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Making meaning of the sketchbook: an inquiry into the conceptualisation, content and form of sketchbooks, and associated pedagogical practices, in post-compulsory Art and Design education, with consideration of the effects of new technologies on practices.

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Making meaning of the sketchbook

An inquiry into the conceptualisation, content and form of sketchbooks, and associated pedagogical practices, in post-compulsory Art and Design education, with consideration of the effects of new technologies on practices.

by

Simon John Webster

A thesis submitted to the University of Plymouth
in partial fulfilment for the degree of

DOCTOR OF PHILOSOPHY

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Thanks also go to the college that permitted the data collection to take place, as well as lecturers and students who participated in the research project. Their enthusiasm for their own work, and their interest in mine, made this project such a pleasure to enact.

Dedication

For my brother Jim, who died on 1st of April 2020 while in self-isolation for suspected COVID-19.

Author's Signed Declaration

At no time during the registration for the degree of *Doctor of Philosophy* has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

This study was financed with the aid of Plymouth Institute of Education.

During the project I have undertaken training from the University of Plymouth Doctoral College on the following topics: Research methods; Archival research for non-historians; Introduction to NVIVO; The application of persuasion in research; How to write a 4* REF impact study; Preparing to submit on PEARL; Preparing for your VIVA

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Abstract

Simon John Webster. Making meaning of the sketchbook: an inquiry into the conceptualisation, content and form of sketchbooks, and associated pedagogical practices, in post-compulsory Art and Design education, with consideration of the effects of new technologies on practices.

This research project is an inquiry into, and exploration of, work carried out by students studying on formal Further Education (FE) and Higher Education (HE) Art & Design courses in a specialist Art & Design college. The project focuses on the use of sketchbooks and the effects that new technologies are having on sketchbook practices. The sketchbook has played an important role in Art & Design practices, and education, for hundreds of years and in that time its usage had 'remained virtually untouched by the march of fashions and theories throughout history (Clayton and Weisenthal, 1991:113). But, during the late 20thC and now, at the start of the 21stC, new technologies that utilise the microchip and the internet have had a significant effect on society and culture in general (Jordan, 1999; Slack and Macgregor Wise, 2015); this study offers research into more specific effects that the new technologies have had on Art & Design sketchbook concepts and practices.

Sketchbooks are 'poorly understood in terms of their meanings, having been rarely focused upon in research and yet widely used in practice' (Ryan, 2009:121). Meanings concerning the nature of sketchbooks will be uncovered, discovered and, or, co-created as the study progresses, especially when the practices being investigated are new or idiosyncratic (Heron, 1996; Teddlie & Yu, 2007). The aims of the project were to:

1. investigate the range of practices that constitute sketchbook work, and the discourses that surround it, enabling an original contribution to be made to the body of knowledge concerning the use of sketchbooks in FE and HE Art & Design education.
2. study the effects that new technologies are having on the range of practices that constitute sketchbook work in FE and HE Art & Design education.

Key concepts derived from this project, relating to the effect of new technologies, are the dispersed sketchbook and the digitally impregnated sketchbook.

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Notes

- Where quoted authors have used terms that may be read as gendered, such as 'he' or 'craftsman', they might be better received as being inclusive of all gender groupings, unless specifically making a point about a gender grouping.
- Use of lecturer/teacher/teacher educator – when I discuss trainee teacher that really means trainee lecturer (although even the term trainee is contested – novice, or pre-service are also terms used) – also, there are context-bound quotes and discussions that refer to schooling rather than FE and HE – although I have tried to be accurate and consistent in my use of terms, there may be a degree of confusion caused, so use lecturer and teacher as more-or-less interchangeable terms, especially as lecturers do not only lecture – their role can have many dimensions including demonstrating, assessing, tutorialing, etc. Words are tricky things!
- Research project participants have had their names anonymised with gender neutral alternatives. Gendered pronouns, he and she, have been replaced with they and their, etc. The same practice has not been used with the texts that I have referenced from the bibliography.
- Research participants anonymised names appear in italics, to help differentiate them from texts that have been referenced (e.g. *Odell*)
- Direct quotes from research participants have a time, rather than a page number, that refers to the video recordings made. The times are represented in minutes and seconds (e.g. *Odell 02'45"*).
- In the direct quotations, I have not added a *sic* after American spellings that differ from UK spellings – they are the dominant culture now and their spellings have become as normalised as ours. Perhaps we should have fought harder in the War of Independence.
- My daughters, Lola, Lili and Mae have helped me illustrate some of the concepts discussed. The drawings I commissioned from them do not form part of the research data collected during the project and, therefore, their contributions are not anonymised.

Introduction

Turner

Rees (1982:264) considered J.M.W. (or William) Turner to be a natural philosopher, trying to ‘understand the essence of a phenomena and the general forces that governed nature’. According to Rees (1982:267) ‘his duty, he averred, was to paint what he saw, not what convention told him was there’. To understand what a storm at sea was, what it looked like, how it brought together the wind and the water, and how it affected a ship as it made its way through the storm, Turner wanted to *experience* being in a ship in a storm; so ‘Turner set off to sea to sketch’ (Majendie, 2014:online). This simple statement underplays Turner’s age, 66 or 67 at the time the finished painting was exhibited in 1842, 64 at the time of the storm (Secrest, 2014). At this time the average life expectancy for a male was 40 (ONS, 2015); Turner was an elderly man with a ‘well-known propensity for sherry’ (Rylance-Watson, 2015); he had difficulty walking, possibly from gout (*ibid*). If you are my age you might summon up an image of John Wayne in *The Shootist* (Siegel, 1976), his final film. Wayne’s aged and pain-suffering character rides into town to receive a fatal cancer prognosis from the doctor – before his planned funeral he rests and settles his affairs. When hunted down by some old adversaries he still has the life in him to out draw three younger men before he is shot in the back by the bartender. Let us return to Turner – in his story, he gets onto a paddle steamer and sets off to sea in a raging storm. Ruskin reports Turner as saying “I wished to show what such a scene was like. I got the sailors to lash me to the mast to observe it. I was lashed for four hours, and I did not expect to escape; but I felt bound to record it if I did” (Thornbury, 1862:335). Truly, an heroic scene - ‘he had more than endured, he had triumphed’ (Secrest, 2014:online).

