attention to such a relationship (including knowledge of its historicity and or its forward projected intentions); things that we cannot observe, but have to take into account. So, *Dasein* never exists in a vacuum and becomes meaningful within the specific context of its relationship to the entities that are present-at-hand and ready-to-hand “within an interrelated global system of references” (Harman 2007:177).

The core of *Dasein*’s self is mineness (*Jemeinigkeit*), which entails its choice “to be this way or another” (Heidegger 2001:68). Two fundamental existential determinations of *Dasein*’s thrownness (into the world of entities) and its potential choices, are to either act authentically and reveal something of itself, or choose to act in an inauthentic mode by concealing aspects of its own self (Heidegger 2001:68). Heidegger (2001:68) refers to this inauthentic mode as

'fallenness'. According to Heidegger (2001:68), *Dasein* has an understanding of itself and its potentialities, as well as its freedom to act authentically or inauthentically. *Dasein* is compelled to act on things directed at it in a world surrounded by objects and other entities, but it has the freedom to project (or not to project) itself or to reveal or conceal itself (Heidegger 2001:68). *Dasein* is therefore not capable of indifference and it has to take a stand on being either authentic or inauthentic in relation to its mineness, making it accountable for its own choices (Heidegger 2001:68). This brings the notion of 'care' to the fore.

Harman (2007:29) points out that *Dasein's* structure of care acquires meaning when it takes a stand within the world, becomes involved with it, is fascinated by it, ecstatic about it, or even horrified by it. The world does not need neutral observers, but beings that care about what happens in it. In a contemporary design context, care may mean ignoring how everyone perpetuates design's ways of doing and thinking, without listening to their own better judgment, informing themselves through on the ground research, and to considering their own values the ones that they are prepared to uphold in decisions they take. This refers again to Saorsa's (2011b, 2013, 2014) 'interventions' in the medical field, that start off as empathic care for patients suffering with terminal diseases or diseases that cause stigma, through drawing, but bring to light powerful knowledge that enables patients to understand better what they are dealing with, and helps doctors to treat patients with better understanding. Saorsa's unconventional use of drawing, better judgment and determination, encourages her to continue with her projects, until they make sense and can become useful to transform aspects of current practice in a meaningful way.

Heidegger's emphasis is consistently on how humans, in their everyday lives, are not free from making choices and also not from being affected by their inherited past, whether they are conscious of it or not (Harman 2007:34). Harman (2007:34) points out that one cannot escape the "interplay between the pre-given and the interpretations we make of it, which are always unified in a shadowy, two-faced present". This refers to *Dasein's* "foreception"; its specific existential structure of "forehaving", that is based on being in the world, before taking any decisions about its surroundings (Harman 2007:34). As indicated in Chapter One, people's personal, socio-cultural and economic contexts are important considerations in designerly approaches to research and design. The relevance here, however, is Heidegger's focus on an individual *Dasein*.⁵⁹ Nelson and Stolterman's (2003:10) contribution to the broader definition of design discussed in Chapter One, namely, that "design is the ability to

⁵⁹ According to Harman (2007:35), Heidegger never explains how the human mind makes contact with the world, because he does not perceive them ever to have been separated.

imagine that which does not yet exist, to make it appear in concrete form as a new, purposeful addition to the real world” aligns closely to Heidegger’s triadic temporal structure of *Dasein*, which is essentially a spatial structure⁶⁰ (Heidegger 2001:83). This triadic structure refers to an important aspect of *Dasein*’s potential for Being in itself, including a mental faculty able to draw on its past and Being in the world at the same with other entities and to think ahead-of-itself to the future. This mental state that allows movement between different timeframes, suggests a spatiality of a virtual kind that stretches beyond ontological views of man’s spatiality owing to its corporeal or bodily nature (Heidegger 2001:82). It also denigrates metaphysical views such as being a spiritual thing, which Heidegger critically describes as being misplaced into a space (Heidegger 2001:82). *Dasein* requires a tense temporal connection between its past, present and future to ground its forward projected potential in its knowledge of its history of already being-in-the-world. *Dasein*’s awareness of its existentiality as being ahead-of-itself means to apply either forward thinking, or to give in to its potentiality of a fallen mode of being and listen to the voice of ‘the they’—that amorphous pattern of social reality known through linguistic conventions or social norms, for instance. This, again, points to *Dasein*’s facticity, referring here to its being confronted with choices about its modes of being as either authentic or inauthentic. So *Dasein*’s temporal structure gives it the capacity to at any particular moment (in a specific context that demands a response) literally move its thought simultaneously from a situation in its present, to draw on the past and show awareness of the future while taking measures in the present—that is, if *Dasein* chooses to do so.

Considering *Dasein*’s temporality, Harman (2007:56) reminds us that Heidegger is not referring to datable and chronological time measured on clocks and calendars, not for making it public, but rather focused on a richness of an individual, experiential sense of time known as “kairological time”, an ambiguous threefold structure found in any moment (Harman 2007:77). Heidegger, however, means something even deeper than this. As Gadamer (in Harman 2007:56) argues, it is not only time that for Heidegger is the “Horizon” of the question of meaning of being, but being itself is none other than time. This means that the concept of time arises from *Dasein*’s original time itself. An even more important virtue of *Dasein*, Harman (2007:56) argues, is the difficulty to interpret human beings in terms of mere presence—more so than with any other entities. While it is easy to describe the visible exterior characteristics of humans such as what they look like, their prominently featured mannerisms, their personality types and their physical proportions, “what it is like to live the

⁶⁰ Heidegger avoids referring to space as specific marked off space with a certain number of physical bodies in it. He refers rather to a relational space, where things almost blend/disappear into their proper places in a space of equipment (Harman 2007:35).

life of any particular *Dasein*", is not a visible property of *Dasein*. Heidegger asserts that *Dasein* is only describable as an event, act of performance of its own being, and even to *Dasein* itself, this introspection may not be so clear (Harman 2007:56). So, the closest one can come to understanding *Dasein*, is through the concept of time (Harman 2007:76). "This means that being itself is never simply present, but it is always an ambiguous threefold structure. Clock time overlooks this threefold structure. This threefold belongs to being itself, not just to human understanding" (Harman 2007:57, 77), which for Heidegger rather than being a way of knowing as for Husserl, is a way of being. Through being (experiencing) comes understanding, and it is only through understanding that the being of others or oneself can be understood. Heidegger uses the concept of *Dasein* being ahead-of-itself (*Sich vorweg sein*) to explain how a being-ahead-of-itself anticipation of future potential is required to make sense of both past and present knowledge of being-in-the-world. Without *Dasein*'s underpinning inclination for care, this temporal, lateral movement from the present to both the past and future would not be possible. "The they" is pleased by clocktime's oversight of the threefold structure of *Dasein*'s Temporality, since it "does not want to face guilt, conscience, or death. The they assumes no guilt and hears no conscience, because it is tranquilized and wishes to tranquilize everyone" (Harman 2007:77). One can argue further that the 'they' in the inauthentic choices that they make, nullifies care. Again, when *Dasein* reaches its wholeness in death, it simultaneously loses the being of the there. The transition to no-longer-being-there lifts *Da-sein*, that is of being-in-the-world, right out of the possibility of experiencing this transition and of understanding it as something experienced (Heidegger 2001:121).

With the above sense of temporality in mind, (Scott [sa]) notes that "Heidegger describes anticipatory resoluteness as being-ahead-of-itself (*Sein sich vor Weg*); that is, *Dasein*'s projection of itself as 'having-been' and its projection of 'already being'. Anticipation refers to the 'not yet', but *thrownness* refers to the 'already projected' (Scott [sa]). In this way, *Dasein* keeps the past, present, and future glued together. There are three ways in which *Dasein* can come to an understanding about its potentiality as well as that of other beings; through being in a mode of attunement (*Befindlichkeit*), through its understanding (*Entschlossenheit*), which discloses the meaning and significance of being-in-the-world to *Da-sein*, and finally *Dasein*'s intelligibility may be communicated through discourse (Scott [sa]). Furthermore, Scott ([sa]) points out that Heidegger sees this unity of past, present, and future as the "ecstasies" of temporality and the essence of what being-there means. Authentic existence is resolute, but inauthentic existence—existence according 'the they'—is 'irresolute' (Scott [sa]). 'Resoluteness' is the mode by which *Da-sein* is disclosed to itself as wanting to act according

to conscience, but it cannot automatically be expected to overcome irresolute uncertainty in being free to want to or not want to do something. According to Scott ([sa]), “[r]esoluteness is a willingness of *Da-sein* to project itself into situations in which it may experience *angst*. Resoluteness is a freedom from fear, and it is an acceptance of *Angst* as an existential possibility.

An extreme lack of attunement to angst is possibly encapsulated in Heidegger’s notion of inauthentic being-toward-death. When *Dasein* reaches its wholeness in death, it simultaneously loses the being of ‘the there’. The transition to no-longer-being-there lifts *Dasein* right out of the possibility of experiencing this transition and of understanding it as something experienced, a thing denied to actual *Dasein* in relation to itself (Heidegger 2001:121). Authentic being-toward-death, according to Scott, requires authentic attunement to death as an existential possibility. The only way that *Dasein* can free itself of fear or angst is through its resoluteness, which entails accepting the existential reality of angst. This means taking risks, accepting its own fear and accepting death as an existential possibility. This kind of attunement allows *Dasein* to put itself into “wicked” situations where angst may be experienced. In times of experiencing a fundamental mood of anxiety, with a consciousness of “being-towards death”, a sense of “nothingness shows us that being is finite, by way of making us feel that being as a whole is slipping away from us” (Harman 2007:176). Irresolute beings that randomly follow chance events are the ones that “fail to come to grips with their fate”. According to Harman (2007:77), Heidegger asserts “the destiny of people already contains the fate of the individuals within it.”⁶¹ So, destiny is not pieced together by the different individual fates of the people of these bigger nations who may historicise together (Harman 2007:77).

3.5 The ‘They’ and ‘care’

Heidegger’s concept of temporality of *Dasein* applies to its presence and absence. According to Harman (2007:173), beings are grasped in their being as ‘presence’ (*Anwesenheit*); that is to say, they are understood with regard to a definite mode of time, the present. Scott ([sa]) points out that the being of *Da-sein* is inclined to authentic temporality, whereas inauthentic temporality relies on innerworldly things and of beings unlike *Da-sein*. Although Heidegger asserts that each *Dasein* is involuntarily subjected to its past traditions, *Dasein* (as authentic caring being) should be actively thoughtful and interpret its past traditions showing its own

⁶¹ It is not only nations that have destiny: generations have destinies as well: the lost generation, the greatest generation, the baby boom, Generation X. By the same token, it is not just people who have fates. Books, buildings, universities, and even grandfather clocks and diamond rings have fates of their own (Harman 2007:77).

authentic potentiality for understanding, rather than to follow any other's interpretation of it. According to Scott ([sa]), Heidegger affords *Dasein* with time as a structural factor giving it its temporality to leave its historicity (*Geschichtlichkeit*) undisclosed or to be discovered by historical inquiry. Heidegger applies the notion of "existentials" for accommodating the temporal nature of *Dasein's* being as a category of existing "as an act, event or performance of its reality" (Harman 2007:33). The first of these existentials is "the they" (*das Man*) describing beings unlike or 'other' than *Dasein*—an anonymous, impersonal, inauthentic force responsible for thinking and seeing on behalf of beings (Harman 2007:177). Harman (2007:175) emphasises that whereas one is never directly in contact with the world, the idle chatter of 'the they' is constantly present and often manifests in a kind of superficially understood 'hearsay' or a sort of gossip coming from 'the they'. 'The they', according to Heidegger (2001:143, 149), is therefore the answer to "who it is that *Dasein* is in its everyday life" that changes according to its context, being always challenged not to interpret itself *inauthentically* to other beings, to blindly take a one-size-fits-all approach and to rather draw on its own ontological understanding, going back to its past and to "make it productively on its own." It is clear that 'the they' does not 'care'. It resists unconcealment. Hand-drawing, then, may be understood as a site of resistance to 'the they'. It is an act of stepping away from any sort of one-size-fits-all convention into a space of understanding.

Conscience (*Gewissen*) to Heidegger, is a call of *care* (*Ruf der Sorge*). *Dasein* applies its understanding to its own potentialities while being-in-the world, to take care of itself and to care for the other beings it lives with. Its conscience urgently reminds *Da-sein* to avoid giving in to the ways of the world by falling into a mode of inauthenticity. *Da-sein's* being in the world also entails being with others, including objectively present "things at hand" and temptations by the voice and deeply embedded habits of 'the they'. Giving in to the world's temptations therefore means allowing itself to get so involved with these entities that it is absorbed in their ways of being to the extent that its own self becomes concealed to the point of neglecting to reveal itself. Having a 'conscience' is one of *Dasein's* differentiating characteristics. It sets *Dasein* apart from other beings and enables it to become aware of its inauthentic ways, reminding it to change its ways and apply its full potentiality and become its authentic self.

Heidegger believes that human beings care⁶² about the world, meaning that they are occupied with other 'things at hand and with things that are objectively present in the

⁶² Whereas care is translated from the German term 'Sorge', *Besorgen* is translated as 'concern'.

environment and cares about being in the world as the site of its own and other beings' existence (Harman 2007:173). 'Concern,'⁶³ by contrast, tends to be a negative word for Heidegger, since it refers to entities being absorbed with other entities in the world such as with what 'the they' may think or say. This kind of absorption tends to distract them from the roots of their existence (Harman 2007:173; Heidegger 2001:43). Some ways of having concern can be seen in colloquial acts such as "always being busy, to carry something out, to get something done or to straighten something out" or in typical actions of concern such as "having to do with something, producing something, attending to something, giving something up and letting it go, undertaking, accomplishing, evincing, interrogating, considering, discussing, accomplishing, determining" or to be concerned with the success of a project (Heidegger 2001:83).

Heidegger uses *Dasein's* Being as concern more in the sense of apprehensiveness, which in contemporary English may refer to one being anxious or fearful that something unpleasant may cross one's path (Harman 2007:83). For the purpose of this study, concern then has a connotation of an awareness of consequences. As indicated in references made to *Dasein* thus far, its dimension of care requires doing so in the context of *Dasein* as a whole, considering all its characteristics, relationships and its operation that seem complex structures to grasp. The fact that *Dasein's* features are never clearly present or visible and therefore not easily intelligible, makes the issue seem more complex.

Harman's (2007:30) way of highlighting Heidegger's overall themes rather than to focus on all the sidetracking details, is helpful for giving focus to this study. Underlying many of Heidegger's self-invented triadic concepts (such as the one discussed above), Harman highlights one central conceptual theme, namely, temporality. *Dasein* is deployed in a threefold form of "ecstatic time that stands outside of itself by simultaneously swinging toward the past and future" (Harman 2007:59).

Following the discussion of intentionality above, Heidegger's description of *ruinance* means that human beings cannot distance themselves from factual life (human life) an environment in which it is tempted, seduced, soothed, or estranged (Harman 2007:30). Whereas Husserl describes human life as primarily having consciousness, awareness or "intentionality", Heidegger binds intentionality as belonging to a specific environment (Harman 2007:30). Built on Brentano and Husserl's insight that consciousness is always directed towards some

⁶³ *Fürsorge* refers more to care in a welfare context as in caring for the needs of minors or others in need of a "fond-of way" (Heidegger (2001:157).

object, Heidegger believes that “intentionality reduces things to their accessibility to human thought” (Harman 2007:175). Philosophy itself, according to Heidegger, rises from factual life, as does poetry, commerce and engineering and should be a countermovement to *ruinance*. Heidegger believes that phenomenology too often ignores historical context (Harman 2007:33). The only way to free oneself from life’s hidden presuppositions, is by partially unveiling phenomena that conceals their nature.

As already indicated, *Dasein*’s constitution involves various essential attributes or priorities that need to be understood before making its connection to its dimension of care that is the focus of this study. However, before approaching the notion of care, a brief description of *Dasein*’s make-up is given with reference to its priorities in relationship to care.

Dasein takes care of things, and it takes care of other beings. It takes care of being and time. It is fundamentally concerned about its mode of being, and it thus becomes attuned to projecting its own potentiality. Being-with-others, having concern for others, and taking care of the world are modes by which *Da-sein* becomes attuned to being-in-the-world. Thus, its being reveals a care (*Sorge*) and concern (*Fürsorge*) by which it understands and transcends itself. Humans however are enmeshed in the world, but also partially transcend it. In this way, although humans are thrown into a world without having a choice, they can rise beyond it through projecting their own possible choices onto it. *Dasein* can choose to ignore possibilities, display deficient choices such as leaving something undone, neglecting something, renouncing something, or taking a rest (Heidegger 2001:83). In terms of life’s wicked problems, this means for example, considering sustainability and poverty.

3.6 Care, the ‘clearing’, and the origin of a work of art

Artist and academic Tom McGuirk’s (2010) article “Heidegger’s rift: the epistemological significance of drawing” discusses ‘the act of drawing’ by highlighting how useful Heidegger’s approach is for arguing practice-based research in the fields of fine art and design, because of the light it sheds on the epistemological significance of the practice of drawing. Although Heidegger’s focus in *The origin of the work of art* (2002)⁶⁴ is rather on art-making in general than on drawing *per se*, in one of his examples he focuses on the act of drawing using Albrecht Dürer’s observation “... art lies hidden within nature; he who can wrest it from her, has it” as a starting point” (McGuirk 2010:1). McGuirk (2010:1) points out that Heidegger describes Dürer’s view of ‘art hidden in nature’ as a “conventional metaphysical account” but

⁶⁴ This text is based on a series of lectures that Heidegger gave in the mid-1930s (Heidegger 2002:140).

known for his [Heidegger's] play with words, focuses on Dürer's use of the word 'wrest'. Heidegger relates 'wrest' to the German word *Riß* meaning tear, rift, cleft or breach and further plays with an intriguing range of meanings such as the seemingly contradictory connection to 'sketch', 'design' or 'outline' (McGuirk 2010:1). Connecting the two sets of meaning, Heidegger uses a double-sided coin metaphor, defining *Riß* as rift-design. This emphasis on the 'conflict' at the heart of the act of drawing, or as McGuirk (2010:4) puts it, 'drawing as strife', is of particular significance for this study.⁶⁵ McGuirk (2010:4) points out that Heidegger's concept of rift-design relates to his general conception of an essential tension or strife between the 'world' of openly visible meanings and the more mysterious phenomenon of the 'earth' being dark and concealed.⁶⁶ The following quotation by Thomson (2014), referring to the later writings of Heidegger, shows why certain metaphors are effective for interpreting tensions involved in making and understanding drawings:

'Earth' is an inherently dynamic dimension of intelligibility that simultaneously offers itself to and resists being fully brought into the light of our 'worlds' of meaning and is permanently stabilized therein, despite our best efforts. These very efforts to bring the earth's 'inexhaustible abundance of simple modes and shapes' completely into the light of our worlds generates what Heidegger calls the 'essential strife' between 'earth' and 'world'. The world, in resting upon the earth, strives to raise the earth completely [into the light]. As self-opening, the world cannot endure anything closed. The earth, however, as sheltering and concealing, tends always to draw the world into itself and keep it there.

McGuirk (2010:4) argues that Heidegger "teases out a deep-seated dynamic within the word *Riß* that reflects a profound complexity within the act of drawing", thereby showing a deep insight into a "battle" that resonates with practitioner's struggle to "open up a space". According to Harman (2007:3), the essence of Heidegger's book *Being and time* (a primary source for this section) is captured in a nutshell by the following quotation:

The title *Being and time* refers to the interplay between the veiled reality of things and their luminous but oversimplified appearance in what Heidegger calls the 'clearing' of human existence, in reference to the occasional treeless spaces found along dark forest paths.

⁶⁵ McGuirk highlights that according to Heidegger, a drawing or any other artwork is never completely free from the 'earth' into the 'world', but "shimmers in the breach". *Earth*, according to Heidegger's analysis, both informs and sustains this meaningful world and resists being exhausted interpretively by it, thereby allowing a great artwork quietly to maintain the sanctity of the uninterpretable within the very world of meanings it conveys and explaining the sense that in good art works there is always something more to discover (Thomson 2014).

⁶⁶ The notions of 'world and earth', in Heidegger's later work relates to a fourfold framework (*das Geviert*) of earth, sky, gods, mortals, terms which Moran (215) states "in quasi-mythological terms call attention to fundamental features of human 'dwelling' (*wohnen*) where humans live in a tension between mortality and immortality, revelation and withdrawal".

The 'clearing' refers to both its German origin *Lichtung* meaning 'light' and its common use to describe a 'clearing' in the woods. For Heidegger, however, 'clearing' stands for a space or 'clearing' where things or ideas can show themselves, or can be unconcealed relating to Greek word *Alētheia* that means disclosure, and thus relating to Heidegger's notion of 'being-in'. The act of drawing can also create such a 'clearing' both in its function as a verb and as a noun. As a verb, drawing can 'unveil' and reveal (bring to light) unknown things from the past and present, and can even embody thinking towards the future. This ties in with this study's view that drawing should be encouraged and that drawing strategies in design school curricula can literally facilitate a 'clearing' for Heidegger's kind of internal thinking, where the institutional voice of 'the they' can be ignored and the focus can shift to having an authentic experience. For McGuirk (2010:4), Heidegger's treatment of his *Riß* argument provides a base for affirming the epistemological significance of drawing. McGuirk (2010:2) quotes from Heidegger's response to Dürer's observation (quoted above), hinting at it falling in a category of presence-at-hand rather than focusing on the act of drawing. Thus, this study shifts the attention to look at the 'making' of the work: the act of drawing. According to Heidegger (in Farrell Krell 1993:292):

'Wrest' here means to draw out the *Riß* and to draw the design with the drawing-pen on the drawing board. But we at once raise the counter-question: how can the rift-design be drawn out if it is not brought into the Open by the creative sketch as a rift, which is to say, brought out beforehand as conflict of *measure* and *unmeasure*? True there lies hidden in nature a rift-design, a measure and boundary and tied-to it, a capacity for bringing forth- that is, art. But it is equally certain that this art hidden in nature becomes manifest only through the work, because it lies in the work".

What this section aimed to reveal, was that the individual *Dasein* has both the ability and the responsibility to make its decisions about being, with care. Crudely put, this means that *Dasein* takes the time to 'bother' to consider all potentialities available to itself about its being in the present, its access to its past, and its foresight into what may be in the future before taking any action. Drawing, as indicated in this section, is an activity that can facilitate the ideal space, time and kind of thinking to take time in a design context. Heidegger has made a strong argument about decisions that individuals can make, but makes it clear that it is up to them to determine how to treat and apply content.⁶⁷ According to Heidegger, the choices made by individuals are affected by a complex set of experiential dimensions, depending on

⁶⁷ By ending his book with two questions, namely if there is "a way which leads from primordial time to the meaning of Being" and "if time itself manifest as the horizon of Being" (Heidegger 1962:488) means that he practices what he preaches and does not expect a blind following that takes his interpretation of his primary argument that 'being is time' as the ultimate or only interpretation.

whether they do so from the stance of their authentic selves or their inauthentic selves. The authentic self applies personal judgment of a situation based on personal experience and consideration of the context and its potential impact, before deciding what to do, and the inauthentic self is likely to act according to what it perceives the 'other', 'the they' that represents authority of institutions, blindly following prescribed best-practice. Within the history of advertising, there are good examples of how 'best-practice' (at one point in time) is forced to adapt to also serve the needs of society.⁶⁸ Harman (2007:34) points out that this public reality is one of the existentials of human *Dasein*, a reality from which *Dasein's* being can never escape.

3.7 Conclusion to Chapter Three

Design schools and the design profession guide students and practitioners towards best practice by way of formulating curricula, design manifestos and professional bodies and teaching policies. When it comes to design decisions in the 'real' world, however, they are not necessarily prescriptive and best practice is applied based on individuals' interpretation thereof and of circumstantial considerations. This is where one individual in a group can display authenticity or as discussed above, to give in to the wills of 'the they'. Pumping students full of guilt about potential negative impact that they may have through their design decisions is like trying to sway them to lean towards the 'other'. Best practice is there for guidance, but it cannot be enforced, whether by professional bodies or manifestos. The individual is always the one to make the choice, to follow habit, to explain reason to a group or to bow to group pressure. In the end, the drawer, by stepping out of the framework provided by 'the they', needs to put trust in herself by drawing on embodied knowledge and the body's inherent understanding of giving and taking from its environment. It is only apart from the inauthentic that 'care' can be encouraged, and, consequently, that empathy can be fostered. With this in mind, the next chapter seeks to deal with the notion, rooted in the phenomenology of Merleau-Ponty, that drawing is a means for shaping our embodied being-in-the-world.

⁶⁸ Criticism by non-profit, anti-consumerist publication Adbusters founded by Kalle Lasn and Bill Schmalz used activist tactics since the late 1980s to create an awareness of how advertising can 'wrong' society and the environment. See <https://www.activistfacts.com/organizations/36-adbusters/>

CHAPTER FOUR: DRAWING TO SHAPE

4.1 Introduction to Chapter Four

Chapter Three positioned the hand as a metaphor for Heidegger's ontology, relating it to *Dasein* and its dimension of care, which provides the first phenomenological link with the way that the hand might nurture empathy. In this chapter, the relationship between drawing and a phenomenology of shaping is explored. What role does drawing play in coping with undefined wicked problems? The possibility is explored that drawing's role shapes how the mind responds to external issues that are undefined, uncertain and ambiguous in nature and transforms such insecurities to confident strategies. As such, drawing, by hand on paper becomes a creative coping strategy. The simultaneity of this act as a habit is often referred to as an inability of thinking without a pencil in hand. In this sense, drawing supports 'coping' with thinking. Designing, particularly to find solutions for weakly defined issues, requires the cognitive ability to visualise. Mental visualisation, as argued in this study, can become more 'virtual' if enhanced by prior knowledge of having drawn. Building on prior knowledge of drawing, this skill can be developed by consciously considering 'visualisation' as virtual drawing, whether with a pencil in hand or without. Through drawing on paper, as argued earlier, through exercises such as *drawing without ideas*, one develops confidence to respond intuitively to external stimuli, be it one's own marks, or to approach and resolve undefined issues in the world. With the 'caring' attitude discussed in Chapter Two, the drawer is already equipped with mechanisms to engage empathically with the environment. Through reflective experience, according to Merleau-Ponty's phenomenology, coping skills are absorbed through how bodies and mind learn from earlier experiences.

Maurice Merleau-Ponty's existential phenomenology—and particularly his stance on how the body, through its interaction in the world, negotiates what is out there—is discussed in this chapter. In particular, it is argued that the hand's inherent capacity for '*absorbed coping skills*' (alluded to in Chapter One) *shapes* the mind and its actions. This chapter thus delves into the philosophy of Merleau-Ponty to explore the relationship between the phenomenology of 'coping' (and its implications for hand-drawing) as a means for grappling with how we are and how we relate to things in the world.⁶⁹ The notion of 'absorbed coping' examined in this

⁶⁹ The Merleau-Pontian concepts are drawn from key texts including Christopher Ben Simpson's (2014) book *Merleau-Ponty and theology*, George Lakoff and Paul Johnson's key texts *Metaphors we live by* (2003) and *Philosophy in the flesh: The embodied mind and its challenge to western thought* (1999). Furthermore, Merleau-Ponty's key phenomenological concepts are discussed in Dermot Moran's *Introduction to Phenomenology* (2000).

chapter forms the grounding for Chapter Five's theme of 'drawing to connect' where some of Lakoff and Johnson's (2003, 2009) key thoughts, inspired by John Dewey's and Merleau-Ponty's phenomenological ideas of embodiment and their application to drawing, are introduced. Merleau-Ponty and Dewey's thinking, and particularly their suggestions of embodied experiences already in the 1940s and 1950s, is shown to be profoundly innovative, especially considering the absence of empirical support provided by cognitive science research, which surfaced only in the 1970s.

4.2 The phenomenology of Merleau-Ponty

Maurice Merleau-Ponty⁷⁰ is a key theorist in the existential phenomenology of perception (Moran 2000). His use of the term 'phenomenology' asserts his alliance with the philosophical standpoint of Husserl, one of the first philosophers to challenge scientific realism and Cartesian dualism convincingly (Keat 2014:1). For Husserl, the "real" world is a world of phenomena—a world of things that appear to us as they are (with intentionality and direction towards objects-for-consciousness) rather than as "appearances beyond the real" or as empirical sense-data such as shapes, sounds or colour-patches (Keat 2014:1). Like Heidegger, Merleau-Ponty rejects philosophical positions that support a strict dichotomy between object and subject. For Merleau-Ponty, the human body is itself a subject, and the human subject is necessarily, not just contingently, embodied (Keat 2014:1).

Drawing on Husserl's cultural conception of "the lived world", Merleau-Ponty explores "the lived body" as "one specific aspect of this world". Attempting to provide a phenomenological account of the human body, he focuses "primarily on the 'first person' standpoint, drawing on what is involved in one's individual bodily 'existence' (Keat 2014:2). The world, "as it is for the human subject is 'for' an embodied subject, not for a disembodied consciousness", meaning that "[h]uman 'being-in-the-world' is a bodily being or existence" (Keat 2014:2). Merleau-Ponty expands also on Husserl's concept of intersubjectivity and its social role, which is discussed further on.

Merleau-Ponty's theory on embodiment has had a clear impact on drawing research (Harty 2012b). His view of embodied practice and the development of coping skills provides a theoretical underpinning for describing the role of the body, including how the hand, supported by the rest of the body, develops a skill to mediate its own 'survival' through the

⁷⁰ Merleau-Ponty's phenomenological theory is developed from the philosophical tradition of Hegel, Kierkegaard, Marx and Nietzsche, but his strongest influences are from Husserl, Heidegger and Sartre (Simpson 2014:6).

development of skillful habits also referred to as “absorbed coping” (Dreyfus 1998:9; Berendzen 2010:645). Absorbed coping helps the body to know automatically how to do something, usually owing to previous experiences of related actions or practices. Other terms used to describe this phenomenon are muscle memory⁷¹ and *kinaesthesia*.⁷² Heinrich Wölfflin⁷³ describes *kinaesthesia* as aesthetic experiences felt by the whole body including the bones, the inner organs, stimulating a sense of bodily movement (Çelik in Jones 2012:159). According to Charles Bell and François Magendie, a visceral “muscle sense” is associated with two sets of nerves (lodged in different places in the spine) that are capable of carrying both sensory reception and motor impulses. A more popular strand of kinaesthetic theory developed in the nineteenth century, drawing on knowledge theories such as Hermann von Helmholtz’s “theory of unconscious inference” according to which muscles performed a kind of logic known as “aesthetic induction” and “elegant, well-designed, visceral thought” (Çelik in Jones 2012:160-161).

To explain the body’s role in developing such “intelligent behavior, learning, and skillful action ... without recourse to mind or brain representations”,⁷⁴ Hubert Dreyfus (2002:1) foregrounds and expands on the significance of two central concepts in Merleau-Ponty’s *Phenomenology of perception*, namely the concepts of “intentional arc” and getting a “maximal grip”. Intentional arc explains how a very close connection between the agent and the world stores the skills acquired by the agent. This storing occurs “not as representations in the mind, but as dispositions to respond to the solicitations of situations in the world” (Dreyfus 2002:1). Maximal grip relates to how the agent tends to adjust physically to gain a sense of “optimal gestalt”, which implies getting a clearer view or establishing a closer connection to the solicitations (the ones ‘asking for attention’) directed at the agent within the particular situation.

According to Dreyfus (2002:1), neither the intentional arc nor the notion of getting a maximal grip requires mental or brain representations; he explains that “[r]ather, simulated neural networks exhibit crucial structural features of the intentional arc”. Dreyfus (2002:1) supports

⁷¹ Muscle memory is not in a literal sense memory stored in the muscles, but rather memories of frequently enacted tasks one’s muscles, stored in one’s brain triggered when performing the same actions.

⁷² Kinaesthesia refers to the body’s “awareness of the position and movement of the parts of the body by means of sensory organs (proprioceptors) in the muscles and joints”.

⁷³ Heinrich Wölfflin was one of Formalism’s founding members in the twentieth century. He focused on awareness of whole body responses to different architectural styles such as Baroque churches, Gothic cathedrals, and Greek temples (Çelik in Jones 2006:159).

⁷⁴ Hubert Dreyfus’s brother Stuart Dreyfus helped him to understand the relationship between acquiring skill and neural networks in the context of developing a range of skill-sets required for instructing from novice levels to expertise in aviation.

his argument by pointing out structural correspondences between Walter Freeman's explanation of “the brain dynamics underlying perception and action” and Merleau-Ponty's explanation of “how a skilled agent moves towards obtaining a maximum grip”. To explain bodily responses in a drawing context, it is noticeable in a drawing class how a student's eyes will squint when asked to analyse the patterns of light and shadows on forms. It is also noticeable how, in reading abstract drawing content in drawings and paintings in a gallery, people move closer to see detail in focus, in somewhat predictable ways. The body ‘knows’, without conscious thought, how to position itself to understand things around it better.

The hand, through culture, knows the language of gesture. The hand ‘practicing’ movements and gestures in drawing also learns to ‘speak’ its own language; drawing ‘draws’ as much from the world as from the mind and the body. The hand becomes a mediator between the mind, the body, others and the world. Simpson (2014:82) captures Merleau-Ponty's idea as follows:

Language is then less a ‘container for thought’ than a means of self-transcendence, ‘an instrument for conquest of self by contact with others’ in which one acts and so changes oneself in relation to others. The world invites us, draws us out, snaps us up beyond ourselves as if the functions of intentionality and the intentional object were paradoxically interchanged.’ In the act of thought we are not transcending or abstracting from the world but are transcending into the world—‘caught up in the push and shove of being’.

The language of drawing, including its physical marks and traces, are as much a result of the expressive bodily act as it is a response to its experience of things in the world. Drawing thus involves language, culture and all the other skills of social communication, all the faculties that occupy Merleau-Ponty's corporate or upper order of bodily existence (Simpson 2014). Merleau-Ponty's views on perception and consciousness shape his theory of embodiment. Embodied experience is also applied in human skills of coping in the domain of drawing. Merleau-Ponty regards the lived body as the source of motor intentionality whereby we continuously move to get a better grip on our surroundings. Just as an experienced organist may take about an hour to adapt mentally and physically to a new keyboard, the hand making drawings with a pencil draws on bodily experience (or muscle memory) to adjust when drawing on other kinds of surfaces with different wet, dry or even digital media. In the process of adjusting to alternative conditions, the hand switches to other mark-making or scratch tools, brushes, digital pens, and so on. The crucial factor in adjusting suitably is to have expertise, bodily experience and thinking skills associated with the act of drawing. Merleau-Ponty describes the body's way of acquiring skills in terms of taking up sediments from an individual's social and cultural traditions (such as memory and language). The concept of ‘sedimentation’ also reflects how the body “takes on habits that are carried along

in our everyday lives” (Berendzen 2010:632).⁷⁵ Habits embedded in the body inform perception and encourage acting appropriately in the environment; “[i]n having this set of abilities, we ‘have a world’” (Berendzen 2010:632).

Merleau-Ponty’s view that an organist should not aim to “think through playing”, but should rather “feel the way into the world of the organ” also fits with drawing: the drawer should feel his or her way into the world of drawing (Berendzen 2010:632). In both instances, bodily skills need to be allowed to figure out the best approach to come to grips with the environment. When drawing, the focus is not just on thinking through drawing, but is on how and what one can learn through the world of drawing through a “kind of bodily engagement with one’s situation” (Berendzen 2010:632). In the act of drawing, one stores knowledge gained through one’s perceptual senses and through acting in a specific environment. This occurs, not as representational thoughts, but as a form of bodily engagement—as an absorbed habit or skill (Berendzen 2010:637).

Berendzen’s (2010:630) core criticism of Dreyfus’s interpretation of Merleau-Ponty is that Dreyfus misses the point “that conceptual activity and embodied coping are intertwined”. Dreyfus (2002:3) does not, however, seem to describe the intertwined nature of the relationship between conceptual activity and embodied coping in the following:

The proficient performer, immersed in the world of his skillful activity, sees what needs to be done, but decides how to do it. The expert not only sees what needs to be achieved: thanks to a vast repertoire of situational discriminations he sees how to achieve his goal. ... This allows the immediate intuitive situational response that is characteristic of expertise.

According to Alex Scott (2002:[sp]), Merleau-Ponty has a problem with traditional empiricist and rationalist descriptions of the phenomenology of perception. His phenomenological account of our ‘being-in-the-world’, according to Moran (2000:391), presents ample evidence of his “corrective” approach “to the distorted accounts of experience found, on the one hand, in rationalism, idealism, and what he calls ‘intellectualism’, and, on the other hand, in empiricism, “behaviourism, and experimental science” as is discussed in Merleau-Ponty’s *Phenomenology of perception* (2002). Merleau-Ponty’s writing process makes it difficult to identify his own voice amongst the persuasive arguments on behalf of empiricism and intellectualism, so it is helpful that he provides a summary of the central argument of

⁷⁵ Berendzen (2010) is critical of Dreyfus’s notion of Merleau-Ponty holding an underlying foundationalist idea, stating that Merleau-Ponty “would not support the idea that there is a non-conceptual, pre-linguistic layer of human experience that is foundational” discarding the idea of a phenomenological foundationalist interpretation. Berendzen (2010:646) does acknowledge that Dreyfus gives up his idea of foundationalism.

Phenomenology of perception in *The primacy of perception and its philosophical consequences* (1964), which he presented in an address to members of the *Société française de philosophie* (1946).

Merleau-Ponty (Scott 2002:[sp]; Simpson 2014:24) finds it problematic that traditional Empiricism does not explain how the nature of consciousness determines our perceptions, while Rationalism does not explain how the nature of our perceptions determine consciousness. Knowledge of consciousness and of existence for Merleau-Ponty can only be gained from its primary source—human experience in a ‘living’ context. By reflecting on the embodied, situated context of their human relationships with the self, the world and with other beings, Merleau-Ponty studies human consciousness. He opposes mainstream ‘objectivist’⁷⁶ thought that denies independent authentic human thinking for gaining knowledge of human consciousness and of human experience of living in the world (Flynn 2011:[sp]). ‘Objectivist’ thinking reduces human beings to being either determined by external forces or controlled by a mind thinking independently from the body (Flynn 2011:[sp]).

The body, for Merleau-Ponty, is not “a mechanical system, affected by the ‘external’ world of which it is a part” (Flynn 2011:[sp]). He rejects suggestions that perception is a process by which the “external world” can imprint things on a subject or that consciousness can do so. Rather, perception is a behavior by the living body. One has experiences of an objective body, considering its relationship with scientific knowledge, but one’s living body gives “other knowledge”, reminding us that “we are our body” (Flynn 2011:[sp]). “For this ‘other knowledge,’ the world is not a spectacle with the body as an observer; rather the world is given as a system of possibilities, not as an ‘I think’ but as an ‘I can’” (Flynn 2011:[sp]).

Merleau-Ponty argues that experience, from an empirical point of view, relies on gaining knowledge through sensory perception and is therefore inadequate as a primary source of knowledge (in Scott 2002:[sp]). He therefore also opposes the Rationalist view that regards reason as the primary source of knowledge, while maintaining that knowledge does not depend entirely on sensory perceptions. So, as a rule, Merleau-Ponty opposes all forms of dualism when he provides a more radical description of the primary experiences of embodied human existence. He considers human consciousness as being in an intimate relationship of mutual interdependence with the world. His overall aim, according to Moran (2000:402), is “to uncover ‘the roots of rationality’ using Husserl’s phenomenological methods”.

⁷⁶ Merleau-Ponty criticised naturalism and objectivism.

Philosophy for Merleau-Ponty (2002:235) is therefore a means of coming to understand, in an ontological sense, “the original acts whereby humans come to awareness of the world” in order to shed light on the “birth of being for us”. For him, “our own body is in the world as the heart is in the organism: it keeps the visible spectacle constantly alive, it breathes life into it and sustains it inwardly, and with it forms a system” (Merleau-Ponty 2002:235). Merleau-Ponty (2002:vii) advises philosophers to make direct contact with actual phenomena as experienced in the world, stripped of descriptions by traditional Western philosophy or science and to rather describe experience as it is experienced. He maintains that a continuous build-up of theories has started to obscure the reality of what exists (Merleau-Ponty 2002:vii). Therefore, using phenomenology as a tool, Merleau-Ponty (2002:vii) attempts to remove the layers of traditional theory that conceal what can be seen and known of the original phenomenon namely, the ‘given’ as “what is already there ... before reflection begins”. Rather than perpetuate the descriptions of others, philosophers must have real experiences in the world and write about such real, lived-in experiences (Merleau-Ponty 2002:vii).

Although during his short lifetime⁷⁷ Merleau-Ponty did not manage to do so, he was driven to find an ontology to serve “as a way of sketching more accurately one’s encounter with the world”, which science accounts for only “in a distorted way” (Moran 2000:429). In this, he follows Heidegger’s lead. Both Heidegger and Merleau-Ponty, after Husserl, use the metaphor of *aletheia* that has its origins in anthropological excavation (Simpson 2014:49). Merleau-Ponty builds on the phenomenology of Heidegger when he speaks of the sense of wonder or the experience of *aletheia*, which implies seeing one’s thought expressed in a new light (Simpson 2014:49).

Often, drawers express surprise when seeing their hand drawn gestures on paper, because the marks reveal more than what they had anticipated. Drawing seems to reveal something about how thinking is shaped, and the hand clearly plays a part in giving ‘attitude’ to material expressions of thought. In Chapter Three, *aletheia* was discussed as meaning the ‘drawing out’ of ‘truth’ and was applied to *Dasein*’s ‘being-in’ a position to gradually come into knowledge about something (Moran 2000:217).⁷⁸ This complies with a general view of phenomenology, which according to Moran (2000:402), “aims at a ‘disclosure of the world’; its task is “to reveal the mystery of the world and of reason”. *Aletheia* as disclosure is likened

⁷⁷ Merleau-Ponty died of a heart-related cause in Paris on 3 May 1961 at the age of 53 (Simpson 2014:6).

⁷⁸ Referring to blockages (Greek term *aporiai*) encountered in woodcutters paths, Heidegger points out that these paths also sometimes end in a clearing and relates these to lighting or clearing of Being (Moran 2000: 217).

to *Lichtung*, the German word for light, which refers to Heidegger's notion of making a space or 'clearing' where ideas can come to light or can become unconcealed (Moran 2000:230). Chapter Three suggested that the act of drawing is a tool for creating such a 'clearing' to 'unveil', to reveal or to bring to light aspects of truth. *Aletheia* or light for Merleau-Ponty is "consciousness" (Simpson 2014:49). For Merleau-Ponty, there is a perception that entails "a new sense of truth". It regards truth as revelation, "as movement toward integration, openness", and as a consciousness that is a 'translucent between'—not an alternative between "pure opacity" and "windows" but a porosity (Simpson 2014:49). The two—revelation and consciousness—complement each other. The essential paradoxical tension of *aletheia*'s lateral relationship aligns with Merleau-Ponty's philosophy, but is also bound to context, as Simpson (2014:49) points out: "While the relation of truth is a movement toward integration and openness to the world, it is also a passivity to a given instituted situation, a *Stiftung*, 'composed with a lateral relation which retains it and ballasts it'".

Therefore, all is not revealed, but one is not kept completely in the dark. Through a relationship of porosity, one is made aware of what there is to see. *Aletheia* is the force that enhances one's experience of this revelation and that makes one see something afresh. Simpson (2014:49) points out, regarding Merleau-Ponty's conception of perception, that in order to truly see and experience "truth", it is crucial to experience a revelation of something new or surprising, of gaining "a new sense of truth". The bond between the self, the world and others therefore depends on one's openness to what transcends it namely, "truth" (Simpson 2014:49).

Considering Merleau-Ponty's view of the body as a mediator (Simpson 2014:34), experiences of perception and consciousness play an essential part in the drawing process. Drawing draws on past and present experiences of perception and consciousness, and thereby creates a bridge for the easy flow of facticity, meaning that past experience contributes to new or refreshed outputs. Merleau-Ponty (in Simpson 2014:81) states that one's "thought 'outlives itself' in expression, but not in the form of literal reproduction". One processes all perceptual inputs to present a new product. For Merleau-Ponty (in Simpson 2014:82), one does not possess one's thought but thought marks out "a realm to think about which we have not yet thought about". From this perspective, hand-drawing can be understood as that which 'fetches' thoughts and makes them visible, as if in the 'clearing'. It can inspire dialogue, further thinking, and further drawing.

Drawing, as a 'language', aligns with Merleau-Ponty's view that language is "less a 'container for thought' than a means of self-transcendence" (Simpson 2014:82). It is "an instrument for

conquest of self by contact with others” in which one acts and in the process is changed in relation to others (Simpson 2014:82). Just as we can literally draw out the world, the world “draws us out, snaps us up beyond ourselves” (Simpson 2014:82). According to Merleau-Ponty (in Simpson 2014:82), “in the act of thought we are not transcending or abstracting from the world but are transcending into the world”. For Merleau-Ponty, this means that being “caught up in the push and shove of being” as if giving in to the ebb and flow of the porous reciprocal relationship with the Self, as well as the past and the present situation and the world (Simpson 2014:82).

Communication “does not simply replicate an inward thought on the outside but is itself thinking and is creative” (Simpson 2014:82). As mentioned above, even to its own drawer, a drawing often reveals something new. Therefore, its ‘new intention’ in the present takes up the heritage of the past into a future, establishing a new habit or stance towards being. It shapes care (Simpson 2014:82). Thought therefore develops through expression and drawing may be taken as the kind of expression that generates further and new thinking (Simpson 2014:82). As in the case of the drawer and the context, the drawing itself is therefore also an interlocutor in the loop of the new message-making process. Drawing facilitates ‘habits of thought,’ as Simpson (2014:82) intimates: “Thought does, however, have to do with a certain abstraction or detachability—imagining something possible or virtual” (as discussed further in this chapter).