Turner is famous for his sketchbooks and many survive to this day (Tate, 2006). A sketchbook was a constant companion and he used them throughout his artistic life to inform paintings made at a later date. Making representational drawings of, and from, the outside environment was central to his practice; ‘it was through the process of drawing that he really saw something’ (Bockemühl, 2000:31). It should be noted though that Turner’s representational drawings were also very abstracted toward the end of his career, with only a few lines being used to capture a scene or detail (see the *Hythe and Walmer* (1845) sketchbook entry in the Tate (2006) collection). Perhaps

because of his age, and because there are no known surviving sketchbooks related to the storm that led to the finished painting, titled *Snow Storm – Steam-Boat off a Harbour’s Mouth making Signals in Shallow Water, and going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich* (1842), there has been some doubt about the veracity of Turner’s claim about being lashed to the mast of a ship in a storm. Like John Wayne, or Marion Morrison as he really was, was Turner offering us fiction? Was he using ‘poetic license’ (Majendie, 2014:online) to convey a romanticised account. Hall (2009:online) asks if Turner was ‘really so “tied” to unmediated experience of nature?’ Hall suggests ‘the mast story is almost certainly a romantic myth’ (*ibid*) and the Tate (2020:online) agrees, claiming that although it ‘seems to be nothing more than fiction, [...] the story has endured as a way of demonstrating Turner’s full-blooded engagement with the world around him.’ Hall (2009:online) lays out his rationale for questioning the credibility, dependability, and authenticity of Turner’s claim:

No ship called *Ariel* is associated with Harwich in the 1840s, and Turner is not known to have visited the east coast at this time. Moreover, a man of any age, let alone in his late fifties¹, would probably not have survived such an experience. Turner most likely chose the name *Ariel* because of its association with Shakespeare’s *Tempest* – the implication being that he was a painterly Prospero, able to conjure up any kind of weather, real or imagined, at will. An episode that bids to be the apogee of bare-knuckled “painting from nature” turns out to be deeply embedded in European culture – not just literary, but artistic.’

Hill (2016:93) also questions the veracity of Turner’s claim, suggesting he may have made ‘a composite of past experiences’. Hill explains how Turner had ‘fastidiously returned to a pictorial subject, recording it at different times, in different weathers and from different points of view’ (*ibid*), so, perhaps he had experienced similar storms in the past and was making a vision based on primary research. Murray (1974) asks us to examine the evidence in the painting itself. He points out that ‘the artist’s eye does not supply the perspective and the envisagement of its theme. Turner could never have seen what he paints here’ (Murray, 1974:84). The painting is ‘of’ the steamship, not from it (*ibid*). This analysis is consistent with the title of the painting - *The Author was in this Storm on the Night the Ariel left Harwich* – so perhaps a ship was seen from the harbour wall, allowing Turner to be in the storm, but on solid ground.

I want to believe Turner’s claim that he was on the ship, lashed to the mast, experiencing a furious storm, sketchbook in hand, drawing what he saw and felt, drawing what he was a part of – perhaps even making a watercolour sketch using the salty seawater to weten his pigments and help them

¹This age is not in agreement with Turner’s age that I gave earlier. Turner was born in 1775, so by 1840 he would have been 65, therefore this ‘late fifties’ approximation appears inaccurate

merge on the page. I want to believe in the worth of drawing and painting *plein air*, of being at one with the elements. I want to believe in Turner's painting as a portal into the past, allowing me a vicarious sense of an heroic form of artistic investigation. I want to believe in Turner as a Spinozian posthumanist, who thought 'force rather than matter was the ultimate reality and that the form and structure of objects endured only through the perpetual flux of their material particles' (Rees, 1982:264). Turner had a 'practice of denying the separate identity of things by fusing the elements' (Rees, 1982:265). To see the paintings and drawings that he made toward the end of his life is to see one of the progenitors of the abstract colour painting of the mid-twentieth century (Kramer, 1985) that first inspired me to study art. I want to believe in Turner's story and the authenticity of his working practices because the work that he made toward the end of his life:

incorporates a subjective sense of the act of seeing into the character of its imagery; it destabilises the notion of fixed subject matter in favour of shifting, technology-determined visions of time and space; and its spiritualised sense of nature's forces chimes well with contemporary awareness of ecological connectedness.' (North, 2015:115).

As I worked my way through the evidence against Turner's claim, I started to question my belief in it, but, as in the ending of *The Shootist*, where even though the hero had been shot in the back and lay dying on the floor, he could be avenged. As a young Ron Howard burst into the bar and shot the bartender, Wikipedia (2020) burst into my research and showed me *The Paddle Steamer Ariel* (1831), painted by Samuel Walters. Wikipedia led me to Art UK (2020) which informs me 'The 'Arrow' was taken over by the Admiralty in 1837 and renamed 'Ariel'. She continued to be the Dover packet until 1846'. I found the ship's full title was '*Her Majesty's Mail Steam Packet Ariel*' (The Nautical Magazine and Naval Chronicle, 1843:681) and she would have been delivering mail to ports around the local coast. The *Ariel* had existed, she was in the right region, at the right time. Could Turner's account be true? Might his lashing to the mast be more than a romanticised myth, after all? Might he, despite his age, have taken his sketchbook into the eye of a storm to record the experience?