According to Tversky (2011), just as one navigates space to perform everyday actions, such as to quickly air-draw a schematic map to explain directions, or to suggest how something moves in space, diagrams on paper are like the “visible traces of gestures” used for drawing pictures in the air. For the discussion in this chapter, Tversky’s concept of combining actions in space and abstraction in the mind, to “spractions”, is explained. Spractions, she states,

are actions in space, whether on objects or as gestures, that create abstractions in the mind and patterns in the world, intertwined so that one primes the others. The spatial thinking and abstract nature of spractions allows moving through conceptual spaces, without moving the body. Like language, spractions support and augment cognition and action; unlike language, they do so silently and directly (Tversky 2011:528).

Drawing is a means of expression; the hand helps to shape what is expressed. Drawing is also a way of thinking and in shaping what is thought on paper, through perceptual dialogue, drawing helps to form and shape ideas. Drawing has the flexibility to detach thought from itself, to just allow the hand to not be directed by conscious thought (as with the truant hand), to stop a train of thinking from happening, and to allow the hand to act on its own, and thus

gives it a voice or a “trace of an existence” (Simpson 2014:82). This is aligned with what Merleau-Ponty envisions for ‘thought’ to achieve “through expression in speech, writing, or art” (Simpson 2014:82). For Merleau-Ponty, although ideas are invisible, they “live in cultural objects” and “have their historical and geographical regions”. He states “[i]deas have to do with “a created generality, a culture, a knowledge come to add to and recapture and rectify the natural generality of my body and of the world” (Simpson 2014, 82). In this way, ideas are embodied; they are “carried into the world of existence by their instruments of expression” (Simpson 2014:82). They develop progressively towards a future, considering “human makings” in the present and draw on history in accordance with the view that “ideality is historicity.” There is a reciprocal dialogue involved in solicitations and articulation that rely on “individual and inter-individual knowledge” (Simpson 2014:82).

Saorsa (2004:[sp]) complements the above in her view of drawing as a means of communication and of drawings as a means for facilitating communication. Her research rationale is premised on the assumption “that the art object is ambiguous in its communicative character, relying on the viewer's subjective interpretation within a dialogical relationship” (Saorsa 2004:[sp]). She thus regards aesthetic experiences as “more communicative of meaning than conventional language” (Saorsa 2004:[sp]). Saorsa (2004:[sp]) considers drawing in particular as “a profound form of communication that goes beyond conventional language”. Drawings therefore can be understood as “dialogical phenomena that both derive from and embody the emotional and intuitive reasoning that is at the very heart of linguistic reasoning” (Saorsa 2004:[sp]).

Considering the above, drawing may be categorised as being a part of Merleau-Ponty's highest order of human existence, namely the body's mental life that manifests through language and speech. The act of hand-drawing is not only a means of expression or a form in which thinking manifests. Rather, it is a tool that helps to shape the mind and its thinking. In drawing discourse, this notion is supported by cognitive psychologist Barbara Tversky's (1999) writings on “what drawing reveals about thinking.”

4.3 The emancipated hand: The hand is not a slave to the body

Considering Merleau-Ponty's notion that ideas are given as bodily experiences and are not produced in the mind alone, the following questions are contemplated. Can the hand work independently? Can the hand think? Can the hand speak? Can the hand shape the mind? Art historian Ed Krčma's (2012:[sp]) article “Lightning and rain: phenomenology, psychoanalysis and Matisse's hand” relates back to the earlier mentioned surprise element that the

drawer experiences when discovering that the truant hand of the drawer has, beyond intent, added a new 'value' to the drawing's communicative content.

Krčma (2012:[sp]) uses the term “involuntary drawing” to describe an action by the drawer's hand that involves truant, unruly drawing. He writes of a “celebrated” slow-motion film sequence, showing artist Henri Matisse's hand busy making a pencil drawing. The documentary film *Henri Matisse* (1946) featured Matisse's “working hand ... in its wayward wanderings between strokes”; as Krčma (2012:[sp]) notes, both the philosopher Maurice Merleau-Ponty and psychoanalyst Jacques Lacan were fascinated by the footage. On this, Krčma (2012:[sp]) connects two sets of comments. Firstly, he notes Merleau-Ponty's response to Matisse's initial response to seeing the sequence, and secondly he notes Lacan's comments on Merleau-Ponty's interpretation,⁷⁹ which he made after reading *The visible and the invisible*. Krčma (2012:[sp]) subsequently explores Merleau-Ponty's and Lacan's analyses of the “broader tensions between phenomenology and psychoanalysis.” Since this study focuses on phenomenology as a foundation for rethinking the role of the hand, Lacan's response is not dealt with here.

In Matisse's response to the moving image, he motivates the involuntary movements of his hand as follows:

There was a passage showing me drawing in slow motion ... Before my pencil ever touched the paper, my hand made a strange journey of its own. I never realized before that I did this. I suddenly felt as if I were shown naked – that everyone could see this – it made me feel deeply embarrassed. You must understand, this was not hesitation. I was unconsciously establishing the relationship between the subject I was about to draw and the size of my paper (in Korma 2012).

Merleau-Ponty (in Krčma 2012:[sp]) argues that Matisse did not, like some “demiurge”, have all the possible gestures in his “mind's eye” in order to “eliminate all but one” choice. Rather, “everything happened in the human world of perception and gesture” Krčma 2012:[sp]). Merleau-Ponty (in Krčma (2012:[sp]) states that the film footage leaves the impression that “the painter's hand operated in the physical world where an infinity of options is possible” arguing that the hesitation of Matisse's hand, represents “a moment of choice” that only Matisse was in a position to make. Krčma (2012:[sp]) states that “the chosen line was chosen in such a way as to observe, scattered out over the painting, twenty conditions which were unformulated and even in formulable for anyone but Matisse, since they were only

⁷⁹ Lacan discussed the topic in his celebrated 1964 seminars, ‘Of the gaze as *Objet Petit a*’.

defined and imposed by the intention of executing *that particular painting which did not yet exist*'.

Krčma (2012:[sp]) notes that the nature of the creative process for Merleau-Ponty involves an "originating operation fully embedded in the material fabric of things" and that this kind of creative "given" also applies to the creative and meaningful use of language. Merleau-Ponty argues that Matisse "was working beneath or beyond the deliberations of analytic reflection lending his body to the world and to painting to arrive at aesthetic solutions not formulable prior to that creative labour" (Krčma 2012:[sp]).

This statement underlines that some creative decisions can only be made during a creative act, while an artist, immersed in the creative process, becomes aware of or enacts a specific need. Matisse acknowledges that the hand contributes to the creative process. Merleau-Ponty states that "just as the painter's final mark can be seen against a backdrop of corporeal wanderings and a field of possibilities not taken, 'the expressive word' can better be appreciated when those not selected, those that 'might have touched and shaken the chain of language in another manner' are considered" (in Krčma 2012:[sp]). The choice made by the creator of a text, according to the above argument by Merleau-Ponty, is therefore specific to the particular style by which meaning is made. The choices of creative utterances are not limited to their "pre-given significations", but are affected by "the contingent wresting of new expressive forms from a fabric that is more like a way of being than a means" (Merleau-Ponty in Krčma 2012:[sp]). Thus, for Merleau-Ponty, the film footage of Matisse "reveals the hand as an envoy from a bodily system unharnessed from the clarity of reflective thought, and at the service of a more 'global', embodied expressive agency" (in Krčma 2012:[sp]). The hand therefore contributes to the style by which Matisse applies his marks.

Drawing on Husserl's work, Merleau-Ponty's notion of "style" translates one's original relation to the world as being "characterised by a spontaneity over which we have no conscious control", as Matisse's hand seems to confirm (in Moran 2000:428). It seems almost as if 'spirit' takes control over 'matter'. Merleau-Ponty starts his discussion of style in *Phenomenology of perception* and later applies it to art (Moran 2000:428). *The visible and invisible* includes Merleau-Ponty's notes towards his aim to re-work *Phenomenology of perception*. According to Moran (2000:428), his intention was to take an ontological perspective that does justice to the ontological state of the 'brute or wild being' from which perception and consciousness emerges as a kind of 'rupture'. As indicated in this example of Matisse's hand, for Merleau-Ponty, the style of the painter 'inhabits' the hand of the painter (Moran

2000:428). In this sense, Merleau-Ponty's view of spontaneity or 'style' in contemporary drawing translates into intuitive gesture, a drawing strategy that draws on one's 'brute' state of being.

Henri Foçillon (1989:157), whose thinking mirrors that of Merleau-Ponty, refers to hands as "almost living beings". Krčma (2012:[sp]) points out that, for Foçillon, "[t]he hand is not the mind's docile slave. It searches and experiments for its masters benefit; it has all sorts of adventures; it tries its chance". Foçillon (1989:180) endows hands with "a vigorous free spirit, with a physiognomy. Eyeless and voiceless faces that nonetheless see and speak". Through his hands, as Foçillon (1989:157) states, "man establishes contact with the austerity of thought. They quarry its rough mass. Upon it they impose form, outline and, in the very act of writing, style". For Foçillon (1989:157), "those who can see also need hands to see with, to complete the perception of appearances by touching and holding. The aptitudes of hands are written in their curves and structure". He asks, "Why does this mute, blind organ speak to us so persuasively? Because it is, like the higher forms of life, highly original and highly differentiated" (Foçillon 1989:158). According to Foçillon (1989:166), the hand is useful to the artist but "the hands are instruments of both poetry and industry. Whatever the receptive and inventive powers of the mind may be, they produce only internal chaos if deprived of the hands assistance." He refers to Japanese artist Katsushika Hokusai and the variety of inventive tools that he uses for marks (Foçillon 1989:167). He refers to Hokusai as a "prestidigitator"—one with nimble fingers who "never has more grace than when he makes virtue out of his own clumsiness" (Foçillon 1989:176). The hands of Hokusai "are present without showing themselves, and, through touching nothing, they order everything" (Foçillon 1989:178). "Such concord between accident, study and dexterity is often found in masters who have kept their sense of daring and the art discerning what is unusual in the most commonplace appearances" (Foçillon 1989:178). Foçillon (1989:184) clarifies his position in the following way:

I separate hands neither from the body nor from the mind. But the relationships between mind and hand are not, however, so simple as those between a chief accustomed to obedience and a docile slave. The mind rules over the hand; hand rules over mind. The gesture that makes nothing, the gesture with no tomorrow, provokes and defines only the state of consciousness. The creative gesture exercises a continuous influence over the inner life. The hand wrenches the sense of touch away from its merely receptive passivity and organizes it for experiment and action. It struggles with the very substance it metamorphoses and with the forms it transfigures. Trainer of man, the hand manipulates him in space and time.

According to Merleau-Ponty, all expression contains a spontaneity that one cannot manipulate simply because it does not take orders (Krčma 2012 [sp]). The nature of this spontaneity is not to be confused with surrealist automatism (which Merleau-Ponty criticises). The ‘spontaneous style of artists “arises from the threshold of contact with the world” and is a new offspring “germinated at the surface of the artist’s experience” (Krčma 2012 [sp]). In agreement with Matisse, Merleau-Ponty states that artists can only achieve style through their own continuous hard work; that is, through active engagement with cultural products that have symbolic and historical value such as painting, and by opening themselves to perceptual experiences in the real world (Krčma 2012 [sp]). The style that Merleau-Ponty praises goes beyond the superficial enjoyments of art, but has to do with a manner of being in the world (Krčma 2012 [sp]).

In *The visible and the invisible*, Merleau-Ponty draws attention to the paradox of spontaneous gesture (Krčma 2012:[sp]). On the one hand, the body is regulated by the fabric of symbolic representations and imaginary identifications, and on the other hand by instinctual acts. The miracle of artworks, for Merleau-Ponty, happens when marks or brush-strokes “fall like rain from the painter’s brush” not by the artist’s choice, but something else (in Krčma 2012:[sp]). Merleau-Ponty compares the spontaneous yet authoritative gesture of “rain falling from the painter’s brush” with the authority of instinctual acts by which a bird allows its feathers to shed, how a snake casts off its scales and how a tree lets its leaves fall (in Krčma 2012:[sp]). From this perspective, drawing is more an expression of being than an expression of conscious thought. It is always more about the ready-to-hand than the present-at-hand, to use Heidegger’s terms.

It is only through the authority of the artist’s intention of “laying down of the gaze” that any of the actions mentioned can occur (Merleau-Ponty in Krčma 2012 [sp]). So the authoritative, intentional gaze or style by which the artists lays marks on paper differentiates the artist’s “manner of laying down the gaze” from others. For Merleau-Ponty, the artist’s inherent style is like “a blueprint of a genesis of things” and is embedded, for example, in the lines of Paul Klee and Matisse (in Krčma 2012:[sp]). Paul Klee captures the essence of style’s meaning in a way that complements Merleau-Ponty’s view:

Vision is the meeting, as at a crossroads, of all the aspects of Being. ‘A certain fire wills to live; it wakes. Working its way along the hand’s conductor, it reaches the canvas and invades it; then, a leaping spark, it arcs the gap in the circle it was to trace: the return to the eye, and beyond.’ There is no break at all in this circuit; it is impossible to say that here nature ends and the human being or expression begins. It is, then, silent Being that itself comes to show forth its own meaning (in Krčma 2012:[sp]).

Krčma (2012:[sp]) relates Matisse's involuntary drawing act to what philosopher Henri Bergson describes as "intuition" and as "an orientation to tendency rather than an act of projection and misrecognition." He further aligns Matisse's "expressive directness and ontological connection" to Merleau-Ponty's later formulations of the "chiasmic meeting of self and world" (in Krčma 2012 [sp]).

Matisse's self-reference, regarding the film mentioned above, of "his own working hand floating over these images-in-progress, figuring his own role as both weaver and prey of this graphic web" (Krčma 2012 [sp]), aligns well with Merleau-Ponty's notion of "a closely woven fabric", that is subsequently discussed. In a footnote, Krčma (2012:[sp]) shares that Louis Aragon, French poet and novelist (and later a close friend of Matisse) states in an interview with Matisse in 1941 that he compares himself to a spider that "throws out ... its thread to some convenient protuberance and thence to another that it perceives, and from one point to another weaves its web". The process that Matisse describes aligns closely with Merleau-Ponty's thoughts on how solicitations from one's perceptual field draw attention and thereby are foregrounded and the reciprocal response follows (Krčma 2012:[sp]).

Merleau-Ponty's perception of the directness and power of the hand in Matisse's line in drawings, that 'free' the line to speak for itself, is demonstrated by how his hand simultaneously captures the essential gesture of what is portrayed and at the same time he energises the line to say even more about what is depicted (Krčma 2012:[sp]). Merleau-Ponty puts "into a single line both the prosaic, identifying characteristics of the entity and the hidden operation which combines such indolence or inertia and such force in it as are required to constitute it as nude, as face, as flower" (in Krčma 2012:[sp]). "Matisse's plastic writing presents a rhythmic unruliness that is nevertheless brought under the sway of the artist's (contingent, spontaneous) compositional organisation and, indeed, of the iterability of the signifier. The lightning and the rain of the hand, then, fall through the matrices of structured systems and at the same time remain eloquent of a bodily logic that exceeds these orders" (Krčma 2012:[sp]). The eloquence and internal, embodied logic of the hand then emancipates the hand from being the body's docile slave.

4.4 Drawing as embodied experience: shaping the mind

From an anthropological perspective, neurologist Frank Wilson (1998) delves into what Merleau-Ponty describes as the primordial past of the hand's paleoanthropological development for what it may reveal about the hand's attribute for shaping the brain, language and human culture in a 'living body' in the present context. Wilson does not explicitly mention

Merleau-Ponty as a source of inspiration, despite many touch points in their lines of argumentation. Owing to Wilson's expertise and intense engagement with the hand injuries of professional people whose line of expertise requires sophisticated hand skills, he has gained an exceptional knowledge of how these highly skilled professionals—musicians, jugglers, puppet-masters, tennis players, jewelers, mechanical technicians, among others—use their hands to perform their daily tasks. Wilson (1998:7) indicates that successful performance of specialised skills involves not only hand skills, but also the rest of the body, the mind and motivation (passion). Through interviews with professionals, it came to light that they experienced a moment similar to love at first sight on their first encounters with the crafts in which they are now experts. While seeing a performance of juggling, piano playing, jewelry making, and so on, they were instantly convinced that they could master the skill on a professional level. It was as if there was an immediacy in which the hand, mind and body recognised the attributes of the tools and experienced instant empathy, 'knowing' immediately that they would be able to become a master of the skill in question. Their bodies seemed to anticipate mastering the particular skill. This fits well with Merleau-Ponty's notion of "operative intentionality" in connection with an "embodied understanding involved in our motor activity" (Crossley 2008:231). It also seems to explain why the professionals experienced the particular tools according to Heidegger's concept of the ready-to-hand. Immediate recognition aligns well with Merleau-Ponty's (1964) alternative existential phenomenological description,⁸⁰ which foregrounds his more embodied phenomenological approach whereby perception is held as an original modality of consciousness.

Understanding Merleau-Ponty's theory of phenomenology and embodiment requires getting to grips with the sophisticated conceptual structure underlying the conceptual nature of man's lived experiences in the world. The structure is not a static thing, but a dynamic organism consisting of different operational units made up of smaller functional components. The organism is characterised by a confusing, ever-changing system of relationships involved in the operational mechanics of the body and its modes of existence in living in a world (that it inhabits and that inhabits it). The 'whole' of the conceptual structure is unified primarily by the fluid network of relationships between three orders of the human body coupled with three modes of existence and living.

Below, I draw from Simpson's (2014) interpretation of Merleau-Ponty to present the latter's concept of wholeness as including the body and its experience of being in the world as a

⁸⁰ In Sean Kelly's lecture, the 19th of a 31-part lecture series at the Philosophy Department of the University of Berkeley in 2007, he alludes to this breakdown of Merleau-Ponty's argumentation strategy. See <https://www.youtube.com/watch?v=jajZQc0izlg>

system. Simpson (2014:21-23) gives a clear, holistic explanation of Merleau-Ponty's phenomenological conception of three "bodies"; namely, nature (the corporeal), the human living body (the corporal), and the human social body (the corporate). Simpson (2014:12-14) also describes the fundamental interrelation between each order of bodily existence as enabling the body to live within the world and other similar beings. According to Moran (2000:391), Merleau-Ponty offers a challenging and complex account of the nature of one's embodiment in the world as "'mysterious', 'paradoxical', 'ambiguous', which seems pre-ordained to meet and fulfill our meaning-intending acts". The best way to come to terms with the three orders is in terms of their relationships to each other. Within Merleau-Ponty's references to the body's three orders of existence, relationships are often described in terms such as paradoxes, tensions, madness, confusion, *et cetera*, supporting the notion that there is always activity, not a fixed recipe for being human. It is crucial to focus on the interaction of the relationships between orders and levels since and an understanding or sense of experience of the structure cannot be gained in a linear way. Without a grasp of the above-mentioned network of relationships, transitions and transcendence one may struggle to cope with one's "involvement in the world and with others" that Merleau-Ponty (2002:528) describes as being an "inextricable tangle".

Simpson (2014:12) describes the relationship between the three orders of the physical, the living, and the mental as "enmeshed, interrelated", and "founded". He describes separate parts and units of the human body as capable of separate actions operating according to the 'rules' embedded in the interactive relationship of the bigger system, reminiscent of a Hegelian deterministic mechanism. Merleau-Ponty calls this relationship *Fundierung*, meaning *founding*, by means of a relationship of *ineinander*—that is inherence—as is discussed below. One can at the same time appreciate the 'founding parts' and the 'founded whole' and one can 'draw out' the dependency of the parts to the whole without losing focus on the 'momentary meaning' of parts and their bigger functions within the constellation and the broader context. Simpson (2014:25) reiterates, "the parts presuppose the whole, and the whole, in turn, is founded upon its parts". The 'whole' of the conceptual structure is unified primarily by a fluid network of relationships between three orders of the human body coupled with three modes of existence and living.

Merleau-Ponty's notion of *Fundierung* relates to Dewey's metaphor of a cherry in a bowl (McGuirk 2009). From a birds-eye position, this '*ineinander*' concept of '*nesting*' one item in another, while maintaining an interaction between the nested entities and their containers is based on the principle of energising each other. Dewey uses the *ineinander* metaphor to

describe the kind of co-inherent relationship of the human body interacting with the environment, as opposed to occupying it, and to explain the concept of a part/whole relationship between a person and the environment, to replace the idea of an inside versus outside relationship (Bredo in McGuirk 2009). The metaphor of Russian *nesting dolls*⁸¹ helps to elucidate this relationship further, considering the way that a series of decreasing size dolls fit within one another. The central doll is founded or nested into the second container and ‘takes up’ some of its ‘originating’ strength without making it lose its character and identity. Rather, it energises it, renewing some of its aspects by giving it some of its ‘soul’ while transforming itself to a wider and higher container taking some of its life. Merleau-Ponty’s (2002:146) concept of *Fundierung* further connotes the integrated relationship between content, including the symbolic function of matter and form, its visual face appearing to be just as another mode of form itself (Merleau-Ponty 2002:146). Merleau-Ponty (2002:146) describes this rising movement as “the historical stages leading up to thought as a ruse of Reason disguised as Nature”. *Fundierung* is clearly not a causal relationship, but rather one like the example of the *ineinander* ‘nested doll’ discussed above, literally showing absorbed content as another ‘form’ with the same appearance, while facilitating in each also a kind of transcendence. The lower or inner containers empower the outer or higher forms in order for them to transform and transcend without losing their original characteristics. While each ‘doll’ maintains its own identity, it is always in a relationship of being enclosed by or enclosing another entity, which also explains why imagining a vertical stack of parallel layers in a summative sense, is inadequate to describe the interactive nature of the relationship between the orders. Simpson (2014:12) adds, “these are different orders in the sense that “binocular perception is not made up of two monocular perceptions surmounted; it is of another order”.

Fundierung and the relationship between Merleau-Ponty’s three orders can be visualised by picturing a three-tier unit consisting of three parallel planes that are closely bound by the particular activities and relationships involved in the unit’s operational mechanics. Merleau-Ponty (in Simpson 2014:13) also refers to the three orders as three “leaves” of being, three different senses of “body”, and three different kinds of “corporeity.” The lower order consists of bodily functions, which remain closely connected to their source of origin, the primordial source on which it is founded. The higher order pre-supposes the lower that it surpasses, but is not reducible to the lower. The lower order is “unreflected” and simultaneously weighs down or anchors consciousness. It also provides a springboard for it to from which it can

⁸¹ This kind of *nesting* wooden doll is known as *matryoshka* or *babushka* doll and consists of a seemingly endless series of ‘container’ dolls, each including another little wooden doll. All dolls share a resemblance such as scarves and dresses painted in the same motifs.

transcend (Simpson 2014:15). The primordial foundation (to which one is always intimately bound) provides a gateway to higher orders of living such as the mental and social bodily modes. It gives unlimited access to its supporting energy, its knowledge of the historical, biological and cultural pasts. The primordial, while it does not ‘glue’ one’s living soul to it, in the sense of reducing it to this basic source, also never allows higher modes of being to disconnect from its primordial origin (Simpson 2014:15). Therefore, to reiterate, the functions of each order arises from but are not reducible to its facticity, meaning that what is needed in a situated context is taken from its past, and processed in the present to give a renewed meaning. Put differently, the primordial is fundamental in shaping the selfhood of the self and intimates, as is explored next, the way that drawing shapes cognition.