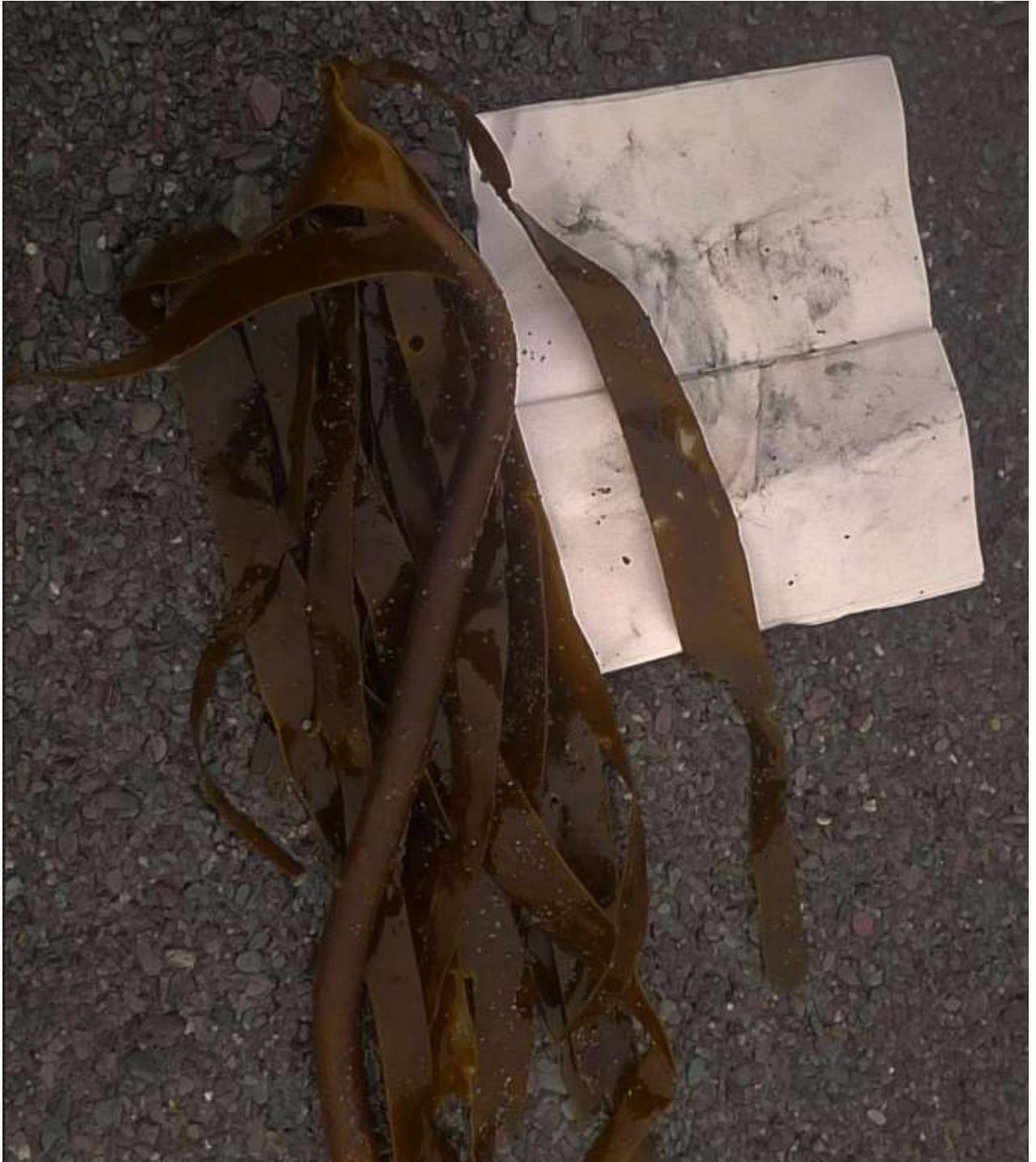


Fig. 1. Could this be the missing Turner sketchbook, finally washed up on the shore? Simon Webster (2020)².

² The images in the thesis are rough ideas, completed quickly. They are movements toward finished pieces, but not finished pieces themselves. Sometimes they relate directly to nearby text in quite a direct manner, in other places their relationship to the text is more tangential. Their presence is partly to illustrate, partly to example, and partly to

bring a soupçon of the flavour of a sketchbook. They do not make this a sketchbook, but they do try to prompt the reader to think about sketchbooks, even when I am not writing about them directly.

Hockney

David Hockney works silently, in deep concentration, looking closely at what he sees – both his own drawing and the subject of his drawing. When he stops drawing he talks; he has an even toned, slightly flattened vowel, Yorkshire accent, softened by time spent away from his beloved county. His delivery is reminiscent of a Bennett (2005) *Talking Heads* character, somewhat dour, with a reflective delivery that draws heavily upon personal experience. As with Bennett, the stories and insights draw you in; the insight he offers into his working practices help us understand how we see, and how technologies affect our experience of seeing.

Hockney is an artist, carrying out a lifelong research project into visual perception and representation. As a researcher, Hockney has always been interested in technologies that help him widen and deepen his understandings of visual perception and representation. He has experimented with cameras (Featherstone, 2012), photocopiers (Christie's, 2018), fax machines (Lawrence, 1999), computer graphics (Howser, 2014), ink jet printers (The David Hockney Foundation, 2020), and more recently, with the iPhone and then the iPad (Gayford, 2010). He is inquisitive and seizes upon new technologies, as artists always have. For example, Hockney showed in *Secret Knowledge* (Hockney, 2006; Wright, 2001), both the book and the documentary, how artists carried out experiments with glass lenses and used them to create more lifelike images. Discussing his own use of the fax machine, Hockney remembers:

"People said it was just a bad printing machine. But I think there is no such thing as a bad printing machine. It either prints or it doesn't. Most people were asking it to reproduce things it has difficulty with."³ (in Gayford, 2010:online)

Hockney was interested in the qualities of the fax machine, what the fax machine could do, not in whether it had a certain quality in doing something pre-defined. To evaluate a tool's quality is somewhat closed and pragmatic, but to explore its qualities is open and experimental.

Hockney started sketching on an iPhone in 2009 (Alberge, 2019). At the time he said:

"I draw flowers every day on my iPhone and send them to my friends, so they get fresh flowers every morning. And my flowers last. Not only can I draw them as if in a little sketchbook, I can also then send them to 15 or 20 people who then get them that morning when they wake up." (in Gayford, 2010:online)

Boundaries between what is produced in a private sketchbook, often as preparatory work, and what becomes available in the open art market were being broken down. The generative, storage, and communicative functions of the sketchbook, discussed in detail as organising

conceptualisations in this thesis, were being conflated through the affordances (Gibson, 1986) that the new technology offered. Hockney was not overtly interested in the 'seductive' (Sudjic, 2008:31) design of the iPhone, but he was interested in what it allowed him to do, saying "I saw a new medium; I don't care about trends" (Hockney, 2016a:01'35"⁴). Hockney moved over to the iPad as soon as it was released (Hockney, 2016a), celebrating the larger screen that was "as big as a reasonably sized sketchbook" (in Gayford, 2010:online). Hockney had large pockets inserted into the inside of his jackets, allowing him to carry his iPad around with him all the time. Because he has it with him and because it is quick and easy to use, he says he draws or sketches more (Hockney, 2016b).



Fig. 2. Hockney's Tea. Mae Webster (2020).

³ Double quotation marks are used for speech or reported speech, single quotation marks are used for quotes derived from writing.

⁴ Throughout the thesis, where quotes are taken from films, CDs, or MP3 recordings the quote is given a time, as an equivalence of a page number supplied in a reference to a quote from a text.

Hockney found some features of using the Brushes app on the iPad particularly interesting and useful. One of them was being able to easily resize an image, either while drawing or when reviewing and further developing the images in the studio. Hockney explains how he can zoom into an image on the iPad to add detail, which is especially important when drawing with his fingers or thumb as the finer lines he is drawing can be occluded - he now usually uses a stylus to further help him avoid this problem (Hockney, 2011). Hockney (2011) also explains how, through the use of connected technologies, he can take an image drawn on his iPad and easily print them 12 feet high, which supports his interest in *A Bigger Picture* (Hockney, 2012) of the landscape. Perhaps most interestingly, Hockney was interested in the luminosity of the screen and how this changed what he drew and the colours that he used. For example, discussing a sunrise seen from his bedroom window, Hockney said "dawn is about luminosity" (Gayford, 2010:online), the iPad had a 'luminous screen and there was a luminous subject [...] if I had a pencil and paper I wouldn't have drawn it, probably" (Hockney, 2016b:08:50). Parallels can be drawn with Turner, who, toward the end of his life, moved from drawing in his sketchbooks toward doing more watercolours (Blaney Brown, 2012). They had a luminous quality, as the white paper shone through the thin layers of pigment. Hockney has also used the luminosity of the iPad to aid a recent design: 'I'm doing a window for Westminster Abbey, and I drew that on an iPad because it, too, will glow' (in Terzian, 2016:online).

The iPad has replaced Hockney's paper sketchbooks. The pencil has been replaced with a stylus. The work produced is a hybrid of drawing and watercolour - he does not care what it is called (Hockney, 2016), but he does like what it is. There are some freedoms with working on the iPad that were restrictions with a paper sketchbook. A wide range of colours and brush sizes are available and "everything is at your fingertips" (Hockney, 2016a:01'15") with "no cleaning up" (*ibid*). The iPad is like "an endless piece of paper" (Hockney, 2016a:01'58"), allowing Hockney the freedom to extend an image if needed, without being confined by the dimensions of a sheet of paper in a sketchbook, or to begin as many new sketches as he wishes. As he has done with other technologies, like the camera and fax, Hockney has embraced the digital sketchbook and used it to further develop his practices, while also subsuming it into his oeuvre: 'his aesthetic is distinctive. He has found artistic utility in successive technological advances, even ones that turn out to be the most mundane and corporate of objects' (Blume, 2019:6). In the way a house

becomes a home by 'habitual action' (Taylor, 2016:146), through developing routines and building up a depth of interactions and experiences with objects and pathways over time, so has Hockney built a relationship with his iPad. It has become part of his daily routine and provides a place where he is comfortable and can create. Falling into his *Talking Heads* mode, he utters "my friend Celia says she thinks the iPad was made just for me" (Hockney, 2016:17'50").

The ways that Turner and Hockney use their sketchbooks are more than examples, they are emblematic. Their usage of sketchbooks, along with those of da Vinci (MacCurdy, 2017) and others, show how sketchbooks can be used. They act as exemplars for how sketchbooks can operate (Gray & Malins, 2004; Marder, 2018). They embody the kinds of practices that Art & Design educators would want their students to engage with. To see Turner's data collection and interpretation through line and form, to see Hockney's commitment to drawing experimentation, to see da Vinci's forensic attention to detail through the combination of word and image, is inspiring. Art & Design education has embraced the sketchbook for hundreds of years and traditional practices live on; sometimes in ways that da Vinci himself would immediately recognise, sometimes in modified or extended ways that form an expanded field of sketchbook practices that he would not. In this thesis I explore engagements with thinking and practices concerned with sketchbooks and their uses in Art & Design education. I draw upon the literature, I reflect upon my own experiences as an Art & Design student and lecturer, as well as my teacher educator role. I also draw out findings from a series of intrerviews⁵ (Kuntz & Presnall, 2012; Stender Petersen, 2014) carried out with staff and students at a specialist Art & Design college. I wanted to open the writing with vignettes of Turner and Hockney as they encompass many of the concerns that are discussed in this project. They open up thinking about how a sketchbook can be used, about practices that lie at the heart of an artist's engagement with the collection, interpretation and production of knowledge.

⁵ The concept of the intrerviews is discussed in more detail in the 'Approaching Research: Research-as-an-art' chapter. In short, Stender Peterson (2014:41) explains how an intrerviews 'must be understood as a set of material-discursive

intra-actions allowing certain relata to emerge', rather than an interview 'where the main focus is on how two (or more) distinct human beings interact with each other' (*ibid*).

Project overview

This research project is an inquiry into, and exploration of, work carried out by students studying on formal Further Education (FE) and Higher Education (HE) Art & Design courses in a specialist Art & Design college. The project focuses on the use of sketchbooks. I am interested in what effect new technologies are having on sketchbook practices. The sketchbook has played an important role in Art & Design practices, and education, for hundreds of years and in that time its usage had 'remained virtually untouched by the march of fashions and theories throughout history' (Clayton and Weisenthal, 1991:113). But, during the late 20thC and now, at the start of the 21stC, new technologies that utilise the microchip and the internet have had a significant effect on society and culture in general (Jordan, 1999; Slack and Macgregor Wise, 2015); this study offers research into more specific effects that the new technologies have potentially had on Art & Design sketchbook concepts and practices.

Sketchbooks are 'poorly understood in terms of their meanings, having been rarely focused upon in research and yet widely used in practice' (Ryan, 2009:121). For the purposes of the project, in an attempt to gain insights into practices that may be beyond my own experience or that do not fit with definitions of sketchbooks that arise through readings of associated literature, an open approach was taken to what constitutes a sketchbook and sketchbook-related practices. Rather than enforcing a strict definition and then selecting or rejecting potential research data dependent upon whether they fit in with a pre-defined schema, students and lecturers were invited to talk about and show artefacts that they think of as sketchbooks or sketchbook work. The term 'sketchbook' can refer to, or be associated with, a number of other terms: workbook; journal; notebook; research file; scrapbook; blog; wiki; etc. The form of a sketchbook does not have to be a book and the content of a sketchbook does not need to include sketches, so the contemporary discourses and practices surrounding the use of sketchbooks in Art & Design education may not have a sense of stable, shared meanings and commonly shared expectations of usage that they once may have had. Meanings concerning the nature of sketchbooks will be uncovered, discovered and, or, co-created as the study progresses, especially when the practices being investigated are new or idiosyncratic (Heron, 1996; Teddlie & Yu, 2007).