For Merleau-Ponty, the first order is the physicality of the body, its matter, physics and its physicochemistry that he also refers to as the thing, and the bodily as such also called “earth” (in Simpson 2014:113). This lower tier, the primordial, is the portal for access to the motherlode, the prime resource storing eons of history and tradition in order to ‘shape’ the needs living and delving into the past. Wilson’s (1998) reconsideration of the origin of man, along with a timeline of research confirming the active role of the hand in shaping the brain, demonstrates how even if answers seem conclusive, it is important to keep re-visiting old questions, as Merleau-Ponty insists. One needs to look through a fresh filter not tainted by traditional disembodied philosophies. In his quest for tracing the history of the human arm and hand, he brings to light a convincing argument for the hand to shape the brain literally, by increasing its brain size and being instrumental to increase its human capacities. Wilson (1998:277) shows that the hand “is not merely a metaphor or an icon for humanness, but often the real-life focal point—the lever or the launching pad—of a successful and genuinely fulfilling life?” Again, although Wilson does not refer to Heidegger or Merleau-Ponty, the scientific findings reported by him correlate well with their phenomenological insights. For drawing, our body is a rich resource of knowledge—if we care to use it.

Merleau-Ponty’s second order of bodily existence, the vital order or the living body is visible as the material or carnal body. According to Merleau-Ponty, the vital order is “less a domain of isolated consciousness” than a coexistence with the world and other bodies that have also been shaped into a coexistence through language (Simpson 2014:50). Simpson points out that this invisible “intelligible world” is intimately interrelated with speech and with ways of communicating and understanding the world mediated by social/corporate structures and meanings. So, the human ‘invisible’ for Merleau-Ponty is about intersubjectivity (in Simpson

2014:45). This link between the embodied hand and communication is explored in detail in the following chapters.

Simpson (2014:45) describes the third corporate order—the higher dimension of Merleau-Ponty’s bodily structure—as the body’s inclination towards others through language and history. This upper tier of bodily living maintains an inseparable bond between mental, social, and linguistic dimensions. The corporate order of bodily existence houses the ‘invisible’ dimension of the body, its “universe of ideas” (Simpson 2014:45). Merleau-Ponty’s later writing places more emphasis on this invisible “intelligible world” that “is populated by ‘virtual beings’ of meaning such as language, art and history” (in Simpson 2014:45). The self is in a position that Merleau-Ponty describes as being ‘between’, being enveloped through one’s own openness, situatedness and transcendence. For Merleau-Ponty, a phenomenological posture is a position that allows the world “to reveal (and reserve) itself ‘as strange and paradoxical,’ as ‘ungraspable’” (Simpson 2014:32). Merleau-Ponty’s descriptions of relationships between parties consist of a triad of the self or “I”, others and the world are rife with seemingly confusing and paradoxical relationships that seem to be ‘held together’ by a tension between opposing energy flows between people and their environment (Simpson 2014:49). The nature of bodily relations, such as reflective thought with the self and relations with the world and through language with others, prompts Merleau-Ponty to describe such relationships between the world and others as “entangled” and “mixed up in an inextricable confusion” (Simpson 2014:49).

Simpson (2014:50) notes that some of the relationships described by Merleau-Ponty tend to be paradoxical in nature. Merleau-Ponty’s view of our relation to this world “is paradoxically a situation that is both “‘limitation and access to the universal’ for consciousness—a hermeneutical circle that is the enabling condition and ultimate limit of our progress toward the truth” (Simpson 2014:50). The unifying nature of the self-transcendence and immanence of this relationship involves an overlapping of passivity to a given instituted situation with an activity, such that “every spiritual production is co-produced by a response and an appeal” (Simpson 2014:50).

What makes all of these paradoxical relationships work is the chiasmic relationship that facilitates co-existence and simultaneous operation. This is possibly the core value of bodily mediation—to buffer inappropriate responses and to let through possible solutions. It is through bodily mediation that one knows and accepts while not seeing everything. Merleau-Ponty describes a “double envelopment” between thought and concrete experience

combining things that are simultaneously separate from us and yet “augmented by our being” (Simpson 2014:50). Conceptual superstructures (“gnosis”)⁸² are at once “founded upon” and tied to one’s embodied “praxis” or situation in a given space, at the same time remaining “relatively independent of it” (Simpson 2014:50). Situated consciousness (in a similarly paradoxical way) is a passivity that is overlapped by an activity in such a way that “every spiritual production is co-produced by a response and an appeal” (Simpson 2014:50). While the relation of ‘truth’ is a movement towards integration and openness to the world, it is also a passivity to a given instituted situation, a *Stiftung*, “composed with a lateral relation which at the same time retains it and ballasts it” (Simpson 2014:49).

The life of consciousness and rational thinking, for Merleau-Ponty, is self-transcending. Through one’s world of thought, one can transcend one’s self but not leave the body as a free-floating phantom; one is bound or installed to one’s historical past, where one’s experience of language and history keeps one anchored through one’s immanence (Simpson 2014:50). Merleau-Ponty’s philosophy of consciousness entails that, from birth, one’s consciousness looks towards the outside and “continuously throws itself into transcendent things”, meaning that “human existence is always with its other” (in Simpson 2014:50). So one is open to the outside world, but at the same time rooted in historical ground (Simpson 2014:50).

Perception and language are vehicles for self-transcendence enabling articulation of one’s spontaneous responses to solicitations by others in the world. The social and intelligent mind opens its consciousness to the world and listens to the voice of others, getting to know about their thoughts through their speech (Simpson 2014:50). Self-transcendence for Merleau-Ponty is a means for going beyond “the given, constituted, situated self in spontaneity” rather than being trapped or moulded into one’s own inherent immanence” (Simpson 2014:51). Therefore, what is given by the outside world is ‘taken up’ in one’s consciousness and thereby enables the self to ‘take leave’ from one’s own prison of immanence and then to position itself relative to others (Simpson 2014:51). Access and progress to reality of universal phenomena of ‘the given’ is both enabled and limited by the way of a hermeneutical circle (Simpson 2014:50). One is always caught in the tension between being a body and having a body—experiencing and yet able to reflect on one’s experiences.

⁸² Simpson (2014:50) probably chooses the word ‘Gnosis’ because of its theological connotations. Merleau-Ponty (2002:196) uses superstructure in the context of firstly the “theory of sensation, which builds up all knowledge out of determinate qualities, offers us objects purged of all ambiguity, pure and absolute, the ideal rather than the real themes of knowledge: in short, it is compatible only with the lately developed superstructure of consciousness. That is where ‘the idea of sensation is approximately realized.’ Therefore, this means accepting indeterminacy.

In order to move towards a better understanding of the relationship between embodiment and metaphor, which suggests a powerful bond between embodiment and the shaping of language, about which more is said in the following chapter, it is helpful to begin by looking at Merleau-Ponty's use of metaphors. These metaphors begin to outline a philosophy of the flesh, which considers relationships between the self, the world and others as being enmeshed or 'mixed up' with the world and others "in an inextricable confusion" (in Simpson 2014:49-50). Merleau-Ponty regards "man" as an entangled knot of relationships and his conception of other relationships, such as man with the world and man with others 'entangles' the concept even further. The nature of relationships as described by Merleau-Ponty is paradoxical with reference to 'transcendence and immanence', the Ego and the Alter. The Alter and Ego relationship refers to the dialectical relationship between the Ego and the Alter that for Merleau-Ponty entails self-discovery. According to Merleau-Ponty (2000:xiv), this discovery happens

at the very moment when I experience my existence—at the ultimate extremity of reflection—I fall short of the ultimate density which would place me outside time, and that I discover within myself a kind of internal weakness standing in the way of my being totally individualized: a weakness which exposes me to the gaze of others as a man among men or at least as a consciousness among consciousness.

For Merleau-Ponty, the life-world is "the world of perception" (Simpson 2014:8). Owing to the "practical, utilitarian attitude" of engaging with the ready-at-hand one tends to forget to notice the surrounding life-world and sometimes needs a reminder to be awakened to the wonder of the life-world (Simpson 2014:8). Even one's own mind may be considered such a place of wonder. A moment of wonder occurs during phenomenological reduction, meaning that during reflection, in view of a collection of others, one discovers oneself amongst these others as an "indistinction" between one's self and others (Simpson 2014:56). According to Merleau-Ponty, discovering a "reversal" of oneself brings one to the following realisation:

The other turns back upon me the luminous rays in which I had caught him. There is a reversal in which, whereas I thought I was 'catching' the other in my consciousness, I find myself 'caught,' attracted into and together with a common (non-solipsistic) hold or field. There is a sensibility, an 'anonymous visibility' that 'brings to birth a ray of natural light that illuminates all flesh and not only my own. In empathy's tacit 'indivision' between my body and other bodies, one 'divines' the (not so) private world of another's gaze in such a way that one becomes 'its quasi-spectator' (in Simpson 2014:56).

Merleau-Ponty (2002:409) maintains that vision is discovered through "phenomenological reflection" and not as "thinking about seeing" *à la* Descartes, but "as a gaze at grips with a

visible world". So Merleau-Ponty (2002:409) argues that one can accept the gaze of others, because, while one's own existence is carried by one's body, "that knowledge-acquiring apparatus", one accepts that the "expressive instrument called a face can carry an existence, as my own." Reflection happens when one thinks about something perceived, reenacts the moment of perception and then discovers that this thinking about the body is only a trace of what the body already knows. Talbot (2012) explains how he realised his body's spatial understanding and its ability to rotate mentally complex things that enables him to explore things in motion. Through reflection, one catches only a glimpse of the body's own existence (Merleau-Ponty 2002:409). This echoes the earlier contention that reflection is vital to the process of drawing.

Merleau-Ponty (2014:43), on his conception of "reversibility in vision" as discussed above, explains this phenomenon in his last writings as that the visible world that is "looking back at the seer." He frames this conception in ontological terms, and thereby indicates that there is "a reciprocity in perception between the seer and a pre-reflective Being, which he designated flesh, 'a sort of incarnate principle that brings a style of being wherever there is a fragment of being'" (Merleau-Ponty 1968:139).

As with phenomenological reduction, Merleau-Ponty's perceptual theory always offers an ideal point of view for the body to be in the best position to come to grips with something, even if some parts are hidden from view. The human body automatically adjusts to find the best position from which to 'see' these hidden parts. Through a 'calibration' of the eyes, the head involves the whole body, to get the best view to grasp the whole (just like when squinting one's eyes when observing things to draw, to get focus or to see the contrasts). The best view, according to Merleau-Ponty's (2014:78) alternative explanation for the phenomenon, relates to the quasi-organic nature of the subject-object relationship, based on the contradictory principle of 'immanence and transcendence'. This means that human nature perceives the whole rather than the parts, and has a way to cope with including the 'invisible' or obscured parts (except as a possibility). But there are also other points of view. Merleau-Ponty describes this capacity for finding a 'phenomenological posture of experiencing' as "an 'astonishment,' a stepping back 'in order to see transcendences spring forth,' an allowing what it is to give itself and so a 'taking up' the affirmation of the world that is made in us at each moment" (in Simpson 2014:32). Therefore, taking a cue from Merleau-Ponty's notion of being an 'outside spectator' and his suggestion of 'stepping back,' this study encourages a short moment of 'stepping back' into a phenomenological posture, to

consciously promote the experience of “astonishment” at the familiar.⁸³ Merleau-Ponty (2002:xiv) further suggests (after Husserl) that “we are through and through compounded of relationships with the world that for us the only way to become aware of the fact is to suspend the resultant activity, to refuse it our complicity”.⁸⁴ For the discussion that follows, the momentary withdrawal of participation is practiced as a way to put the body’s spontaneity “out of play”, and all energy resulting from various chiasmic relationships, and should not be mistaken with an act of ‘with-drawing,’ that may leave the impression of a self-trapped in a solipsistic state (a state of internalising pure immanence).

Merleau-Ponty’s writing suggests various other ways of changing one’s routine in order to get a clear vision of things that one usually takes for granted, but he also adds a few conditions for any kind of ‘stepping back’ as discussed below. ‘Stepping-back’ does not mean taking leave of the world into a realm of idealist abstraction, but implies opening one’s eyes to ‘being-in-the-world’ (Simpson 2014:32). From an existential phenomenological perspective the purpose of pausing or stepping back into action allows a “momentary break’ through which one can awaken oneself to what may have been too close to see” (Simpson 2014:32).

To reiterate, in the context of this study, ‘stepping back’ is one where participants are expected to “partake in a kind of anonymous existence” by withholding the body’s spontaneity from inhabiting the ‘many bodies’ of the other as it generally would (Simpson 2014:52). Not looking at other human beings from inside, but standing back to look from the outside “makes the mind self-critical and keeps it sane” (Simpson 2014:52). Therefore, the purpose for this ‘unnatural act’ of stepping back for a moment withholds the spontaneity of one’s body of which one is not conscious. When drawing on paper, one does this all the time. One steps back and while looking, the hand often starts gesturing what it should do.

In order “to see the world and grasp it as paradoxical”, Merleau-Ponty argues that one must ‘break’ with one’s familiar acceptance of it in order for such a break to teach one of the “unmotivated upsurge of the world” (in Moran 2000:419). The kind of realisation one can arise by pausing and opening oneself to ‘gifts’ from the world. These include realising that

⁸³ Lyons (2012) created this opportunity for scientists to draw their everyday tools, and they were amazed to notice some of their attributes, for the first time, through drawing.

⁸⁴ Merleau-Ponty was not in total agreement with Husserl’s insistence “that reduction provides the only genuine access to the infinite subjective domain of inner experience” (Moran 2000:148). Husserl characterised the practice of epoché (suspension of judgment) in many different ways: ‘abstention’ (*Enthaltung*), ‘dislocation’ from, or ‘unplugging’ or ‘exclusion’ (*Ausschaltung*) of the positing of the world and our normal unquestioning faith in the reality of what we experience (Moran 2000:148). Merleau-Ponty speaks of ‘withholding’, ‘disregarding’, ‘abandoning’, ‘parenthesising’ (*Einklammerung*), ‘putting out of action’ (*außer Aktion zu setzen*), and ‘putting out of play’ (*außer Spiel zu setzen*) all judgements which posit a world in any way as actual (*wirklich*) or as ‘there’, ‘present at hand’ (*vorhanden*)” (Moran 2000:148).

the presence of an undifferentiated collectivity of speaking subjects that foregrounds one's need for communication and for signifying one's readiness to become enveloped and inhabited by a kind of immersive conversation (Simpson 2014:52). Conscious effort is required to make a constructive effort to enhance the sense of 'virtually experiencing' the make-up and operation of the mechanism in question, rather than focusing on simply 'thinking about it' in an unconscious manner. Instead of focusing on thinking of ideas, I suggest that focusing on moments of a 'virtual experience' and on the experiential aspect of mentally merging orthographic views of things into three-dimensional images represents the making of a virtual construction. Virtual images that one can move around, touch, grip, can animate and rotate virtually. This activity thus gives 'distance' for stepping back to more clearly 'see' possibilities with the 'mind's eye. This virtual experience further highlights the way that drawing is a shaping activity.

The abovementioned suggestions of using the metaphor of making a virtual sketch, as well as the kind of 'role play' of 'stepping back' suggested for this exercise, are typical of what one does in drawing. Focusing on the latter, one learns to take a 'closer' look in order to learn afresh the things over which one usually glances. This notion becomes evident in two examples by Lyons (2012:6-7) where she asks research scientists to physically draw the things that they encounter on a daily basis in their laboratories. In one instance, a research scientist has been examining fruit flies under the microscope for a period of three years, but failed to notice small hairs growing on the female abdomen until she had to draw it. Another researcher, after several years of microscopic study, for the first time noticed a 'bump' on a plant only when she drew it. For their particular laboratory, drawing has since become protocol, because researchers realise that, through the 'eyes' of hand-drawing, they see relevant information that may otherwise be missed. Lyons's (2012:6-7) writing has rich evidence of many more examples of "drawing one's way into understanding". The activity of drawing had made them re-engage with familiar material and through drawing, allowing new information to reveal itself. As with Merleau-Ponty's view that by stepping back, what one does not always 'see', can be foregrounded to become clearer, Lyons (2012) uses drawing as a means to 'step back' to get a clearer view.

To withdraw from participation entails halting one's default pre-communication energy flow. This induced moment of stepping back means looking at a field of inanimate figures, like bodies, without their usual spontaneity and chiasmic energy.⁸⁵ The participation of the reader

⁸⁵ I see an analogy between Merleau-Ponty's stationary, non-spontaneous human body and a lifeless transformer. The figure is pre-designed with a multitude of spontaneous features and movements. Both the human body and a transformer come from a particular cultural context. They each exist of many movable

is required to amplify the lifelessness of the figures momentarily in the perceptual field. The active potential of what these figures can do becomes apparent, even if none of their innate potency is visible or in action. It is the historical, cultural and social context that Merleau-Ponty's (2002:405) 'I' is familiar with, that makes the invisible visible. What is visible is their 'sameness' and their silence. The figures in the field may be taken as forms analogous with 'the other', the silent speakers in the background, that one lives with but does not really notice. The 'stepping back' analogy emphasises how the spontaneity of the human body is the key for animating these lifeless entities and giving them voice (which in turn animates one's self too). So, looking at the field of figures or 'others' for a moment, one can see the likeness with the self; one can see the self in these figures in their "pre-transformed" state. Although the abovementioned figures appear static, they have the potential capacity to perform intricate bodily actions and to 'anticipate' the kind of movements that 'others' or the environment may require them to do⁸⁶. Therefore, as in Merleau-Ponty's philosophy, vertically, there is a two-way movement that enables the higher orders to take up sediments of history or past experience from the primordial foundation on which they are anchored while, at the same time, these higher levels pass down renewed energy to the preceding orders reviving them with newly transformed re-energised 'gusts' of soul.

The use of lifeless figures brings home the idea that there are other people who need to be 'animated'; who need to be reminded of their subjectivity and their spontaneity through the subjectivity and spontaneity of their own being and that one motivated individual's interaction, can make a difference. A sub-narrative for this study may therefore be to be true to oneself and to trust that through one's individuality one can become empathic to other people in the world. This confidence of 're-entering the life-world' takes place within the intersubjective and corporate; that is, with empathy. Before being animated (the primordial or the latent, virtual self is not aware of itself "in its absolute difference" but is caught up in a "pre-personal zone" of pre-reflective relations with others, a "naïve frequenting of the world" of "I 'belong to myself' in being in the world." (Simpson 2014:51-52)

parts that are inventively 'engineered' with a carefully designed axial system to keep the parts together and allow intricate movements. Thus, an overall sense of a structured unity is maintained. Even when stationary, one is fully aware of its capabilities of motility. It is, however, only through human interaction, that these bodies can be energised. Their organisms are designed to make possible a wide range of actions but at the same time, there are limits to the actions.

⁸⁶ Relating the human body to lifeless figures in a perceptual field is analogous with transformers, as suggested in the previous footnote. They are composed with a multitude of different units, each constructed by smaller parts and the analogy with the human body is easy to grasp. The interconnected system of axes keeps together the whole movable system, yet enables smaller units and extensions to move. In its already-together appearance of a figure, individual units and smaller parts interlock into a perfect fit. As with a Rubik cube, what keeps the 'transformer' together, is not visible, but can be modified and interacted, yet never falls apart. The parts are flexible and can morph from one formation to another. It can unfold to reveal its interior parts and it can fold back into itself as if introspective or reflective. The upper part can 'take up' the lower part, by enveloping it.

According to Merleau-Ponty, one has a “preconscious possession of the world” including a “thickness of cultural acquisitions” and “the social and linguistic world of meanings” (Simpson 2014:54). Before empathising with others in the world, the ‘I’ in one’s self needs to become animated. This only happens by allowing one’s body to act through its own spontaneity. The body must be free to get in touch with its surroundings, both with the mind and with its primordial underpinning, and outwards with others.

If drawing can help us get inside ourselves to draw out our spontaneity, to shape our empathic capacity, then it is a worthwhile activity to explore. Merleau-Ponty maintains that one gets “taught” by the other through one’s bodily spontaneity and this happens by means of a “coupling” or an “intentional transgression” (Simpson 2014:52). Through the body, one haunts others and is haunted by them (Simpson 2014:52). One draws towards others through one’s body and connects to other bodies. This is both “animated and animating” as the “the natural face of mind.” (Simpson 2014:52). One’s body is always already in a perpetual state of pre-communication with others in the world and thereby transcends one’s solipsistic isolation (Simpson 2014:52). The human capacity for thought and consciousness are vehicles for ongoing, deeply involved activities that include participating in the communal activity of communication with the self and with others in the world (Simpson 2014:52). Common metaphors used in relation to drawing echo this: drawing is thinking and drawing is reasoning; drawing is a vehicle for thought and for dialogue; it is a tool for speaking out; drawing gives voice to issues that are otherwise silent and remain unheard.

Considering the above, it is clear that Merleau-Ponty’s philosophy helps rethink the role of the hand (as an agent of the body) in drawing. On the hand’s role in the shaping of the mind, Johnson (in McGuirk 2010:6) states that “meaning is shaped by the nature of our bodies, especially our sensorimotor capacities and our ability to experience feelings and emotions,” suggesting the impossibility of “cognition without emotion” (see Lakoff & Johnson 1999:17). These suggestions are significant considering a history of rigorous but biased empirical scientific research that had no place for emotive meaning. Meaning and knowledge are situated fundamentally – spatially, socially, and emotionally. Contemporary cognitive theorists such as second-generation cognitive scientist Johnson support this. Historically, this is also supported by the pragmatist view of John Dewey (McGuirk 2010:14). According to Dewey’s “principle of continuity” there are “no ontological ruptures or gaps between different levels of complexity within an organism”. In other words, there are no higher or lower ways of knowing, but rather a close relationship between all faculties of the body supporting the notion that conceptualisation is shaped by the body (McGuirk 2011:14).

In all philosophical endeavours, in which, according to Lakoff and Johnson (1999:7), we are involved with on a daily basis, “we use a reason shaped by the body, a cognitive unconscious to which we have no direct access, and metaphorical thought of which we are largely unaware”. Furthermore, even though we are only occasionally aware of it, “we are all metaphysicians—not in some ivory-tower sense but as part of our everyday capacity to make sense of our experience” (Lakoff & Johnson 1999:10). They emphasise that one’s everyday metaphysics is embedded in the conceptual systems through which one is able to make sense of everyday life (Lakoff & Johnson 1999:10).

The hand’s role in shaping the mind is the core idea of this chapter and brings to mind how the hands of a potter shape the material that he or she works with in an intentional but caring manner. This fits with Lakoff and Johnson’s (1999:15) notion that “our conceptual systems and our capacity for thought are shaped by the nature of our brains, our bodies, and our bodily interactions”. They argue that reason “is shaped crucially by the peculiarities of our human bodies, by the remarkable details of the neural structure of our brains, and by the specifics of our everyday functioning in the world” (Lakoff & Johnson 1999:17). The embodied mind, shaped by one’s conceptual system, gives it meaning through the living human body.