The aims of the project are to:

1. investigate the range of practices that constitute sketchbook work, and the discourses that surround it, enabling an original contribution to be made to the body of knowledge concerning the use of sketchbooks in FE and HE Art & Design education.

2. study the effects that new technologies are having on the range of practices that constitute sketchbook work in FE and HE Art & Design education.

The knowledge generated from the project will be fed back into the PGCE that I work on and will be used to inform staff development seminars regarding sketchbooks, pedagogy and the use of technology.

Project origins

During the life of this project I worked as a lecturer and specialist one-to-one study skills tutor in an art college. I also worked as a teacher educator (Exley, 2010; Exley & Ovenden-Hope, 2013), helping trainee teachers prepare for a career in Post Compulsory Education and Training (Tummons, 2020). The starting point for this project was inspired by brief comments made by a Game Design student to a trainee teacher I was observing as part of my work as a teacher educator. The trainee teacher had been talking to a class of students about an end of module assessment, with a focus on the work that the trainee teacher would like to see submitted. The gist of one student's comments was the belief that their sketchbook was personal, like a diary, and that the student would not be told what should be in it, or that it should be submitted for scrutiny in its entirety. The student said that the trainee teacher would be shown selected parts of the sketchbook, but parts of it were private. I remember the tension in the air as the trainee teacher tried to assimilate the student's comments into their vision of how the module assessment would take place. The student's comments resonated with me, partly because of the passion contained within the student's delivery; the thoughts were considered and appeared to express concern about a perceived challenge to their autonomy and sense of self concerning their working practices. Another reason the student comments were of significance to me was through a sense of empathy with the trainee teacher. I remember the start of my own teaching career and the enormity of the challenge that a trainee faces when they enter the classroom or studio. It is impossible to prepare for every eventuality and, in an attempt to keep a session moving forward, rather than every comment being reflexively deconstructed as one is speaking, many assumptions are made about shared meanings. In this instance, the trainee teacher had made an assumption about the use of sketchbooks on the course that they were teaching and had thought that their advisory comments concerning the content of sketchbook work were uncontroversial. This small event could be seen as a critical incident (Tripp, 1993) whereby the covert discourses are more significant than the overt clarification of the approach that the trainee teacher was trying to communicate. The brief conversation between the trainee teacher and the student was a nexus

for more general issues concerning the distribution of power in educational practices (Foucault, 1982), and specifically for competing visions of the purpose and nature of sketchbooks in an educational setting. I spoke about the incident with the trainee teacher after the session and, later, with other colleagues and other trainee teachers. I developed a strong interest in the use of the sketchbook and, after some months of collecting and reading articles about the use of sketchbooks in educational settings, I had, informally, started the research that led me to this project. Reading and talking to lecturers (both trainee and in-service) in Art & Design was interesting, but I wanted to talk to students about their use of sketchbooks, to hear their side of the story, especially as practices seemed to be changing in the digital era. Within the art college where I was working, I was becoming aware of a trend toward student sketchbook work being carried out digitally, with shared institutional cloud systems like Google Classroom (Google, 2020) being used as a replacement for more personal, paper-based sketchbooks.

As the research moved from an informal professional interest into a formal research project an agreed ethical protocol was put in place and a research proposal was formulated, then further developed over time. The research design for this project is an attempt to bring an artistic outlook or sensibility to the research; one that is in keeping with the subject and context being researched. The central part of this project was the act of talking to students while reviewing their sketchbooks: having a conversation about the forms and the contents of their sketchbook work (in whatever manifestations they might take) and the processes and influences that informed their creation; discussing the relationship between the work within sketchbooks and their work outside of them. The work contained in this project leads back to, or comes from, those encounters or intrerviews (Kuntz & Presnall, 2012; Stender Petersen, 2014), the reading carried out for the project, and the diffractive (Barad, 2003) proclivities of the researcher.

Chapter overview

Chapter one conceptualises the research approach developed for this project. It discusses possibilities for approaching the 'research-as-an-art', rather than a social science. Chapter 2 explores ways that sketchbooks and sketchbook work can be conceived. It introduces themes that run through the thesis regarding the generative, storage, and communicative functions of the sketchbook. Chapter 3 brings a focus onto digital technologies and how they have embedded themselves into sketchbook work practices. As the effects of digital technologies on the sketchbook are considered, the concept of the dispersed sketchbook is introduced. The dispersed

sketchbook is a consideration of all the spaces where sketchbook work is carried out and stored, frequently outside the confines of the traditional paper sketchbook. Chapter 4 utilises concepts of creativity to offer insights into how students develop their sketchbook work. After exploring some definitions of creativity and problematising distinctions made between divergent and convergent thinking, the chapter goes on to use Bleakley's (2004) creativity typology to develop understandings of students' sketchbook practices. Chapter 5 critically evaluates Critical Thinking concepts and their relationships with Art & Design sketchbook practices. It begins by scrutinising Bloom *et al's* (1956) work on learning domains before offering an alternative 'good thinking' framework offered by Perkins, Jay & Tishman (1993). The chapter then moves into discussion of drawing as a form of Critical Thinking carried out in sketchbooks, as well as the use of images, and the writing carried out within sketchbooks. Chapter 6 investigates pedagogical and assessment practices associated with sketchbook work.

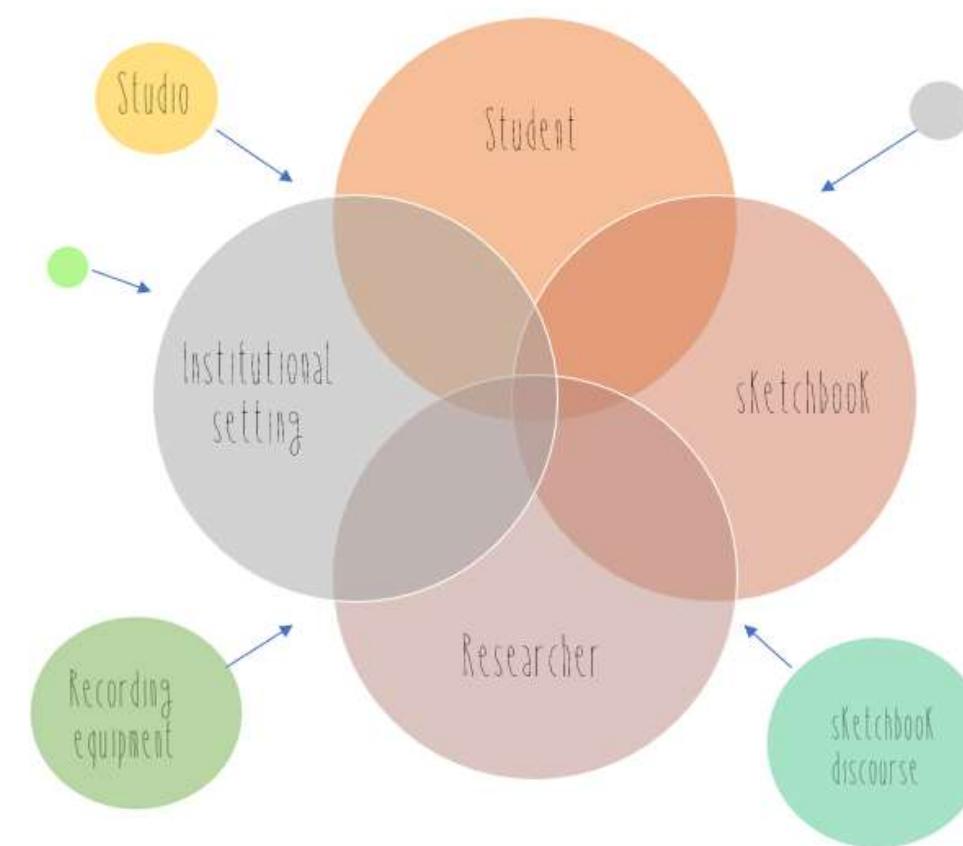


Fig. 3. The forming of 'material-discursive intra-actions' (Stender Petersen, 2014:41) in the project intrerviews. Simon Webster (2020).

Chapter 1: Approaching research: ‘Research-as-an-art’

I didn't know when it was going to happen, and I didn't know why it was going to happen. As I worked my way through my school years, especially in Spring and Summer terms, we would fill lunchtimes with a range of activities. Often, if not usually, this would be a mass game of football, 20-a-side or more, flocking around the playground like starlings, with no positions being taken up apart from the goalies. The game would go on for an hour, only briefly halted by the disappearance of the ball over a wall into the road or churchyard.

Sometimes, in smaller groups, we would play charades or conkers; and I remember spending a week of lunchtimes reading and discussing Shakespeare's *Julius Caesar* with my friend Geert, walking around and around the playground in the hot sun, playing with the idea of being intellectuals, smoking our braided shoelaces as we had neither the money or the bravery to acquire real cigarettes. But sometimes, really quite rarely, and for no discernible reason, a game of British Bulldog would fill our lunchtime break.

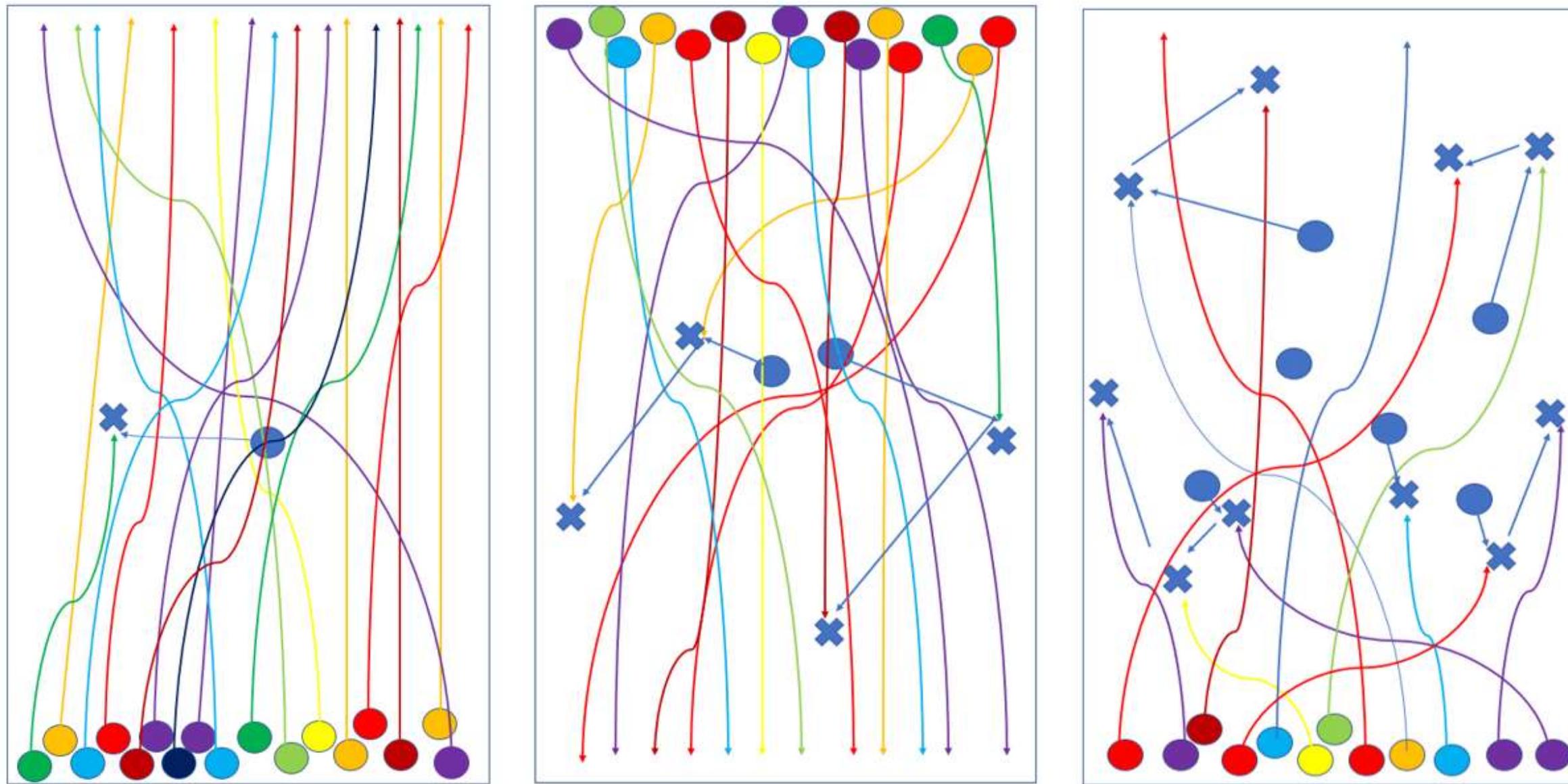


Fig. 4. The conversion process in a game of British Bulldog. Simon Webster (2020).