In keeping with Merleau-Ponty and Wilson’s embodiment theory, Lakoff and Johnson (1999:266) maintain that an embodied mind rules out any possibility of the mind having thoughts independent from the body, nor are there thoughts that have an existence independent of one’s body and brains. The neural structures of one’s brains produce and/or shape conceptual systems and linguistic structures that cannot be accounted for adequately by formal systems that only manipulate symbols (Lakoff & Johnson 1999:266).

Watching people draw, often shows them gesturing or air-drawing lines, circles or curves before actually making the marks on paper. Azadeh Jamalian, Valeria Giardino and Barbara Tversky (2013:650) show how people doing complex mathematical reasoning digitally, use pencils on paper to do calculations, but in the absence of pencils and paper, they tend to make hand-gestures on their desks—as if drawing on paper. Jamalian *et al.*’s test findings describe gesturing as a benefit of being “the embodiment of thought into action” for those who gesture.

David McNeill (1992, 1995, 2006, 2012) is a seminal author on the topic of communicative hand gestures. Although his work is not discussed here, knowledge of the topic is important

for drawing and to understand some of the meaning of hand actions used in the act of drawing and as depicted in drawings, but mainly to emphasise the way the hand and the mind work together. An open hand with the palm up, is a gestural conduit metaphor, often depicted visually. The palm 'holds' what McNeill (2006) calls "discursive substance", or any abstract content. The kind of gesture often sparks a dialogue, but the hand is often greeted by waving an open hand. A lot has been written on the notion of the communicative aspect of the gestural mark and gestural drawings (such as on the fly and fingertip drawings). In *Hand and mind: what gestures reveal about thought*, McNeill (1992:75-104) tables five classification schemes for identifying the referential functions: iconics (that include physiographics, kineographics and pictographics and refers to when gesture and speech content refer to the same thing such as 'grabbing something and pulling it back'), metaphoric (that include ideographics, concretisations, underliners and spatial – such as when the cupping of hands refers to an abstract or complex concept such as suggesting to want to ask a question), deitics (that includes pointing by using the head, the nose or a finger), beats (that include batons, punctuating and rhythmic) and "Butterworths"⁸⁷ (that includes gestures that arise from speech failures). Furthermore, according to Deborah Harty (2012), Merleau-Ponty attributes the body as a mediator between the world and the self, stating that "... rather than a mind and a body, man is a mind with a body, a being who can only get to the truth of things because its body is, as it were, embodied in those things."

Aligned with Merleau-Ponty's suggestions of conscious withdrawal or stepping back, it brings out how much of what one has to give, one's capacity for care and how much more life makes sense when one gives way to how we are designed to be. After getting the distance by consciously withdrawing, re-entering the sphere of 'others', back into the world, gives way to the body's spontaneity—allowing it to interact between the body's levels of existence and with the environment. Meeting the gaze of others, is when the metaphor of the world and of the others becoming one's flesh comes into play (see further on for a discussion of the metaphor of flesh), but the exchange is not always seamless. One experiences initially a narcissistic moment⁸⁸ of insoluble "reciprocal exclusion," rather than an urge to make contact with the 'other' (Simpson 2014:51).

Merleau-Ponty uses the term "reciprocal exclusion" to describe the relation between self and others as viewed "from the modern perspective of an isolated and autonomous subjectivity" (Simpson 2014:51). In an ironical way, the different metaphors that Merleau-Ponty uses to

⁸⁷ MacNeill (1992:77) named gestures that occur as a result of speech failure, such as to pluck into the air when one is trying to remember a word, after Brian Butterworth, a scholar who recognised this idea.

⁸⁸ The reference to an insoluble "reciprocal exclusion" as a narcissistic moment, is my own.

describe the enmeshed relationships in the world, such as ‘fabric’ or ‘flesh’, can be compared to the ‘lake’ in the mythical story of Narcissus. When Narcissus gazes at the shiny surface of the lake, he sees his own beauty mirrored on the surface, unaware that the lake too, in the glare of his eyes sees its own ‘beauty’ reflected back. While being with others in the world everyday, one can remain in a state of ‘solitary confinement,’ not realising that the world of ‘givens’ is staring back and that it has a great deal waiting to be ‘seen’ and to give. When Narcissus drowns in the lake, his body becomes one with the water and can be likened to the self being thrown into the ‘given’ of the world becoming one in the vastness of the lake, taking up one’s consciousness as it does with Narcissus. Merleau-Ponty’s metaphor of a continuous piece of woven fabric being turned into ‘flesh’ owing to its softness occurs in his later writing. Once one transcends the imprisonment of one’s immanence, and opens one’s consciousness to the world, one’s flesh becomes integrated with the flesh of the world.

The reciprocal two-way interaction and its transformative effect is a core Merleau-Pontian concept. One’s consciousness opens to the world of others and allows it to penetrate one’s perceptual field, dissolving the sense of being alone in the world. Suddenly one sees in others one’s own reflection, and one has to re-orientate one’s attention. In the functions of others, one also discovers about one-self, one’s attitude and behaviours. One is compelled to self-reflect and realise there are others like oneself—who are already aware of it. While creating others from one’s own thoughts, one also borrows oneself from others. Using the term borrow, implies having an intention of ‘giving it back’—returning the look. In the moment of ‘muteness’, of stepping back, one becomes aware that “one is given, that one finds oneself “already situated and engaged in a physical and social world” the social nature of one’s human behaviour (Simpson 2014:53).

Merleau-Ponty describes the abovementioned awareness or ‘presentiment’ as a “corporeal adhesion” according to which the meeting of another’s agile eye movements, as described above, makes one see right beyond one’s blind spot that obscures one’s view of becoming aware of the “presence of others” (in Simpson 2014:51). According to Simpson (2014:51), Merleau-Ponty’s awareness of the invasive presence of *the other* in one’s perceptual field traps the self in the “prison” prepared for the other, and thereby making the self “incapable of solitude”. Rather than describing the contradiction described above as a “philosophical embarrassment to be dealt with”, the “fundamental living relation to others”, for Merleau-Ponty it becomes an “opening into a basic aspect of human being” (Simpson 2014:51). Reflection about being with others in the world therefore means sharing a relationship with another self, “another myself” that in principle is open to the same truths as one’s self. The relationship with others, for Merleau-Ponty is primary to how one experiences life. One’s

experience of life is not from a position of solitary confinement, but “radically surpasses individualities”. According to Merleau-Ponty’s argument, one ‘borrows’ oneself from others and one looks at others from the outside, rather than to create others from one’s own thoughts (Simpson 2014:52).

4.5 The making of a virtual sketch

With the above in mind, this section concludes with a brief discussion of the notion of a ‘virtual sketch’ which is a drawing made in keeping with Merleau-Ponty’s three orders as an integrated whole. Aligned with Merleau-Ponty’s philosophy, perhaps one can apply the interplay of mind and body and the three structures of embodiment as a means for pre-emptively experiencing how a drawing could work and what it could be even before a line has been put onto paper. A virtual sketch requires the drawer to firstly visualise and communicate the nature of Merleau-Ponty’s organic, actively interrelated three-tier unit or structure. Its parts are described in the context of its operational mechanics, with other similar structures, in the world. Picturing Merleau-Ponty’s conceptual model as such a unit means not seeing any of its separate components, such as different orders, substances, realities or sorts of beings on their own, but rather seeing how they function within a multiplicity of organic relationships.

A virtual sketch, which includes the above ideas of stepping back and setting up distance, approximates building and testing a prototype, rather than forcing a process of thinking about drawing in an entirely disembodied way. Prototyping is about making an idea tangible, building it in order to see how it works in the shortest possible time, as well as being able to test its features. Any aspect of an idea that ‘runs through the mind’ in its early stages can, by momentarily ‘freezing’ it, become a ‘prototype’ that one can examine from different angles and from an empathic point of view through different lenses. Running through ideas as if testing a prototype is likely to give a sense of what requires further testing with regard to audience reception and participation (Tversky 2011).

This approach of creating a virtual concept sketch allows a great deal of freedom with regard to moving around a moving structure, rotating it, walking through it, and animating it as if it were a three dimensional prototype. It allows an imaginary dialogue that further encourages the emergence of real dialogue. Merleau-Ponty describes a “flexibility and plasticity of the normal human relation to the world of sensory experience and movement” (Moran 2000:420). Moran (2000:420) refers to humans having “as it were a ‘virtual body’ or phenomenal body wherein we can explore movements before actually performing them” in a corresponding

'virtual space'. In the 'virtual space', there is no need "to locate our hands in space before moving them". Just 'seeing' a pencil already mobilises "certain potentialities of movement" in one's body. It is important to note that it is the 'phenomenal body' rather than the 'objective body' that moves to reach for things' individuality (Merleau-Ponty 2002:121). The virtual body is the body that 'gets' the context, and the hand, as an attachment of the body, 'knows' already where to reach for the pencil. According to Merleau-Ponty, a war veteran named Schneider⁸⁹ did not have this ability "to step back mentally from the actual moment and explore the movement virtually before actually performing it" (Moran 2000:420). However, this exception even more affirms the importance of such a capacity in the majority of people. Making a virtual sketch asks the drawer to do just that.

In *The visible and the invisible*, Merleau-Ponty (1968:113) focuses on the pivotal role of the individuality within every experience in the visible present stating that "[o]nly a thought that looks at being from elsewhere, and as it were head-on, is forced into the bifurcation of the essence and the fact". He refers to being *kosmotheoros*, a kind of dominant *sovereign gaze* that finds individual things in their own time and place, embracing all—for-themselves: "For the visible present is not in time and space, nor, of course, outside of them. There is nothing before it, after it, about it that could compete with its visibility" (Merleau-Ponty 1968:113). In the context of being in the world, although one cannot see everything that there is at once, one is affected by what grabs one's attention. In other words, one is affected by what is foregrounded in the present view, and by being a part of the world and at the same time by being surrounded by things that are spatially deeper, hidden by other things that obscure their and being's presence. In general, Merleau-Ponty's emphasis on the individuality of embodied experience suggests the importance of being present on the ground and able to do individual, immersive research. This is a luxury that a pencil as an extension of the hand gives—it can draw externally on paper and internally in the mind. This notion is presupposed in the idea of making a virtual sketch.

4.6 Conclusion to Chapter Four

Chapter Four showed how one's body interacts with the world in an integrated, chiasmic manner as is reflected in Merleau-Ponty's ontology of flesh as a perceptual phenomenon, a lived experience of our human relationship to nature. Merleau-Ponty's ontology applies to how one's mental life is enmeshed with one's physical engagement with the environment.

⁸⁹ Merleau-Ponty compares normal experiences with a First World War veteran named Schneider who, owing to brain damage caused by shrapnel, exhibited curious symptoms. Schneider's motor ability was functional, but his bodily mechanical movements were restricted in the sense that his whole body focused on the expression of a single movement.

Chapter Four suggested the use of virtual sketches for coming to grips with complex ideas and as a way to mentally strategise for design, prior to making physical sketches on paper. The making virtual sketches or mental ‘prototypes’ help to refine ideas for clearer articulation and communication of mental activities. Considering Merleau-Ponty’s notion of searching for an ideal position from which the body can come to grips with holistic perceptual experiences, the suggested quick sketch-modality of these ‘sketches/prototypes’ allows the mental and spatial flexibility to get the whole picture. This holistic mental process opens possibilities for exploring ideas from different positions, in different dimensions—on paper and in the mind’s eye, prior to graphic externalisation—so that what is shared or articulated through drawing by hand extends beyond the crystallisation of thought to an interactive, iterative ideation process that cannot be achieved either by thinking or by drawing on its own.

Thinking about planning and visualisation as suggested above, one virtually experiences a process of making and doing as if involved in three-dimensional planning including the sensation of drawing on muscle memory and of having drawn before. The ‘making’ part aligns to the act of holding a pencil and of the act of drawing intentionally. This practice relates to Merleau-Ponty’s projection of culture through ‘*techné*’ (see Chapter One), fore-having and developing the skill or acquiring the habit to apply these techniques. For designers used to drawing, this approach may align closely with their ‘natural’ way of thinking and planning for drawing. Novices following a design curriculum and not familiar with such a ‘visual work-out’ may at first experience the process as a very ‘conscious’ effort (in the absence of having muscle-memory to draw on), but may find that the hand assists in ‘mysterious ways’ and that improvement comes with practice and experience. It was therefore argued that the making of a virtual sketch aligns closer to the kind of strategic thinking used for drawing than ‘thinking’ in verbal language or speech.

By getting readers to participate in the making of virtual sketches, this chapter demonstrated the close relationship of a drawing strategy for visualisation and how shifting thinking to a virtual experience, draws on the notion that this way of consciousness is already geared to an embodied conception of the human brain. Beyond the crystallisation of thoughts and ideas the hand, however, remains a crucial integral tool for idea generation processes and for drawing out knowledge as is further examined in the following chapter.

CHAPTER FIVE: DRAWING TO CONNECT

5.1 Introduction to Chapter Five

The previous chapter highlighted Merleau-Ponty's suggestion of awakening people to experience the 'wonder' of the life-world, pointing out that the mind is a place of 'wonder' worth exploring. This affirms Heidegger's metaphor of a 'clearing' as a place of revealing and of coming to know. Drawing's externalisations give a glimpse of experiences 'excavated' from these places of 'wonder'—of what it means to have a body that mediates philosophy in the flesh. It follows then that drawing can be described as both a means and a 'place' for accessing, processing, and externalising thinking. This chapter therefore examines drawing as 'a place'—a place for extending this processing—a place for drawing out knowledge and a place where connections are made. The body's presence is a resource and 'process centre', both for processing perceptual information and for mediating the environment. In particular, drawing is explored as a place where empathy is activated, and a place where the hand has the agency to act in the best interest of well-being to prompt latent empathy for attending to the self and others. Drawing is thus proposed as a site for nurturing all that can contribute to evoke empathy as a means to understand the needs of others.

Chapter Five comprises seven sections, each contributing to a holistic understanding of how the intentional act of drawing contributes to make it an ideal place for forging connections of different kinds. This introduction outlines the themes of each of them. The second section foregrounds and legitimates Heidegger and Merleau-Ponty's phenomenologies with the purpose of shedding light on the ontology of drawing as a place where the two-way relationship between the internal dimensions of the body and the external world interact and connect. Reference to further examples from drawing discourse aim to collate a bigger picture of different attributes of 'drawing as a place' and to emphasise the integral role the hand plays to connect internal and external experiences—through drawing. The third section highlights the significance of a few groundbreaking findings in cognitive and linguistic science that undo perceptions that a 'black box' captures something essential about the brain, and secondly give cognitive insights into a better understanding of the drawing process. Lakoff and Johnson's phenomenological theory provides theoretical support for this section. Section four, *Empathy through agency*, positions Caplan's (2011:44) conception of 'empathy proper' within Lakoff and Johnson's metaphoric conception of 'empathic nurturance' as a beneficial value for designers. Section five focuses on revealing various attributes of drawing relating to its ontology as a place where different connections are made. Various examples from

drawing and design discourse are used to flesh out a clearer understanding of the nature of this 'place'. Section six explains Lakoff and Johnson's metaphoric conception of a 'hidden hand' providing help to the physical hand.

This chapter thus builds on the embodied conception of the mind discussed in the previous chapter. Considering then how the embodied hand is connected to the mind enables thinking actions such as 'drawing on the fly' and prompts exploring the possibility that these existing connections can evoke latent empathy.

Chapter Five primarily uses Lakoff and Johnson's (1999, 2003) work to confirm Merleau-Ponty's philosophical theory; explaining Merleau-Ponty's language brings understanding of how metaphors are deeply embedded in our cognitive unconscious. One understands the meanings of metaphors and the experiences that they communicate because they are culturally shared (Lakoff & Johnson 1999:541). Put differently, metaphors embody experiences, and our shared understanding of these metaphors connects us to these experiences and their meanings. Lakoff and Johnson share many examples to show how empirical research confirms the embeddedness of experiences in the body, also drawing links between metaphoric thinking and language. Their theory connects the language of drawing and the intentions of drawers to their embodied experiences. To reiterate, this connection often happens by means of metaphors based on the shared understanding of experiences.

This chapter also relates Heidegger's metaphor of a 'clearing', described in Chapter Three, as a place of bringing things into the light, suggesting also that the act of drawing is a tool for creating such a 'clearing', helping therefore to reveal knowledge of the unknown. Based on Heidegger's double-sided coin metaphor of *Riß* or rift-design as revealing insight about the complexities of the 'strife' of the drawing act and the drawing practitioner's struggle to "open up a space", McGuirk (2010:4) affirms the epistemological significance of drawing.

Considering the above, Lakoff and Johnson's (1999:16) phenomenology explains how language and embodied experience are connected and how experience and language need to be understood together—as two sides of the same coin. This chapter therefore explores hand-drawing (and the language it speaks) as a means to connect internal thinking (including experiences of empathy and care) to external modalities of thinking such as sketching and prototyping, but also gives examples of other modalities of drawing. Heidegger and Merleau-Ponty's ideas, as discussed in Chapters Three and Four, show that emotions are connected

to thinking, and Lakoff and Johnson's (2003, 2009) 'philosophy in the flesh' confirms that the connection happens 'by default' because of one's embodied nature. This chapter therefore further explores how to activate this connection using the language of hand-drawing, with reference to examples.

Empathy, for Lakoff and Johnson (1999:292, 298) ties in with a "moral metaphor system", emphasising morality as being about well-being which is conceptualised as wealth, projecting an increase of well-being as a gain and a decrease as a loss. Contributing to the well-being of others therefore increases their wealth, becoming something that can be earned or lost (Lakoff & Johnson 1999:292). The 'loss' of benefits connected to the 'loss' of drawing skills, as suggested in Chapter One, impoverished the design discipline. It is clear that the language around the metaphor of 'wealth', owing to analogy, is called moral 'accounting', for example when taking something valuable from someone, one falls into debt. Examining drawing as a place, aims to recover some of these beneficial values associated with the 'loss' of drawing skills, in particular values such as empathy and care.

Lakoff and Johnson's (1999) views on conceptual metaphors provide an essential grounding for connecting 'empathy' to 'the hand that thinks' according to Merleau-Pontian theory discussed in Chapter Four. Having empirical evidence that thinking goes hand in hand with feeling, however, does not mean that the 'muscle' that shapes this connection is well-practiced. Drawing is argued to be a place for making, shaped and maintained connections. Connections are made with three variables: the hand as tool, the act of drawing, and the value of empathy with reference to its value as a core skill for designers. This chapter explores how a clearer understanding of empathy can help to access and activate our dimension of care by learning how to get in touch with it—through drawing by hand.

The experiential grounding of Lakoff and Johnson's (1999:291) moral metaphor system underpins the embodied view of empathy here. This system includes "nurturance as an ... essential condition for human development" (Lakoff & Johnson 1999:291). By extending Merleau-Ponty's metaphor of 'flesh' to "a philosophy in the flesh", Lakoff and Johnson's (1999:8) philosophy⁹⁰ accounts for "what we most basically are and can be". Pragmatically, they seem to flesh out Heidegger's view on discovering and revealing truth, particularly

⁹⁰ Lakoff and Johnson's phenomenology develops from a combination of Lakoff's expertise in linguistics and cognitive linguistics, drawing on cutting edge research findings in the fields of neuroscience and neural modeling, cognitive science and cognitive psychology in Johnson's philosophical perspective on embodiment theory. Their combined knowledge incorporated into metaphoric thinking, includes Johnson's expertise on how patterns of one's sensory-motor experience impact on what we can think, how we think, and the nature of our symbolic expression and communication (Johnson 2015).

through the experiential involvement of the body. As part of the larger aims of this chapter, a closer connection between the phenomenologies of Heidegger and Merleau-Ponty and the phenomenology of cognitive linguist George Lakoff and philosopher Mark Johnson is forged.⁹¹

Coplan (2011) narrows down the meanings of empathy by differentiating between ‘pseudo’ and ‘proper’ empathy, highlighting ‘agency’ as having implications for activating ‘empathy’ in the domain of drawing. Design philosopher Tony Fry’s (2011) critical view on the hand is also discussed because of the evident influence of Heidegger and Merleau-Ponty’s theories on his view of the hand. Fry (2011) focuses on ‘the touch of the hand and instrumentalism’⁹² from an ontological (and to some extent a Marxist) perspective. Philosophical theorist Bryan Bannon (2011) is also referred to because he offers insights into a closer relationship between the phenomenologies of Heidegger and Merleau-Ponty.

5.2 Connecting the ontologies of Heidegger and Merleau-Ponty

In this section, the work of Fry and Bannon is discussed. Fry (2011) looks at the hand’s development from the perspective of ontological design. Simply put, whatever the hand creates has an effect on the development of what the hand can do, which in turn changes what the hand can do next (Fry 2011:47). Various examples from drawing discourse are used to show drawers’ awareness of this phenomenon. The language of drawing, namely its hand-drawn marks, can be argued to be a catalyst for connecting internal thinking; in return, the hand may try different things.

Reiterating Wilson’s (1998:277) argument that “the hand is as much at the core of human life as the brain itself”, emphasises that the hand’s use in shaping the brain, language and human culture is a force to be reckoned with. Fry (2012:45) states, “it was the hand in its making, especially in the company of the tool, that delivered the animal to its potential of humanness, for all the work of the hand is rooted in thinking”. In *Becoming human by design*, Fry (2012:45) suggests that in a spatial sense, ‘proximity’ is about closeness and distance. In a political sense, however, this implies that proximity is about “a sensing directed toward

⁹¹ Even though this study does not refer to Johnson’s publication, *The meaning of the body: aesthetics of human understanding* (2007), it is mentioned to show the direction in which he applies embodiment theory that he developed with Lakoff, drawing on cutting edge empirical studies in cognition and neuroscience. Johnson delves deeper (than traditional philosophy) into aspects of embodied meaning and cognition attending to qualities, feelings, emotions, and temporal processes. The focus is on how bodily engagement with one’s environment enables thought attending in particular a Deweyan perspective crediting the “aesthetic” dimensions of experience, meaning, and action to affect “every dimension of our experience and understanding that gives form, significance, and value to our lives”.

⁹² These words come from the title of a chapter in Fry’s *Becoming human by design* (2011).

what is existentially close or far from us and how we are rationally positioned to ourselves” (Fry 2012:39). Proximity, within an experiential context, is about one’s nearness to the end of one’s species, one’s body, to death, to nature, to the past, *et cetera*. It emphasises the situation of a socially conditioned being, always being in a state of becoming.

According to Fry (2012:40), “becoming human” is an event that takes from the world and others, for its being. As implied previously, both Heidegger and Merleau-Ponty showed how one’s becoming an individual person affects one’s surrounding world around the person and how in turn the world changes the person. Heidegger foregrounds a tripartite structure of fore-having, which involves the concrete giving of basic experiences (Thomson 2014), fore-sight, which is a claim guiding one’s sense of being, and fore-conception, which entails the dominant understanding at a given time in history put in place through discourse.