Usually a ‘bulldog’ volunteered (weigh him up quick – is he big, fast, angry, vengeful – all of these!?) Is he looking at me, or is he looking to settle a score with Heath?). Sometimes, usually cruelly, a victim was selected to stand out in the middle of the playground with sometimes as many as 40, 50 or 60 other boys about to run past, through, or over him, all lined up against the chemistry laboratory wall – some, who had a second-sense for danger, had escaped into the school building – everyone else was lined up against that wall, waiting to enter battle. Backwards and forwards, in waves, the boys ran and ran from chemistry lab to the French room. At first, apart from that lone boy, everyone was on the same side, but slowly at first and then ever faster, the numbers who were running free and those who had been captured, and whom had become bulldogs themselves, switched. It was surprising how quickly that switch of allegiance could happen. At first you are enjoying running with the crowd, unlikely to be caught, unlikely to be singled out, unlikely to be dragged to the floor and held, until your resistance turns into passivity. A few seconds later you are standing shoulder to shoulder with a new set of companions. A bulldog – tenacious, muscular, aggressive. Now you are part of a pack, hunting the herd. Who is weak, tired, unpopular? Who is from a poor family, meaning that a torn pair of school trousers will not be replaced for weeks, leaving a darned or patched rip as a marker of their social standing? Who has it coming to them? Who is it who is going to bring the game to a close as their blood leaves a stain on the hard ground, perhaps dragged down like a lion would despatch a gazelle, scraping their face on the floor as they come to a juddering halt, or more likely, pummelled by a vindictive few, as others look away or suspend their moral code and adherence to the school motto to ‘Do Good’... Are there better things to do in the school playground, more productive and enjoyable ways to spend your time, less base and ritualistic ways of being? Yes, there are, but sometimes you find yourself playing British Bulldog and you are right there in the middle of it.

Research writers take part in ritualistic games. They defend their ground, attack others, and attempt to build ever stronger positions. It is a war of words, and those words are pointed and sharp – they can hurt. Words are used as ‘performative acts’ (Austin, 1962:141) that seek influence and effect. You are expected to take sides and enter into epistemological and methodological battle with the enemy. Blumer (1969:33) calls these battles a ‘clash of social philosophies’. Objectivism against subjectivism. The quantitative against the qualitative. Glaserian against Strauss. The last reminds me of somewhat of the scene in Monty Python’s Life of Brian (Jones, 1979), where Brian is trying to join a resistance movement against the Roman Empire; he

mistakenly asks if a group are the Judean People’s Front. He is told disdainfully by the group, “Judean People’s Front! We are the People’s Front of Judea. [...] The only people we hate more than the Romans are the Judean People’s Front, ...and the Judean People’s Popular Front, and the Popular People’s Front of Judea... Yeah, splitters”. Academic rigour lies at the heart of the arguments, it is the Holy Grail that the theorists wish to claim. Researchers and research theorists have laid claim to the validity, reliability and generalisability of their differing research approaches. Having spent some months planning my research, feeling like the lone boy who had been picked, unwillingly, to stand in the middle of the playground, more like a quivering whippet than a bulldog, waiting for the hordes to trample me underfoot, I came to the realisation that I had misgivings about the approach that I was developing. Following advice from Crotty (1998) and (Gray, 2017), I had been ensuring that my ontology, epistemology, theoretical perspective, methodology and methods all lined up correctly – that they were compatible and logical, that they were in adherence to the expectations of dominant social science traditions; as Crotty (1998:6) states, ‘it will help to ensure the soundness of our research and make the outcomes convincing’. Although agreeing with Crotty’s sentiment regarding soundness, or what Lincoln & Guba (1982:3) might call ‘trustworthiness’, I came to the realisation that the terms, concepts and approaches that I had been referring to when planning my research approach were ones that did not resonate with my feelings and thoughts about how the project might unfold over the coming few years. A tipping point came when I realised that the constant editing down and streamlining of my research design meant I was closing down opportunities for utilising a range of ways of working that seemed like they might be useful. I was in danger of systemising, or over-operationalising, the way that the research was being carried out to such an extent that it was in danger of harming, rather than helping the research. Blumer (1969:32) warns researchers not to ‘cling to some model because it is elegant and logically tight’. He argues that researchers need to respond to what they find and not predetermine what they will find because of the way they are looking. A parallel can be drawn to the way that metaphors frame meanings. Camp (2006:159) claims metaphors to be ‘powerful tools for structuring thought [but] they do make it easy to focus on certain facts and ignore others’. If an idea is congruent with the metaphor then it is included, as it helps to extend and reinforce the metaphor, but if the idea does not ‘fit’ then it is ignored or excluded (Schwartzman, 2013). I felt the need to find an approach to my research that was congruent with my context and my topic, because ‘the research method should mirror the phenomena that it investigates’ (Earl, 2013:17). I also wished to find an approach to the research that was a fit with my sense of self. I didn’t want

to feel that I was being bullied into playing British Bulldog when there were better things I could be doing with my time.

Over time, as I developed my approach to this research project, talking to other researchers and reading texts about research *into* the arts, *through* the arts and *for* the arts (Frayling, 1993), I found that I was not really alone in the middle of the playground, solitarily awaiting my fate as the game of Research Bulldog was about to begin. There were many others in the middle too, already forming a loose alliance. There were some autoethnographers, poststructuralists, postmodernists, and those interested in Research-as-Art (Jeffers, 1993), Art as Research (Macleod & Holdridge, 2006), Arts-Based Educational Research (ABER) (Barone & Eisner, 2006), Arts Informed Research (Cole & Knowles, 2008) and other arts-related categorisations, conceptualisations, or practices⁶ (Leavy, 2017). The various arts-related research approaches I read about were inspiring and helped to open up possibilities for ways that I might progress with my own research. Two main themes emerged through my reading. One was more inward looking, concerning my own art practices and how they might relate to the research. The other was more outward looking and political, raising questions about the sense of injustice felt by some arts-based practitioners who were trying to operate in a research environment dominated by science and social science (Eisner, 2005; Hannula, Suoranta & Vadén, 2005; Barone & Eisner, 2006; Cole & Knowles, 2008; Eisner, 2008). I will write a little about these two themes.