Comparing one’s socially constructed self, as in Heidegger’s *Dasein*, to one’s biological animality, one’s bare life or brute self, the body may be understood as a continuum in transmitting the effects of ontological design; it is always the one or the other (Fry 2012:43). As shown by Merleau-Ponty (2012:45), “we perceive with our bodies. The perceptive reach of our bodies has its locus beyond our knowledge of any real agency” (Fry 2012:44). Fry (2012:45) draws on Heidegger’s view that “all the hand is rooted in thinking”. The following quotation by Fry (2012:45) captures a comprehensive overview of the hand’s properties:

The hand brings the issue of proximity close to us. It is a key sensory instrument of proximity. The hand reaches out, touches, is touched, guides, makes, communicates, caresses, gives and takes, grasps, strikes, welcomes, rejects, plants and harvests. It picks and peels, crushes and opens, lifts and carries and, in doing, places us back amongst our ape-like ancestors. Yet, while the abilities of the hand outstrips those primates (because of biomechanical differences) it equally holds, joins and unites. It makes an affinity, a communality, a potential for exchange, a touching of worlds.

All of the abovementioned resonates with the philosophical views of Heidegger and Merleau-Ponty. The hand, according to Fry (2012:45), “prosthelytically extends itself with language and gesture, with the tool as with the machine, the weapon, the musical box, the artist’s brush, the surgeon’s scalpel, the spoon that feeds, the pen that writes, and so on”. He emphasises that “the hand harbours knowledge and is quicker than the mind” (Fry 2012:45).

Heidegger’s view of man not ‘having’ hands, but that “the hand holds the essence of man, because the world is the essential realm of the hand’s essence of the man” is something Fry (2012:46) interprets from a Marxist perspective. Fry (2012:46) implies that some would think

of the typewriter, a product of design, as alienating the hand from its power of writing and thereby destroying the word; it may be taken as standardising the appearance of ideas, diminishing the singularity of the subject and displacing the autonomous producer with a standardised consumer. These observations align with issues arising from how digital drawing may be given preference over hand-drawing. Some may think that the computer's arrival in design studios may distance designers from their own thinking, as expressed in Chapter One. Fry (2012:46), however, disregards the above line of reasoning where technology represents the end of man, since there never was a non-technological past.

Fry (2012:46) echoes Lakoff and Johnson's view that the hand plays a pivotal role in learning language from birth—through touching, gesturing and writing. He emphasises how the hand's function within a bigger schema of ontological designing affects its development. Whatever the hand therefore creates has a reciprocal effect on its development. Fry (2011:47) suggests “in making the world, we largely made it by hand and, in so doing (from the perspective of ontological design), made ourselves what we are. Certainly, the development of our brain was crucial, but without the capabilities of the hand, the brain was an agent without an actor.” As “the agent of engagement between ‘our being’ and the being of the world”, the working hand “created the excess that opened the possibility of human freedoms and its production of surplus, established the conditions that enabled modes of exchange that made economic life as it is generally understood, possible” (Fry 2011:47).

Fry emphasises man's role in the production of excess, in which the hand plays a symbolic role as “the hand that laboured”. This production started with a hand filled with knowledge and excellent hand-crafting skills, implying that man is in touch and in control of what he produces. Fry (2011:48) argues that the typewriter could therefore be symbolic of man's design and his crafting:

The consequences of transforming the processes of capital's realm have been profound. Naturally endowed needs (coming out of bare life) have been effectively overwhelmed and replaced by manufactured desires wherein wanting a commodity has been made indistinguishable from needing it. This powerful transformation is at the very core of commodity culture and its dynamic relation to extending unsustainability. So understood, the designed sign economy is a major defuturing force. More than this, the very essence of labour as life-generative has been turned—the production of excess as it informs, exceeds and erases needs has become a negation of our very being, a negation of our finitude.

Bryan Bannon (2011:344) suggests that, for Merleau-Ponty, '*flesh*' is "one sole and massive adhesion to Being," suggesting thereby that '*flesh*' involves a body, in a direct contact relationship with other bodies. In shifting the focus from a 'human' relationship to a 'body's' relational engagement with its environment, Bannon (2011:344) forges a closer connection between Merleau-Ponty's ontology of '*flesh*' and Heidegger's ontological concept of 'being as such' and 'the being of beings'. Bannon (2011:345) interprets French philosopher Françoise Dastur's description of a fluid, chiasmic relationship between the ontology of Heidegger and Merleau-Ponty, as meaning that 'the same flesh' isolates each body, while at the same time keeping them in a relationship. The reference to flesh suggests an open yet tight relationship of affection, implying the presence of *Dasein*'s dimension of 'care'. Dastur (in Bannon 2011:345) states:

We discover flesh between bodies, and vision emerges as a specific kind of relation between them. Putting these two ideas together, we can say that flesh is a relation between bodies, the connection between them that isolates each as a separate body and yet holds them all together in one world. Perception, as a relation between bodies, is but one singular instance of a more general relationality. In other words, because flesh is an open relationship of affection, vision emerges from flesh as a specific form of openness to other beings.

Bannon (2011:352) re-situates Merleau-Ponty's notion of 'flesh' in a relational ontology, positioning it between Merleau-Ponty's "late ontology and an environmental ethic", and providing a "living spatio-temporal context of our existence and in which we actively participate". 'Flesh' therefore becomes more than just a perceptual phenomenon (Bannon 2011:329). "Ontologically speaking", Bannon (2011:349) points out that the "flesh of the world is the fabric of space, time, and movement within which we dwell, produced by the interrelation of the myriad bodies that exist". His intention is to make Merleau-Ponty's 'flesh' more relevant to the problems of today, where a sustainable relationship with the environment is crucial (Bannon 2011:355). Merleau-Ponty's metaphor of 'flesh' invites us to take responsibility for our own well-being in the environmental context. Bannon (2011:355) highlights that "[r]ather than proceeding into the future oriented by nostalgia for a world without humanity, Merleau-Ponty's ontology gestures toward a world in which humanity ... is a good citizen within the land community".

The abovementioned sense of good citizenship within a community links to McCoy's view of citizen designers (Heller & Vienne 2003). From the above, it is clear that within the bigger scheme of always being part of a bigger community, individual beings have 'agency' because of their capacity of being closely connected to other bodies and their environments, and their

innate responsibility to take care of their own well-being, as well as to take care of the well-being of others. One can say that the core ingredient of ‘flesh’ (that is, the idea that the body is made from the same flesh that keeps a community of bodies together), is ‘care’. It is then a small step to explain how ‘empathy’ is ‘care’ and therefore also ‘flesh’. Being in touch with others demands being in touch with one’s own ‘agency’, as is suggested in the second part of this chapter.

5.3 Opening the ‘*black box*’

Earlier in this study, reference was made to a metaphor of the brain as a *black box*. This chapter shows how a few break-through discoveries in the domain of the cognitive sciences and linguistics shatter this metaphoric myth. This has an impact on the way that we might understand phenomenological experiences such as drawing. Educator Simon Downs (2013)⁹³ questions the ‘*black box*’ as metaphor for the drawing process in the following way:

are we satisfied in visualising the process of drawing as a ‘black box’ operation with the artist’s brain at one end and a completed drawing on the other, but without any knowledge of the processes that lay in between? We should be asking about the processes, internal to the artist and external in the world, that compose to allow a drawing to operate in a way that can effect both the artist and the viewer.

Cognitive science’s enabling of ‘opening the *black box*’ has had a significant impact on drawing. It fits with Lakoff and Johnson’s (1999:13) realisation that one’s inability to read the mind of others also applies to one’s own mind. Therefore, one often hears of a drawer’s difficulty in making sense of his or her own vague ideas. For Lakoff and Johnson (1999, 2003), ‘the *black box*’ is a concept that fits into their notion of a ‘container’ schema⁹⁴ that can be applied cross-modally in one’s conception of what is ‘boxed-up’ as unknown. Neuroscience, for them, provides a way of ‘excavating’ the depths of the ‘*black box*’—of the unknown and to revise findings of earlier excavations that were only based on assumptions. Lakoff and Johnson’s (1999:20) metaphoric container schema gives a positive way to compact chunks of complex thinking into metaphoric units and relationships of units that provide a shorthand for communicating complex metaphoric concepts based on the shared knowledge of the experiences that underlie them. Their more complex hierarchical system allows that one conceptual structure can be contained within another, a combined unit, and

⁹³ Simon Downs is editor of the online journal *TRACEY*.

⁹⁴ Lakoff and Johnson (1999:50-54) provide a representative list of primary metaphors in which they show connections between a primary metaphorical mapping, distinguishing its sensorimotor component from its subjective component, while describing also the primary experiences of domain conflation that gives rise to it.

may then be contained within another, as with Merleau-Ponty's metaphor of *Fundierung* and Dewey's cherry in a bowl (McGuirk 2009:[sp]). These rich embodied conceptual structures, for Lakoff and Johnson (1999:20), are crucial for understanding the functioning of everyday reasoning, for interpretation and for inferential purposes. Container interiors can represent houses, forests, clearings or any area or structure or place with a clearly defined boundary separating an inside from an outside according to which the location of things can be described. Container schemas are conceptual in nature and as such apply to bounded regions of any size, kind or mode, whether a box, a cup, a drawing studio, or a few notes or drawn marks, inside or outside, a piece of music, or a drawing. As such, for Lakoff and Johnson (1999:32, 266), 'the mind is a container' with an inside and an outside". Entering into a discussion with a drawing also fits into the 'container schema' that gives entrance into 'things'—drawings, framed pictures, or a sealed black box.

Philosopher and social scientist Bruno Latour (2014:[sp]) gives a 'twist' to the brain's *black box* metaphor when suggesting that '*blackboxing*' refers to a social process, such as the teaching of drawing at tertiary art and design institutions, where the efficient running of work as with a scientific and technical 'machine' ensures that the work becomes opaque or invisible through its own success. This means that one tends to focus only on the machine's "inputs and outputs and not on its internal complexity" (*Blackboxing* 2014:[sp]). The expectation of excellent drawing may be based on a pre-conceived idea for a 'perfect' outcome, thereby excluding exploration with other kinds of drawing. As suggested by Bruce Mau, "if the outcome drives the process, we will only ever go to where we've been"; however, "if process drives outcome, we may not know where we are going, but we will know we want to be there" (in Maslen & Southern 2014:62). Institutionalised or habitual practices of drawing and teaching may be limiting individual exploration and therefore should be examined critically. While not directly addressed within this study, it is highlighted that the way drawing is taught may need to be viewed in a different light, especially if institutionalised to the point of not being critical. Such a critical attitude is promoted by Garner (1999, 2001, 2012), Saorsa (2002, 2011b), Brew (2011), and a few others. In a context where preference is given to drawing on paper, teachers can give clarity on what drawing can do to promote thinking, to promote making informed decisions, rather than to simply follow 'institutionalised' habits such as favouring digital over hand-drawing skills.

Lakoff and Johnson (1999:88, 2003:245) point out, however, that despite providing empirical evidence to support the idea that metaphors apply also to conceptualising and reasoning, many people are still blinded by deeply engrained, *a priori* philosophical views that meta-

phors are rhetorical devices used only for speaking. Communication does not only happen through utterances of voice, but includes bodily and hand gestures that play a role in the language of drawing. Hand gestures seem to be the 'inner voice' (or possibly the 'hidden hand') adding context to spoken words. David McNeill shows how "spontaneous unconsciously performed gestures accompanying speech often trace out images from the source domain of conceptual metaphors" (in Lakoff & Johnson 1999:85). He uses the example of hands mimicking the two buckets balancing a scale that is often used where choices are made. But in the language of drawing, too, the hand adds 'gestural' information.

In his classic text *Hand and mind: what gesture reveals about thought* (1992), McNeill (2012) connects spontaneous gesture to metaphoric gesture, implying that the actual motions of gestures are dimensions of meaning and that gesture plays an active part in speaking and thinking (Lakoff & Johnson 1999:85). According to McNeill (2012), thought is multimodal, manifesting in both vocal-linguistic and manual-gestural forms resulting in semiotic oppositions that fuel change. He defines gestures as signs in semiotics differentiating between "global" and synthetic "signs". Global signs refer to when the "meanings of the 'parts'—the hand-shapes, space, direction and articulation—depends, in a top-down fashion, on the meaning of the whole". "Synthetic" signs refer to the bundling of several meanings into one gesture, of such as 'hitting a ball' while gesturing the swing of a bat with one's arms and thereby suggesting a more demonstrative picture. McNeill (2002:[sp]) argues that speech and gesture are semiotically opposite modes of thinking, but that they form a dialectic when they are synchronised to act co-expressively to become semiotically meaningful. When synchronised, speech and gesture form a single mental package or idea unit but, through a process called "unpacking", thought and speech are propelled forward creating "a new form of human cognition that animates language and gives it a dynamic dimension" (McNeill 2012:[sp]).

The link between drawing, cognition and language is confirmed by Colin Frith and John Law (1995:203), Lakoff and Johnson (1999), and Tversky (1999, 2011), among others. But while cognitive science brings a new understanding of how the brain works, it does not provide "direct access" to what the cognitive unconscious does, meaning that one has "no direct conscious awareness of most of what goes on in our minds", and pure philosophical reflection does not have the capacity to "plumb the depths of human understanding" (Lakoff & Johnson 1999:12-13). The cognitive unconscious automatically, without noticeable effort, processes a vast range of simultaneous perceptual experiences that "are inaccessible to conscious awareness and control" (Lakoff & Johnson 1999:11). The sharpening of one's

pencil does not require conscious thought, but, while performing the act, the body may be reminded of decisions of performances (making and doing) of past drawing experiences, that may affect decisions made for the current drawing task. Conceptual systems and theoretical constructs devised by cognitive scientists and cognitive linguists including basic-level conceptual metaphors, image-schemas and prototypes; these are taken by Lakoff and Johnson (1999:112) as “real”, owing to the support of convergent evidence. Lack of access to the theoretical cognitive mechanisms of conceptual systems and constructs is seen as part of the cognitive unconscious. The relevance of this to drawing is clarified below.

Lakoff and Johnson promote an “empirical understanding of the embodiment of mind”. They emphasise the importance of the embodiment of reason via the sensorimotor system. Just as Merleau-Ponty suggests there is a perfect bodily position from which to come to grips with things in the world, Lakoff and Johnson emphasise the comfortable fit between human concepts and their functioning in physical environments, primarily because concepts evolve from one’s sensorimotor system. Lakoff and Johnson (1999:44) state that

[t]he embodiment of mind thus leads to a philosophy of embodied realism. Our concepts cannot be direct reflection of external, objective, mind-free reality, because our sensorimotor system plays a crucial role in shaping them. On the other hand, it is the involvement of the sensorimotor system in the conceptual system that keeps the conceptual system very much in touch with the world.

The cognitive view of embodiment by Lakoff and Johnson (1999) thus provides a bridge between the phenomenological philosophical theorising of Heidegger and Merleau-Ponty, proving the embodied existence of our perceptual and cognitive processes and including communicative utterances that use conceptual metaphors. In this perspective, the body is afforded more agency as a site for empathy.

5.4 Empathy through agency

Being empathic, for Lakoff and Johnson (1999:565), is a prominent function of the embodied mind, relating also to the culturally bound, social dimensions of the mind. This section explores ‘empathy’ as a key ingredient for connecting to others— of getting ‘in touch’ with others—but more importantly with oneself. To understand the implication of being in touch, reference is made to views on empathy by Dewey (in McGuirk 2009), Jan Slaby (2014), and Coplan (2011). Dewey (in McGuirk 2009) suggests that the act of ‘crafting’ contributes to knowledge and experience, following his view that all knowledge is experiential through being embodied, enactive and situated”, and according to Helen Barrett and Jonathon

Richter (2007:[sp]) “we do not learn from experience ... we learn from reflecting on experience.”

Understanding this connection suggested above helps to explain why it is still meaningful to keep ‘careful’ observational drawing in design curricula as suggested by Fava (2012a), but also to practice spontaneous drawing strategies. Observational drawing does not mean merely copying nature. Rather, it means getting in touch with the mediating properties of the body, hearing it speak, feeling the hand ‘pause’ so that the mind can think, allowing the hand to play truant, and ‘touching’ with one’s eyes to grasp what it is that we see, feel and think.

Discourse on empathy does not give a conclusive explanation for what empathy is, hence Jan Slaby’s (2014:250) suggestion that empathy “seems like a mere metaphorical ‘container’ concept, subsuming a heterogeneous lot of mental processes”. As such, a family of concepts, referring to different forms of interpersonal relatedness, is mobilised. For Slaby (2014:250), the origin of ‘empathy’ dates from the German word ‘*einführung*’, meaning “*feeling into*”, referring also to German psychologist Theodor Lipps’ translation of David Hume’s term “sympathy” (referring to the “unreflective mirroring” of the emotions of another person). Empathy and sympathy are therefore connected. Slaby (2014:250)⁹⁵ brings the concept closer to a twentieth-century understanding of ‘empathy’ as one’s imagination consciously ‘entering into’ the body of another. The intention is to become like the other person, enduring his or her torments and forming an idea of the other’s sensations, possibly also sensing what the person is feeling. According to Slaby (2014:250), Frans de Waal’s⁹⁶ use of *the Russian doll model* as a ‘container’ or a nesting model, relates to Merleau-Ponty’s concept of *Fundierung* discussed in Chapter Four. Slaby (2014:250) explains that

the nested structure has evolutionary older mechanisms retained in more sophisticated newer ones—the spectrum of empathic processes ranges from quite basic ones of states matching such as emotional contagion, affect attunement, and bodily resonance via processes such as sympathetic concern all the way up to full blown cognitively mediated perspective taking.

The above model clearly relates to Merleau-Ponty’s three-tiered bodily structure. De Waal’s strategy, according to Slaby (2014:250), follows in the footsteps of Darwin, a firm believer “in deeply rooted moral instincts in humans, developing out of capacities to care for those in

⁹⁵ The idea comes from Adam Smith’s view on empathy (Slaby 2014:250).

⁹⁶ Frans de Waal is a primatologist who has authored several scientific and popular writings on empathy and animal behaviour.

one's group and to cooperate with peers that Darwin assumed operative throughout the higher ranks of the animal kingdom".

Slaby (2014:257) identifies 'human agency' as empathy's blind spot—the core value that is neglected in discussions of empathy. Amy Coplan (2011) argues for a narrower conceptualisation of empathy and a clearer understanding of terminology describing empathy. Both Slaby and Coplan take issue with conceptualisations of empathy as 'umbrella concepts', and therefore propose to find terminology to better explain 'empathy'. A multi-disciplinary focus on "the nature and conditions of morality and moral judgments", for Coplan (2011:41), explains the renewed interest in empathy by the arts, the social, political and cognitive sciences. Her framework for explaining empathy differentiates between three empathic processes: emotional contagion, a process of self-oriented perspective taking or 'pseudo-empathy' and 'empathy proper'. 'Empathy proper', according to Coplan (2011:44), is the empathy that she promotes. She explains it as the most basic kind of empathy; it is an emotional contagion defined as "a complex imaginative process through which an observer simulates another person's situated psychological states while maintaining clear self-other differentiation". The cognitive evaluation involved in the imaginative process, is the differentiating factor. For Coplan (2011:53), emotional contagion "is a bottom-up process that allows us to catch others' emotions but transmits no understanding". Emotional contagion occurs as if by a cognitively unmediated process such as how one yawns as a mirroring reflex when seeing someone else yawn, or laughing when someone laughs (Coplan 2011:44-46). Emotional contagion is evident in bodily responses such as changing one's posture. Such a change can alter one's mood, even without cognitive evaluation being present. In drawing from a model, this mirroring reflex is similar to the superficial kind of empathic gesture required to make a gesturally curved line that follows a reclining model's pose in one sweeping arm movement or gestures a tense upright pose. Coplan (2011) offers clear alternatives for differentiating between different kinds of empathy, as discussed below.

The pseudo-empathic processes that Coplan (2011:43) examines require either taking perspective from the view-point of the self or imagining experiences from the view-point of another in what Goldie calls "other-oriented perspective shifting" (in Slaby 2014:251). Self-oriented perspective taking involves making superficial attempts to adopt the position of a target-individual's perspective, by positioning oneself in imagined or simulated scenarios. These experiences of distress may result in false consensus effects. Self-oriented perspective taking gives some, but limited understanding of another's experiences and feelings.

“Other-orientated perspective taking” requires more mental flexibility because of efforts to simulate and experience things from another person’s perspective.

Pseudo-empathies do not, as with “proper empathy”, involve that the observer manages to simulate another’s situated psychological state, while maintaining a clear “self-other differentiation”. For Coplan (2011:58), the latter process gives a first-person experiential understanding of another, from the “inside”. The differentiating factor of proper empathy is to stay focused on the target individual, suppressing one’s own perspective, modulating one’s own affective arousal, and thus moving beyond one’s experience. One has to “quarantine” one’s preferences, values and beliefs (Coplan 2011:60). Coplan (2011:58) points out that although to some degree knowledge comes from a particular context, one should have some knowledge of the target, keeping in mind that this knowledge can cause bias. On being an agent, Slaby (2014:253) emphasises that one cannot access one’s unconscious needs to understand mental processes, not as ‘objects’ of some inner perception, but as parts of one’s active mental world through which one directs oneself to the world. We do this “dynamically, actively, from our own often unique perspective” (Slaby 2014:253).

According to Goldie, one’s capabilities of interpreting one’s own feelings and own voice become visible when dealing with confusion (in Slaby 2014:253). He states that

The ability to reflect on our confusion, and decide what we think or feel, has at its heart the full-blooded notion of agency in relation to our own minds. Thoughts are thoughts, feelings felt, decisions and choices made, by *particular agents*, and the identity of the agent in this full-blooded sense can make a difference to what is thought, felt, decided on, or chosen. It is not as though all thoughts, feelings, decisions and choices can be ‘processed’ by *any agent impersonally* (Goldie in Slaby 2014:253).

The core of being a genuine agent “however confused, fleeting or instable, has a say in determining what is thought or felt—cannot be emphatically simulated without an alien imposition, without an artificial act of objectifying or imposing the empathizer’s own agency” (Slaby 2014:254). In a Heideggerian sense, there is therefore a moment one takes authentic ownership. Ownership means ‘being it ourselves’. One’s ownership or agency cannot be taken by another. Goldie’s critique therefore goes beyond accessing minds through empathy—it mirrors the importance of accessing one’s own mind through introspection (in Slaby 2014:254). We have to take charge of our inner processes to connect to our own beliefs and values. The self-interpreting and self-constituting aspects of agency connects to the first-person authority by which we determine what and why we think, feel or desire, helping us to make up our minds and to commit to the attitudes, beliefs or values that we

choose to take. These are the agentive capacities and the active exercises of our abilities (Slaby 2014:255). To conclude, the above underscores the focus of understanding one's own values and agency, which are interwoven into one's actions in the world. This principle-driven understanding of empathic behaviour, based on one's personal values and agencies and an awareness of the impact on others and the environment, aligns with design citizenship. If drawing is a way of coming to an understanding of one's own values, then drawing can be examined as a place where agency and the desired kind of empathy is evoked.

5.5 The ontology of drawing as a place

It has been suggested that drawing is both a means and a 'place' for accessing, processing, and externalising thinking; it is a means for reflection. This section therefore examines various attributes of drawing as a 'place'. Drawing has already been described as a place for revealing truth and as such as a place for knowledge-making. Another attribute of drawing as a place is that it is where connections between our bodies—head, hand, and heart—our feelings, and our perceptions of our environment are made visible. In terms of empathy, drawing is the place where all of the above can connect (where one gets agency to make transformation happen). A further exploration of these attributes emphasises the chiasmic relationship between the mind, the imagination, and drawing.

As discussed below, this place of 'wonder' for Merleau-Ponty, is the 'imagination'. According to Keat (2014:6) Merleau-Ponty's reasoning is that the body can, in an abstract sense, withdraw itself from the living world and thereby the body itself may become "an object of amusement, experiment, play-acting and so on". To withdraw, however, the body requires a capacity of "projection". Keat (2014:6) explains that for Merleau-Ponty this means that the subject keeps a 'free' space for the imagination, where "what does not naturally exist may take on a semblance of existence". It is evident how drawing can extend the boundaries of the imagination's 'free' space. Whereas Keat refers to the inner world of the imagination, Tversky (2011) suggests that the external world, on paper, can expand the world of the mind and the imagination. In "Making thought visible", Tversky ([sa]) argues that by externalising thought, sketches "expand the mind, force abstraction, provide a playground for exploration of new ideas, make ideas visible to self and others". Sketches therefore are a "natural tool for designers as they map space onto space".

Tversky (2006:[sp]) points out that there are many spaces that we inhabit. These include spaces in one's body and around one's body, real and imagined larger spaces that cannot be seen all at once. She refers to self-created spaces to move, live and work in physically or in

the mind, as well as “spaces we put on paper to augment our minds and to communicate, to the self or other”. Each of these spaces, according to Tversky (2006:[sp]), “connects perception, thought, and action”, explaining that “mental spaces are constructed out of what we perceive, aided by what we think and infer, in the service of action, in the world or imagined in the mind”, reiterating Merleau-Ponty’s view.

For educational theorist Derek Pigrum (2007:7), paper is an expansion of the mental spaces we construct. He explores the ontology of artists’ studios as workplaces from a philosophical perspective. In order to ‘expand the imagination’, he refers to a “place of paper”. He thus describes the journal or the sketchbook as “a place within and beyond the place of the studio”. This place for Pigrum (2007:7), just like a studio, is “a place of juxtaposition, layering, weaving and unweaving, the salvaging operations of memory and retrieval; a conglomeration of things of different orders and different strands”, without having the ‘around about us’ of a workplace. Paper as an expanded place of the imagination is “a place where text and textile inter-weaves” (Pigrum 2007:7). The quality of projection give both drawing and writing a ‘thrownness’ that makes the sketchbook a place where ideas can be ‘drawn-out’ where the drawer needs no fixed position, but can remain open to possibilities. According to Pigrum (2007:7), the journal becomes a place where individuals can come to grips with the complexity of their creative processes and to take over their own development through sketching, reflexive monitoring and reflexive judgment.

For Emma Febvre-Richards (2012:[sp]), drawing does not capture a single moment or place. She describes drawing as

so refreshingly unpretentious, so human in its immediate, intuitive, physical and intimate nature. Low-tech in its demands, using the sense of touch to encourage experimentation and deep connection, not just capturing a single image, space and time, but rather numerous moments, narratives or ideas embodied in the image. Absorbing, seeing, hearing, smelling, touching and thinking, retaining the all-important imprint of humanness that is vital to remembering who and what we are.

Regarding drawing as a ‘place’, cultural critic, historian and novelist John Berger (2005:123), asks the question—“where are we when we draw?”—for locating the different spaces implied within a drawing—such as being in the forest while drawing trees. Berger’s (2005:142) interest in the human need for drawing comes from a response to the ontological question: “where are we?” Berger notes that the question is not about a place or a country and it may not be practical, but evokes questioning “what kind of set-up (*agencement*) we happen to be living in or into which we happen to have fallen”. Understanding ‘where we are’, he states:

“allows us to become familiar with, to tame, to master, the *surprise* which otherwise every succeeding moment is liable to produce. Its way of ensuring that the accidental, the hazardous, does not invade, frighten and tyrannize the imagination” (2005:142). He states that

Any drawn place is both a here and an elsewhere. There is nothing else like these places; they are to be found only in drawings Each drawn place has all the particularly and local knowledge of a here, and, at the same time, the promise of an anywhere- for what it shows could be different, the moments of choice have been kept visible. Here embodies necessity; elsewhere offers freedom. The human condition begins when the two are face to face. And only drawing can describe how this happens in space and thus how they fit together—necessity and freedom—to house the human condition. Perhaps: Le dessinateur comme charpentier? [the designer as a carpenter] (Berger 2005:142).

Berger (2005:116) emphasises that drawing involves capturing things that are no longer present (a building may have collapsed, but in a drawing the building is still standing). Drawings by nature contain presences and absences. Whatever one draws, also represent what is not drawn. Drawing therefore “is about a company which, beyond or outside the drawing, will quickly or eventually become invisible”. Berger (2005:116) focuses on drawing because he sees it as a purer expression (as opposed to painting and other media that lack corporality), because drawing does not create ‘distance’, but has immediacy—a “HERE,” which for Berger is not arbitrary. He states that “[i]t has nothing to do with a *conceit* called Drawing. It refers to the essential structure of the human spirit—without which there would be no recognition of distance! Drawings offer hospitality to an invisible company which is within us” (2005:116). Berger’s (2005) view clearly has Heideggerian overtones. My interpretation is that drawing’s intimacy invites ‘care’ to surface. The underlying idea is that what we draw is what we care about—or is drawn at least, because we care. The above suggests using drawing to make care present through the drawing process, in the drawing and for the viewer and thereby of empathy. ‘Careful’ drawing then, draws ‘careful’ responses.

‘Careful’ drawing as described above, may also be called ‘mind-full’ drawing. The term ‘mindful’ suggests a conscious awareness of ‘caring’ for the well-being of others. Externalising this combination of thinking and feeling, raises the probability of a relationship between cognition and empathy. The closer relationship suggested between Merleau-Pontian and Heideggerian ontologies as suggested in this chapter, therefore puts ‘care’ into the hearts of responsible citizens and helps to mediate ‘wicked’ problems”. Through drawing, thinking is externalised and along with it comes both communicative and ‘feeling’ properties. Through

the conversational nature of drawing, there is a continuous unfolding of inner dialogue and responses to externalised marks. When Berger⁹⁷ (2005:102) refers to drawing as “the most profound activity of all”, stating that “[e]very great drawing—even if it is of a hand or the back of a torso, forms that have been perceived thousand times before—is like the map of a newly discovered island ... [suggesting it is easier to read and] ... in front of a drawing it is the five senses that make a surveyor”, he clearly refers to the embodied presence of the drawer. The whole body is involved in every decision made when drawing; that includes responding to perceptual experiences with an emotive attitude of ‘caring’ to think and ‘thinking’ about how to ‘care’ best in a particular context.

From a philosophical perspective, Lakoff and Johnson (1999:7) argue that human beings of necessity have to use common human cognitive and neural mechanisms. Cognitive science gives empirical proof that from early childhood, one’s biophysical neural wiring that also enables cognitive activities is open for an integrated connectedness to the world and thereby one is programmed to form one’s own perspective or horizon, as Merleau-Ponty puts it. Language is learnt in the same reciprocal way, through connecting with one’s environment, on a sub-conscious or unconscious level. This means that what one knows, what becomes one’s perspective and one’s understanding of Cognitive science, also proves one’s neural structure. This however, confirms that “reason is not dispassionate, but emotionally engaged” (Lakoff & Johnson 1999:4), meaning that one does not think without feeling. This understanding underpins Lakoff and Johnson’s (1999) phenomenology. Lakoff (1999:128) argues that one’s body structures “the very concepts” that one can use to think and furthermore one’s body functions have a substantial effect on thinking. The knowledge of thinking connected to feeling, is therefore the basis for believing that hand-drawing, with its ongoing dialogue between the drawer’s thinking and drawing, can in the process build up a heightened empathic awareness that may have impact on thinking, and these feelings can again find their way back into drawing. Magalhães and Pombo’s (2013:163) view of how even technical drawings can simultaneously be a “revelation of the object through the poetic expression of the action of drawing”, as suggested in Chapter One, seems to demonstrate Lakoff’s suggestion that one’s brain is a neural being that takes its input from the rest of ‘its’ body (in Brockman 1999:[sp]), as Merleau-Ponty theorised.

The way drawing connects all of the links in the abovementioned process, resembles key ideas of Heidegger and Merleau-Ponty as discussed in Chapters Three and Four. Examples

⁹⁷ These words come from the diary of a dialogue between fictional characters, a painter and an art critic in *A painter of our time* (1958).

include the interactive, reflective process of coming to understanding as with Heidegger's hermeneutic cycle and Merleau-Ponty's chiasmic two-way, double looped knot, where the body acts as the mediator for receiving and processing incoming perceptual stimuli through an ongoing reciprocal relationship with its focus within the environmental context. Through these intertwined reflective experiences, the body changes its environment and reciprocally the body's cognitive dimensions are also changed. Responding to what one 'hears' from the environment, through drawing, in coherence to an embodied perspective, means to 'speak', using drawing as a language.

The gestures and the actions of the hand further demonstrate the connection between language and embodied experience. The hand has many functions and properties. It can regulate the tempo of the dialogue between the drawer and what is perceived. In terms of Bruno Munari,⁹⁸ one can even argue that the hand can taste. The question, however, is whether the hand can help designers to be empathic. Lakoff and Johnson (1999) make a strong argument to prove that metaphoric language is grounded in the everyday experiences that shape our thinking. This premise underpins this study's argument that the language of hand-drawing is a powerful tool for communicating thinking, which again, as with Lakoff and Johnson's (199:4) notion of embodied reasoning being passionate, makes it impossible to think without emotion. Drawing has the capacity to 'connect' internal 'mindful' ideation modalities to externalised ideas. Through mindful strategising and 'careful' drawing, it is argued that drawing (by hand) connects one's thinking to care and empathy, making more mindful designers—designers who are in touch with themselves and in touch with their environment.

Considering the above, connections between empathy, as it occurs in the domain of drawing, are explored. In *Connecting*, a chapter in *The undressed art: why we draw*, Peter Steinhart (2004) describes drawing as a way of communicating with the world, of listening to what the world has to say and answering back. Drawing's has often been described as conversational owing to this two-way system of getting in touch and connecting. To demonstrate how drawing connects, Steinhart (2004:66) refers to how science illustrator Jenny Keller⁹⁹ gets in touch with her surroundings and takes measures to maintain a respectful attitude towards

⁹⁸ Bruno Munari is the author of *The fine art of Italian hand gestures: a vintage visual dictionary*, a guide to Italian nonverbal communication. Reference here is clearly to the iconic hand gesture to assert that food tastes good. See <https://www.brainpickings.org/2012/12/13/bruno-munari-speak-italian-gestures/>

⁹⁹ As an undergraduate in the early 1980s, Keller experienced a period when observational drawing was discouraged and abstraction was promoted (Steinhart 2004:66). She negotiated creating an independent major in science illustration, focusing on animal drawings. She describes keeping a respectful distance, while drawing falcons, once realising how falcons find eye contact unnerving, therefore drawing for short sessions only. When drawing cats, she concentrated on blinking her eyes slowly. Keller regards this kind of empathic interaction as an important part of her drawing experience.

her subjects. She emphasises the importance of finding some point of emotional connection with the subject, while also maintaining excitement for the process (Steinhart 2004:65). It is by taking cues from her subject, that Keller gets to see with a kind of ‘focus’ that gives her confidence to “converse” with the things she draws (in Steinhart 2004:66). Keller (in Steinhart 2004:66) states that “[y]ou have to let the object stir you to empathy or ennoblement or joy or compassion - even to fear. You must see things are a part of your world in that special way before you can attend to them”.

According to Lakoff and Johnson (1999:310), “[t]he core of nurturance is empathy and compassion for the other. It focuses not on one’s own rights, but on the fundamental responsibility to care for other people”—a notion clearly at the core of Saorsa’s projects. Saorsa’s (2015) *Drawing out obstetric fistula*, in which she explores African women’s experience of material birth trauma, the practice of drawing becomes a “vehicle to understanding the existential experience” of the condition and “the experiences of those affected”. Through drawing, she explores the physical and psychological ramifications of *obstetric fistula* through the experiences of women with the condition, and healthcare professionals working in the field. Saorsa’s empathic use of drawing is relevant for design methodology, because she generates knowledge about experiences that “celebrate the resilience, dignity and courage of women with fistula and healthcare workers who strive to repair ‘damaged bodies’” (Saorsa 2015). This provokes awareness, as well as discussions on new ways of supporting, rehabilitating and re-integrating ‘repaired’ women back into their communities. Before designing a cause awareness campaign or instructional products for the public, doctors or for patients designers can gain knowledge and insight by engaging with all role players in the way Saorsa does and, as suggested below, also with Lucy Lyons’ methods.

Through drawing and interactive exhibitions, Lucy Lyons (2012:1-22) gets participants from the medical sciences to experience objects which they use daily, through looking and touching, and reports of participants discovering things they have never seen before. Lyons (2012:1) applies her view of drawing as a phenomenological activity and as embodied knowledge inventively in different applications to encourage doctors, patients, scientists and the public, to discover and gain understanding of medical conditions, and thereby she creates empathic awareness. She communicates her empathic insights in the context of medical science. According to Lyons (2012:4), her drawings are often embodied with detailed information that in the opinion of the patients “offered more understanding of their conditions than X-rays and scans”. Lyons (2012:13) explains this intimacy through the voice of a

participant in one of her workshops stating that “observational drawing in the presence of the artifact created a sense of touching the object without actually touching it. Using drawing to gain understanding about an object ... was like touching it with your fingers through the pencil by drawing the contours of it”. Another participant said, “Touching would teach me more about looking,’ rather than touching teaching them more about the object.” Here the relationship between drawing and ‘care’ is particularly evident.

As shown above, the relationship between creative thinking and drawing by hand has many dimensions. With reference to Guy Claxton’s book *Hare, brain, tortoise, mind*, Maslen and Southern (2014:12) refer to the layeredness of thinking that is often “less purposeful and clear-cut, more playful, leisurely and dreamy ... able to tolerate information that is faint, fleeting, ephemeral, marginal or ambiguous”. This for Claxton (in Maslen & Southern 2014:12) is “[a] place where we ruminate and allow the mind to wonder, a place that he calls ‘tortoise mind’. A place where the unconscious mind ‘cultivates slower, mistier ways of knowing ... an ‘open place of mind that is often associated with creativity’”. He furthermore refers to the ability of creative people to “create problems to solve, and are more interested in the questions as such, if not more, than the answer” (Maslen & Southern 2014:12).

Maslen and Southern (2014:12) describe creative thought as “intuitive side-ways thinking” and that encouraging students to “learn by osmosis”, they are more likely to be skeptical, open-minded and flexible in their thinking—“courageous in their risky and imaginative uncertainty, and because they are able to hold conflicting opinions—they are able to suspend judgement whilst making decisions”. Drawing, as argued in this study and with the drawing strategies proposed, is the place where along with intuitive drawing “side-ways thinking” can be nurtured. Philosopher Jean-Luc Nancy’s view discussed below to conclude this section demonstrates what it means to “learn by osmosis”.

Jean-Luc Nancy’s (2013:1) view that drawing is “the opening of a form”, evokes thoughts on this opening as “a beginning, departure, origin, dispatch, impetus, or sketching out”. Hildebrandt (2012) interprets Nancy’s ‘opening of a form’ as an ontological claim, by which drawing is “initially defined as an inchoative concept, and part of a semantic order, which combines act and potency”. Drawing, Nancy (2013:3) points out, “is not a given, available, formed form ... it is the gift, invention, uprising ... or birth of form”. Form is something that comes through drawing and the drawer is “exposed” to the surprise of what comes.

Drawing, for Nancy (2013:21) then, is the birthplace of ideas and the place for giving the truth of things and thus it “puts to work the very design [dessein] of mimesis—the formative and rousing force of the Idea, the ostentation and emotion of truth”. Nancy differentiates between simply perceiving data or taking note and to “sense”, meant to receive a sense and feel the value of the sensation. For the purpose of this study, one may describe this sensation as experiencing empathy. The active force of gesture, gives drawing the potency to give birth to the form of an idea, while maintaining also the openness that invites further ideas and discussions. Nancy’s book-title *The pleasure in drawing* (2013:ix)¹⁰⁰ describes the pleasure—in the act of drawing and within drawing. For Nancy therefore, giving birth to ideas, and the energy one gets from drawing, makes drawing a place also for experiencing pleasure from the process of generating ideas—of having fun.

5.6 The metaphor of a ‘hidden hand’

Lakoff and Johnson (1999:543) maintain that it is because of the stability of the embodied experience of conceptual metaphors and cross-domain mappings that abstract concepts are grounded. For them there is no philosophy without metaphor and it is through metaphors that one understands abstract domains and gains knowledge into unknown territories. The metaphorical concept, like any embodied imaginative structure, is not a philosophical liability. “It is a remarkable gift—a tool for understanding things in a way that is tied to embodied, lived experience” (Lakoff & Johnson 1999:543).

Understanding abstract experiences is crucial for accessing and responding to the indeterminacies of ‘wicked problems and I argue that Lakoff and Johnson’s (1999:10) notion of the hidden hand is a ‘gift’, shaped by the embodied mind, that helps to organise one’s thoughts. Habits of gesturing spontaneously while talking can be taken as evidence for the hidden hand’s unconscious offer of ‘help’ to shape one’s gestures in a metaphoric way, ensuring that what is communicated is understood. Lakoff and Johnson (1999:13) argue that 95 per cent of one’s thought is unconscious but nevertheless shapes the five per cent of thought to which one has access. Without the cognitive unconscious doing this shaping, conscious thought is not possible (Lakoff & Johnson 1999:13). This reiterates Heidegger’s theory of interacting with ready-to-hand things in the environment without giving them conscious thought. Such “automatic cognitive operations”, according to Lakoff and Johnson (1999:13), in combination with one’s implicit knowledge, are “framed in terms of a conceptual system that resides

¹⁰⁰ This is the title of Philip Armstrong’s English translation of Jean-Luc Nancy’s *Le plaisir au dessin* (2009)

mostly in the cognitive unconscious, but makes use of help from a ‘hidden hand’ as suggested below:

Our unconscious conceptual system functions like a “hidden hand” that shapes how we conceptualize all aspects of experience. This hidden hand gives form to the metaphysics that is built into our ordinary conceptual systems. It creates the entities that inhabit the cognitive unconscious—abstract entities like friendships, bargains, failures, and lies—that we use in ordinary unconscious reasoning. It thus shapes how we automatically and unconsciously comprehend what we experience. It constitutes our unreflective common sense (Lakoff & Johnson 1999:13).

For Lakoff and Johnson (1999:15), this hidden hand not only shapes one’s conscious thought, but also one’s moral values, plans, and actions. Therefore, a clear understanding of the cognitive unconscious brings understanding of how commonly used “unconscious metaphors” are the ones that seem to be ‘intuitively’ embedded in philosophical theory and these are largely the products of “the hidden hand of the cognitive unconscious”. These unconscious metaphors explain how ‘the self’ in a metaphoric sense tends to conceptualise a continuous ‘struggle’ for control between the moral and rational or “higher” part and into irrational and amoral “lower” part of ‘the self’ in line with Merleau-Ponty’s three-tiered bodily schema (Lakoff & Johnson 1999:13).

Theoretical repercussions of Lakoff and Johnson’s thinking after thirty years, include the fact that metaphors are not constructed through the poetic use of words in language, but are constructed through ontological capacities in the mind. In other words, metaphors are constructed in thought, which implies that metaphoric thinking is embodied. Starting from birth, through one’s perception of and interaction with things in the environment, repeated experiences or performances of everyday actions reinforce metaphoric associations. One’s neural wiring eventually creates circuits gradually establishing connections between actions and emotions. Lakoff and Johnson (1999:49-50), in tune with Srinivas Narayanan’s neural theory of metaphor, describe how a subjective judgment such as affection, draws on the sensorimotor domain of experiencing a temperature rise, which concludes in a primary experience of feeling warmth while being held affectionately. Furthermore, the warmth experienced every time a child gets a parental hug, over time develops a ‘warm feeling’ sensation that becomes associated with the universal essence of ‘safety’.¹⁰¹ For Lakoff and Johnson, this experience of being loved, becomes the foundation for the conceptual metaphor of nurtu-

¹⁰¹ In terms of Lakoff and Johnson’s (1999:310) moral authority system, two ways of parents’ input affects children’s behaviour and language. Children’s experience of parental guidance according to “moral nurturance” and secondly, a “strict father family morality”, influences the metaphors they live by.

rance, which they explain in the context of morality and empathy.¹⁰² The principle involved in learning universal conceptual metaphors, explained simplistically here since this is not a cognitive study, is that from birth babies are exposed to subjective (non-sensorimotor) experiences and judgments on the one hand and sensorimotor experiences on the other hand. These experiences “are so regularly conflated—undifferentiated in experience—that for a time children do not distinguish between the two when they occur together” (Lakoff & Johnson 1999:46). It is therefore possible that even an act as simple as ‘hugging a pencil’ may contribute to one’s sense of empathy, although it is also arguable that ‘clutching a pencil’ may also contribute to one’s sense of control. The precise way that the action is performed is more than likely to have a direct effect on whether or not empathy is nurtured. Every action is a posture towards the world and a way of participation in the world.¹⁰³

Because primary metaphors share meanings through shared cultural experiences, metaphoric idioms are linguistic expressions that play a cognitive role in the expression of experiences (Lakoff & Johnson 1999:73). This is an important aspect of what it means for drawing to connect. For example, the metaphor of a journey is often used to describe a drawing experience; thus, even those who have not directly thought of drawing might connect to drawing via their own experiences of journeys.

In MacDonald’s (2004:21) description of a particular drawing’s process as a journey, her language echoes typical travel jargon such as scanning, terrain, tourist, paths, points of interest, exploring the terrain. With the use of metaphors such as that her eyes scan the terrain with saccadic eye-movements, by linking points of interests, paths are created and the hand is the tourist mapping the terrain. For MacDonald (2004:21), mapping her “saccadic eye scanning” is linked to the movement of the hand that as a “tourist” explores the terrain, mapping paths between prominent landmarks. MacDonald (2004:21) describes the significant force of the hand as “the body part that guided the drawing tool, the locus of human manipulative ability and also of touch”.

¹⁰² In branding this is similar to the human ‘need’ often tapped for creating an emotional hook to ‘warm’ consumers to a brand.

¹⁰³ Lakoff and Johnson’s (1999:303) “moral authority” is structured with a hierarchical ranking for taking responsibility. Just as parents have a moral duty to care for their children, people have responsibilities to care for nature as Heidegger’s emphasises. Humans taking responsibility for nature, legitimises the view that nature is a resource for humans. Heidegger use of the metaphor of “a gigantic petrol station suggest that humanity has reduced the natural world, as a resource for fueling its bottomless tank” (Siry 2012). This metaphor and its implied hierarchy extends to relationships of superiority such as Western over non-Western cultures, rich over poor, citizens over immigrants and others.

Emma Febvre-Richards (2012:[sp]), in *Humanity of drawing: an artist's journey*, travels her mental landscape, exploring new media such as digital drawing and laser cutting, exploring her feelings about the hand versus digital drawing tools, and marking points of discovery, such as noting how the programming of computer software highlights “the impossibility of the truly human spontaneous act”. Traditional drawing’s connection to ‘touch’ makes us remember that our connections between our mind and body are just as valuable as other sensory inputs. She states that “there is growing concern that the digital computer repetitive systems are ‘re-wiring’ our neural pathways and hasn’t to date fully resolved the use of the sensory input of the touch that provides the coupling of mind and body” (Febvre-Richards 2012:[sp]).

Another drawing metaphor helps to expand on the idea of drawing as connecting, namely the metaphor of ‘drawing out’. Keller (in Steinhart 2004:67) states that drawing “pulls one out of looking” to focus on things one would otherwise simply pass by blindly. Drawing is thus a way of fostering interest, and getting to know things and “urges you to make all kinds of connections”. The metaphor of “drawing out”, as used by Husserl, Heidegger and Merleau-Ponty, point towards ‘archeological excavation’. By implication, drawing-out brings knowledge from dark places of concealment—the unknown—into the world of knowledge and light, as with the earlier references to *Aletheia* to reveal truth in ‘the clearing’ (Edgeworth 2006).¹⁰⁴ The notion of darkness and concealment, in the Heideggerian sense, aligns with the earlier metaphoric reference to the brain as a *black box with* ‘drawing out’ implying the bringing of truths into the light. Drawing is therefore a way to ‘draw out’ knowledge and the hand in this sense acts as a mediator to ‘draw ideas out’ to make them visible and understandable.¹⁰⁵

The act of drawing is, as this turn towards metaphor again demonstrates, a ‘whole body’ act; it relates to looking through a lens, magnifying and capturing things that ‘unfocused’ acts of seeing do not reveal. Erik Bredo, working in “situated cognition”, furthermore describes the process of drawing itself as a ‘drawn out affair’ that involves interactive performances of ‘direction’, described “in artistic terms to acknowledge interplay, such as concerted, orchestrated, or composed” (in McGuirk 2010b:10, 11). Drawing’s reciprocal benefit entails that

¹⁰⁴ According to Edgeworth (2006:[sp]), “the existential structure of human experience” is explained by *aletheia*.

¹⁰⁵ The 2012 *Drawing out* Conference dedicated three conference themes to drawing’s role of ‘drawing out’ knowledge. The first theme dealt with *drawing and notation*, the second with *drawing as writing* and the third with *drawing: recording and discovery*.

... one draws, responds to what one has drawn, draws more, and so on. The goals for the continuation of the drawing change as it evolves and different effects become possible. Acting with the environment in this way contrasts with acting on it, because it presupposes that it will turn round and alter oneself in return (McGuirk 2010b:10, 11).

According to Brew *et al.* (2011), 'drawing out' is a way to slow down the fast pace of unconscious thought performed during perceptual processes, thereby helping to enhance moments of conscious awareness, enriching the perceptual experience. Brew *et al.* (2011) describe drawing as a tool for storing memory, often used for cognitive download, when concentrating on many things simultaneously (Brew *et al.* 2011). Drawing therefore offers an extension of memory and creates a place for generating and playing with ideas. According to Tversky (in Brew *et al.* 2011), drawings as "cognitive artifacts, externalizations of thought, expand the mind. They enable thought, guide variations, allow play, discovery, and invention. They seem to be uniquely human."

Drawings and idea sketches in particular, beyond the message they convey, embed something of the crafting process used to make sense of vague ideas or hold traces of the experience of searching for ways to 'draw out' ideas 'from the back of the head' those that one has a vague awareness of, but 'pushes' for attention. Fitch describes drawing as 'fleshing out thoughts', and as a way of "seeing things that don't exist yet" (Brew *et al.* 2011). Drawing also presupposes thoughtfulness, as Angela Brew (2011) notes in her connection between 'pausing and thinking',¹⁰⁶ and the act of drawing. She highlights the usefulness of the mind's involvement during moments of 'pause'. This pausing is the time when what the eye sees is processed by the brain. As has been alluded to, however, the hand has eyes of its own, thinks on its own, has a memory of its own, and, in an approximate sense, 'a mind of its own'. In this sense, it 'draws out' a different kind of tacit knowledge—one of which one is not always conscious.

Frith and Law's (1995:203) examination of the cognitive and physiological processes underlying drawing skills reflects metaphors of both an 'inner eye' and an 'inner' or 'hidden' hand. Both of these entities are connected to a cognitive dimension as in the 'thinking eye' and a 'thinking' hand. For Maslen and Southern (2014:10), the "thinking eye" sees what is in

¹⁰⁶ Brew's (2011) research examines relationship between scientific research of drawing and pedagogy, using eye tracking technology, assisted by Dr. John Tchalenko (Research Fellow at Camberwell College of Arts). 'Live feed mobile eye tracking' can monitor a drawer's eye paths, to track what is being looked at, and for how long. Correlating eye paths with hand actions during observational drawing, according to Brew (2011) shows that the hand increasingly shares the perceptual role of the eye, forging a stronger connection between the hand and the eye.

one's imagination and not what others see referring also to Piaget's view that "to perceive is to construct intellectually". The presence of 'available help' also aligns with Lakoff and Johnson's conception of a 'hidden hand'. Because all the visual knowledge one has, comes from a two-dimensional image registered on the retina, the 'inner eye' has the task to organise the information into three-dimensional spatial representations (Frith & Law 2005:205). Recent research using functional brain imaging, according to Frith and Law (2005:205), activates the same areas on the cortex as real stimuli. This view supports why mental visualisations of ideas, if practiced, can be 'virtually scanned' and 'circumnavigated' by the inner eye during the process of virtual sketching.¹⁰⁷

Baker (2012:11) expands on the above idea by elevating active eye movements involved in cognitive processing, as 'a drawing generation tool'. This line of thinking, which positions drawing as "a phenomenological contemplation", aligns to Brew's observation about 'pausing' the hand while the eye 'scans'. Baker (2012:11) draws attention to a different aspect of drawing by hand, emphasising the relevance of motion as an active factor in the drawing process. Focusing on the active process of drawing as a physical and perceptual encounter, Baker (2012) acknowledges the conventional three-way eye, hand and brain process, and draws on scientific methodologies such as eye-tracking to establish them within an artistic framework.¹⁰⁸ In contrast to the reality of a seemingly stable visual world, the eye, the sensory system of the body for examining the visual world, is in constant motion. Baker's (2012:2) framework encourages new ways of thinking about spatiality and relations between sight and thought. Her practice-led research gives insights on her own experience of art production, examining the relationship between the physical act of drawing itself and how it manifests in the process of making, drawing knowledge from the environment through her process of making and drawing (Baker 2012:2).

The abovementioned drawing and design communities have also established sketch conventions and a mutual understanding of different kinds of drawing modalities and their functions during the different phases of design projects. Buxton (2007:107) points out that "any literate reader of drawings" understands a drawing's intentions that are implicit in the

¹⁰⁷ Frith and Law (2005:205) describe some of the component cognitive processes underlying the skill of drawing, relating them to activity in specific brain regions. Although research is ongoing and inconclusive, it is already clear that "even the simplest drawing depends on a complex interaction between many brain systems".

¹⁰⁸ Baker, in her PhD research, traces the first eye-tracking efforts back to the 1800s (Baker 2012:11). In her personal work, eye-movement data recorded by a mobile eye-tracking device was adapted to make the information more accessible with the collaboration of Bristol neuroscientist Prof Iain Gilchrist (Baker 2012:37). She then transformed data for laser cutting, silk-screening and other experimental approaches making art pieces for an exhibition (Baker 2012:37-38).

style of a drawing. It is therefore important to know which style of drawing is made with the intention to invite suggestions; criticisms and changes and which designs are no longer open for change. During early stages, loose, seemingly effortless free-hand sketches suggest being open for change whereas more serious, refined, sketches rendered with care suggest that an expensive stage of a project has been reached and will take effort to change. Buxton (2007:113) calls sketches that are deliberately ambiguous, incomplete and vague, low-fidelity representations. Dubberly (in Buxton 2007:113) states:

The degree of fidelity needs to match its purpose, a sketch should have “just enough” fidelity for the current stage in argument building ... Too little fidelity and the argument is unclear. Too much fidelity and the argument appears to be over—done; decided; completely worked out.

5.7 Conclusion to Chapter Five

From the above, it is clear that the drawing hand needs to know just how much energy, gesture and refinement to put into drawings to keep them open for interpretation. In projects relying on collaborative design between multi-disciplinary experts, from different training backgrounds (with different codes and conventions), understanding of the hand’s language is crucial. In this context, conversational talking, gesturing and ‘sketching on the fly’ may resemble non-verbal language as suggested by Henderson (1999). This kind of hand-gesturing and sketching ‘on the fly’ helps to externalise thoughts and to mediate the sharing of thoughts. The ‘hidden hand’ in this sense shapes the unconscious and abstract means by which one makes sense of individual experiences, as well as how one strategises to render these thoughts externally by non-verbal means. On a lighter note, Bruno Munari’s diagrams on Italian hand gestures¹⁰⁹ show how deeply embedded the culturally shared metaphoric hand gestures manifests in non-verbal language.

Often the abovementioned mental operations, including visual and auditory processing happens unconsciously as confirmed by cognitive scientists (Lakoff & Johnson 1999:11). The operations of the helping hand, interpreted in everyday language, explains the presence of one’s ‘gut feel’ when dealing with vagueness or uncertainty. The helping hand of the unconscious, I therefore argue, is a tool for dealing with wicked problems, particularly abstract issues, unknown variables, changing contexts; it may be useful to recognise cues from the ‘helping hand’ and to trust this help coming from one’s inner core or ‘gut’. This help may come in short-hand, such as through a metaphor, ‘simplifying’ complex issues and giving one a handle on how to approach the abovementioned undefined variables and for

¹⁰⁹ See footnote 98.

talking about it through verbal or non-verbal language, including drawing. By being attended to, the problems encountered by 'the helping hand', on the page and in the world, may also be a site of empathy: an attitude towards the world that opens the drawer up to the position and posture of the other. The above does not necessarily prove that drawing will produce empathy. Such a thing would be highly debatable. Nevertheless, my argument here, following the discussion on empathy, language and metaphor, is that drawing is a likely site for empathy. It is a site in which latent empathy might surface, and where empathy, as attending to the presence of the other, might be nurtured.

CHAPTER SIX: DRAWING CONCLUSIONS

6.1 Introduction

In this study, empathy was shown to be a kind of thinking that awakens an inherent dimension for ‘care’ that is at the heart of every design judgment and drawing decision that responsible ‘citizen designers’ make. More specifically, Heidegger’s phenomenological ontology was shown to put ‘care’ at the centre of *Dasein*’s being and its concern for its own well-being, the well-being of others and its environment. Understanding the needs of others to serve their well-being requires empathy and, therefore, this study, explored links between care and empathy, between phenomenology and drawing, and between the drawer’s thinking and the drawer’s hand as a means for nurturing good, socially responsible designers. In particular, phenomenology was found to help with exploring new possibilities for describing and interpreting relationships, connecting experiences, and encouraging a particular attitude in the drawer. In particular, the nature of Heidegger’s attitude of ‘care’ was shown to be embedded in process drawings through constant iterations resulting from ongoing reflection in-action and on-action and in ‘bothering’ to consider alternative solutions. This process offers tools for transforming innate care to empathy.

Although design ideas originate in the minds of designers, these are often shared through drawing and thereby invite changes, discussion or new ideas. Unless viewers engage and ideas culminate in their minds, the dialogue between the drawer’s intent and the viewer serves no purpose. Through empathy, the drawer gauges how to connect with viewers and how the viewer’s experience of drawing can be enhanced. Through empathy, and the hand’s sensitivity, drawings communicate more than the intended message; they are able to convey the empathic attitude of the drawer. How the empathic attitude or style of a drawing is embedded in drawings and the hand’s role in the process cannot be described definitively. It was, however, not the aim of this study to frame the hand as the sole catalyst for evoking empathy, nor was it within the scope of the study to prove such a premise. Instead, drawing was explored as a place for making connections and for nurturing values of care and empathy.

This study started from a growing awareness that neglecting to develop the drawing skills that generally help designers to cope with daily tasks—such as jotting down thoughts, generating ideas, executing fast iterations on new and existing ideas, making quick changes to prototypes and sharing ideas through ‘talking’ sketches—not only results in a loss of crafting skills, but also in a loss of the kind of thinking that drawing brings to design. Most

importantly, by not drawing, human values of ‘touch’ (through which one gets to know things) and empathy are lost. Considering Tony Fry’s (2012) emphasis that technology is designed for man by man, and that, through experience, man will most probably design more sophisticated technology so that users are likely to become more dependent on the use of it, there is reason to believe that there may be a further ‘loss’ of drawing skills—the future of lower technologies, such as drawing, therefore seems bleak in this context. Thus, the need for a more reflective consideration of the value of hand-drawing is further legitimated.

6.2 Summary of chapters

Chapter One gave a succinct account of the vast rise of interest in drawing, from design disciplines where drawing forms a part of curricula, but also from disciplines with an interest in recent cognitive and neuroscience research and the implications for the cognitive and psychological well-being of people. Emphasis was placed on drawing researchers collaborating with scientists from many different disciplines.

The aim of this study was to understand the role of the hand in the act of drawing in design through an exploration of certain collateral benefits such as the way that reflexivity and metacognition may contribute to nurturing empathy in drawers. Since no definitive answer was envisioned for this phenomenological exploration of drawing’s benefits in a design context, a speculative approach was used to give a rich description of how the act of drawing helps designers to develop better coping skills; to awaken an attitude of caring for themselves, those they design for and for the environment; and to become consciously aware of shaping ideas, people and the environment.

The research aim was supported by a number of key objectives. The first objective was to ascertain the role of hand-drawing as a coping strategy in design, a discipline characterised by wicked problems. The second objective was to explore, with reference to the phenomenology of Martin Heidegger, the relationship between drawing and care. This objective paved the way for considering the link between care and empathy. The third objective was to consider the relationship between drawing and a phenomenology of shaping, with reference to the philosophy of Maurice Merleau-Ponty. The fourth objective was to frame drawing as a place where connections—that is, shared experiences of caring, coping and shaping—are made. Each of these objectives were tackled in Chapters Two, Three, Four and Five, respectively. These chapters also kept in mind whether the particular type of thinking, by which drawing shapes thinking, allows for a deeper internalisation of empathy and the experience of that empathy, a question which, as Chapter Two suggested, remains largely

unexplored. Based on the premise that individuals already possess the essence of the necessary coping skills, but that they need nurturing and therefore need to be developed, it was argued that drawing plays a central role in facilitating the different kind of phenomenological experiences discussed in each chapter.

Chapter Two positioned drawing at the heart of design and what it means to think like a citizen designer, thereby emphasising that drawing is not just ‘another skill’ designers need. Within the context of the notion of ‘design citizenry’, Chapter Two therefore considered the collateral benefit of drawing, namely coping—the idea that drawing, as a process that perpetually needs to engage with the blank page and its myriad possibilities, may help individual designers to cope with the ill-defined, ambiguous, complex and multifaceted wicked problems that they deal with daily. This ‘coping’ includes developing empathy within the problem-understanding and problem-solving context of the design discipline. Thus, in addition to exploring how empathy may be nurtured, especially through the kind of attentiveness and sensitivity that drawing promotes, Chapter Two also contemplated a few different ways that empathy might be articulated. This paved the way for considering the ontological dimension of drawing in the subsequent chapters.

Chapter Three focused on revealing the nature of *Dasein*’s being as ‘care’ and discovered, through Heidegger’s conceptualisation of the hand, that the hand may be viewed as a *ready-to-hand* tool for lending a hand. Framed in this way, the hand thus became a metaphor for Heidegger’s whole ontology of care. It was shown how the hand is something that humanises a person; that the hand is the primary medium of ‘care’. It grasps, gestures, and gives, and thus represents a particular kind of authentic attunement to the world that is unlike what is represented by ‘the they’.

Chapter Four, through Merleau-Ponty’s concept that all the parts of the body are embodied in a “living” unit, explored giving the parts of the body a force standing for more than its whole. The hand, as part of this living body, plays a mediating role with whatever is within its reach: the immediate spatial surroundings, the things and other bodies within it and the issues of the world that need to be negotiated through the mediating function of the body. Thus, Chapter Four advanced the idea that the hand plays a mediating function between beings and things in the external world and considered the importance of ‘drawing out’ knowledge from the internal unknown, namely, the historicity that is earthed in the body. Owing to the performative properties of the hand, internally and externally embedded, it was shown that it plays a part in shaping both the internal world (of the mind) and the external world. The hand

was also shown to have a part in shaping the mind. Merleau-Ponty describes the mind as a 'place of wonder', which is embedded in the body, and its mediating role with the world and others living in it. Through drawing, the hand becomes the connecting force for drawing out the body's internal knowledge and at the same time drawing out knowledge from the body for sharing some of the 'wonders' of the mind. The role of the hand therefore, in the light of Chapter Four, mediates getting in touch with the self, others, and its environment.

Chapter Five reiterated thoughts of the abovementioned phenomenological thinkers, Heidegger and Merleau-Ponty, but also attempted to go beyond these thinkers with reference to examples from existing drawing research. Lakoff and Johnson's theory of the embodied origins of metaphors builds onto the two philosophers' theories, with a primary focus on Merleau-Ponty. The metaphors that both Heidegger and Merleau-Ponty use to make their complex theories understandable, such as Heidegger's reference to a 'clearing' and the metaphor of 'flesh' that were discussed in the respective chapters, already demonstrated Lakoff and Johnson's theory. Since metaphors are embodied experiences based on everyday experiences, it is through the shared understanding of the experiences from which the metaphors originate that we have a communal understanding of language. This shared understanding of experiences that 'gives birth' to metaphors alludes to humans having empathy with the experiences of others, a notion also taken up in Chapter Five.

Considering the above, Chapter Five served as the climax of the study since it forged a bridge between the theories of Heidegger and Merleau-Ponty by exploring the possibility that, through drawing, the hand may play a part in getting in touch with one's potential for having empathy. As such, the study considered the potential collateral benefits of drawing, where collateral benefits imply benefits other than an ability to draw, such as that it may encourage reflection, may enhance metacognition, and may ultimately contribute to nurturing empathy.

6.3 Limitations of the study and opportunities for further research

This study draws on theory from a broad spectrum of design disciplines, such as product, architecture, industrial, engineering and user experience design. However, since little literature on drawing in communication design is available, this gap opens up the possibility for new research. At the same time, it should be noted that because a broad spectrum of practitioners' drawing experiences and their philosophies on drawing were consulted, the study does not, for instance, feature or discuss visual examples. Although the inclusion of

visual examples was not an objective of the study, it may nonetheless be regarded as a limitation.

Even though communication design is the context of the study, very little information was found specifically with regard to drawing in this context. Therefore, as mentioned above, references to drawing in the study remain largely multi-disciplinary and are not focused on one discipline. Once again, this limitation may provide a point of departure for further research, in particular, from a communication design education vantage point.

As indicated at the beginning of this study, education was not a primary research focus in this study. Nonetheless, the findings of this study suggest maintaining the role of hand-drawing in a communication design context and devising a clear strategy for developing an integrated approach with digital skills. To reiterate, Chapter One provided ample reasons why it is still relevant to include drawing in design curricula, despite the benefits of digital tools. The literature review and discussions on the analogue versus digital debate, however, revealed that there is no fixed answer to questions such as if, when and how to introduce digital tools into design curricula. This study, while maintaining a critical stance, did not offer answers to such questions and did not attempt a critique of existing curricula. The literature consulted, however, showed a stream of writing that does not choose sides in the debate, but suggests ways of integrating both analogue and digital skills. Hence, the philosophies that underpin the act of drawing, as explored in this study, may inform indications for the way forward for design curricula, keeping this digital and analogue balance in mind.

In addition, since this study did not seek to prove that drawing will unequivocally nurture empathy (because it is not an empirical study), but rather explored the relationship between a phenomenology of hand-drawing and the likelihood that this hand-drawing can be a site for empathy, further studies could be undertaken to explore this connection in greater depth in conversation with drawing practitioners and drawing teachers. Furthermore, ongoing research on the topic could also be approached from an ethical or moral standpoint because the study only touched on the ontological and experiential aspects of drawing in design judgments that underpin every decision made during the design process.

6.4 Contribution of the study and concluding remarks

The interest of this study extended beyond hand-drawing's traditional use as a tool for gaining knowledge through observation, focusing on the act of drawing and the clear articulation and visualisation of ideas on paper. However, an open mind was kept for

discovering collateral benefits of drawing that emerge during the act of drawing rather than on drawing as the material result of art practice. The study therefore contributed to drawing discourse by investigating phenomenological relationships involved in the act of hand-drawing for design. The role of the 'place' where drawing happens was argued to be one of the links within the relationships examined. As suggested in the study, the 'place' of drawing extends beyond what happens on paper, and if one wants to understand the ontology of drawing, the 'wonders of the mind' need attending to. Lakoff and Johnson's notion of the 'helping hand', addresses this need.

Throughout the study, it was elucidated that the benefits of drawing are therefore not primarily in the material appearance of the drawing, but are embedded in what emerges during the act of drawing, the place where drawing's benefits can be nurtured. Therefore, in keeping with the notion of attending to the 'wonders of the mind', the study suggested that intuitive, experience-based drawing workshops for design students may encourage them to exercise and experience their own bodily acts, mental capacities, and emotions. The line of argumentation in this study shows how drawing at the beginning stages of drawing not only serves designerly ways of working, but is also an active 'cog' in the thinking process and in many instances, is 'ahead' of applications in design.

Furthermore, a contribution of the study is that it highlights that the interest in drawing is not restricted to the creative disciplines and that critical discourse on drawing has benefits for further research in other fields. For example, Taylor's suggestion to put drawing at the heart of the Stem-to Steam movement results from research input by cognitive psychologists and neuroscientists. Another example is that of drawing researchers who collaborate with medical researchers to participate in discourse on drawing. Drawing has therefore opened doors for new research collaboration in contexts where language and culture may have been barriers in the past. The reference to the use of metaphors in this study supports this viewpoint of drawing not being bound by systems of language; it is in itself a language, and the hand, a metaphorical mouthpiece.

In conclusion, I will return to empathy, which is explained as a means of 'stepping into another's shoes'; it is a trait that can enhance understanding of another's experience of a problem situation. Empathy allows for bigger picture thinking and helps to bring understanding of the viewpoints of all stakeholders or key players. Like empathy, 'careful' drawing, as shown in this study, is a valuable asset for anyone dealing with any problem but, more importantly, it is helpful for designers who aspire to become 'citizen designers'. Using the drawing hand to its full capacity means lending a hand for coping, caring, shaping and for

connecting with the problems in the world. The very core of this 'careful' drawing is the well-being of people and the world in which they live.

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