Sense and sensibilities⁷

There have been more than twenty different terms for arts-related approaches to research. Each term refers to an approach that is meaningful to those who created it. Some terms refer to a more generalist approach, while others refer to more specific ways of working. Some tend toward an inclusive collective, focusing on common traits rather than distinctions, while the others tend toward segmentary individuation, through a process of differentiation. Leavy (2017:4) suggests Arts-Based Research could be adopted as a 'term to describe an umbrella category that

⁶ Which of these three are the most apt? 'Conceptualisation' suggests the *idea* of incorporating art practices within research precedes the act of doing it. Can I do it? Am I allowed to do it? How will I do it? I certainly asked those questions myself as I planned this project, feeling both empowered and threatened. 'Practices' suggests art *is* used as research in a variety of ways. This sits comfortably with me as I believe that my art practice has always been a form of research, whether I was consciously conceiving it as such or not. Doing art practice as research can precede the conceptualisation of exactly how one's practice can be classed as research. 'Categorisation' suggests a more precise *positioning* of one's art practice as research, either by the practitioner themselves or by others. Categorisation relies on the conceptualisation of what something is, in terms of its traits, and also what it is not, in terms of its differentiation from other related categorisations. With the various arts-related categorisations all three terms appear

encompasses all artistic approaches to research'. Barone & Eisner (2012:9), who are closely associated with the origins of Arts-Based Research, would not agree and make some (not entirely⁸) clear distinctions between what is, and what is not Arts-Based Research:

Arts based research uses the arts as a foundation for creating expressive forms to enlighten. Research based art is the use of research in any modality that will serve as a basis for creating a work of art.

Barone & Eisner (2006, 2012) place an emphasis on a written research outcome, rather than an art work outcome, for Arts-Based Research. They do not include art making within their schema, while Leavy (2017) does. For Leavy (2017:5), art making, under categorisations such as Art as Inquiry and Art Practice as Research, would count as Arts-Based Research. Rolling (2010) makes a distinction contrary to Barone & Eisner, and distinct from Leavy, claiming Arts-Based Research *is* about art making and art studio processes. He confines Barone & Eisner's textual approach to an Arts-Informed Research category:

Arts-informed research is a way of representing research work that nevertheless remains firmly rooted in qualitative methods; in fact, arts-informed research is not necessarily focused on the arts at all, reflecting instead a researcher who has been inspired by a work of art, arts methods, or a body of work to attempt to represent their research in a novel form of format. [...] Unlike arts-informed research, arts-based research is practice-based. (Rolling, 2010:105)

It seems that arts-related researchers play the same kind of rough games as others involved in paradigm and methodological wars. Selkirk (2012:22-23), a researcher who makes both art objects and written texts, describes his difficulties with attempts at categorizing his practice within one of the already-existing arts-related categories, explaining he was 'not feeling comfortable [as it was] proving to be bewildering, restrictive and unhelpful'. He 'wanted to remain adaptive' (*ibid*) and not commit himself to one approach. I had similar feelings, knowing that some previous work had been rooted in art making, and that this project was taking a more Arts-Informed approach as I did not intend to make my own art practice central to the project. I decided to develop my own term: 'Research-as-an-art'. 'Research-as-an-art' was meaningful to me, in that it would shape and encapsulate what I did, and it was also meaningless, as, at its inception, I had no real idea of what

valid as the various practitioners carry out their work and justify it to external audiences. I have decided to use all three terms in my sentence because, to leave any out, would deny some of the complexities of arts-related research finding their place within wider research communities.

⁷ Jane Austen's (2019) book, *Sense and Sensibility*, was going to be titled Elinore and Marianne, after the two main protagonists, but the change in title 'perhaps added philosophical depth to what began primarily as a sketch of two characters' (Auerbach, 2009:252), one more sensible and the other more sensitive.

⁸ Barone and Eisner (2012:9) discuss distinctions between research-based art and art-based research, but when they 'illustrate' their argument they offer a comparison of research into the making of a novel about concentration camps with work into the same subject carried out by a behavioural psychologist that they do not link to the arts in any way.



Fig. 5. Partial mapping of the 'delta' (Rolling, 2010:103) of arts-related research practices⁹. Simon Webster (2020).

⁹ Many of the terms are contested, or are utilised differently, based upon the interpretations of individual writers and their own arts-related practices and the term they associate themselves with. Broadly speaking, there are overarching classifications such as Practice-Based Research and Artistic Inquiry that try to encompass all arts-related research. Downstream there is a bifurcation between practices with social science and educational research that

uses some arts methods taking one distribution, while arts practitioners who want their work to be recognised as research taking the other (It is rare for a major river to bifurcate, but the Orinoco does, hence its use in this diagram). There are some crossover points between these two distributions (as shown with Arts Informed Inquiry

meanings I would apply to it. It was my own category; it was going to be the vehicle that carried me through this project; it was going to be the temporary home that I would design and self-build, it was going to be the map that I was going to draw. It would try to make sense of the project by bringing order, while leaving room for my sensibilities to find a degree of expression.

Tilting at windmills?

Don Quixote (Cervantes, 2003) says to his squire:

"you can see over there, good friend Sancho Panza, a place where stand thirty or more monstrous giants with whom I intend to fight a battle and whose lives I intend to take; and with the booty we shall begin to prosper. For this is a just war, and it is a great service to God to wipe such a wicked breed from the face of the earth." (Cervantes, 2003:63)

The giants that he will joust with, Sancho Panza informs him, are nothing but windmills¹⁰. To tilt at a windmill¹¹ has come to mean to 'face imaginary adversaries' (Rockwood, 2009:1330). As I started planning this project I too felt the need to tackle some giants because I felt I was being positioned as a social scientist by some of the reading I carried out (Crotty, 1998; Charmaz, 2000; DeMarrais & Lapan, 2004; Bryman, 2012) and that felt like a challenge that had to be faced. As I hoisted a flag for 'research-as-an-art', I felt I was setting myself against research as a (social) science. To help me decide what 'research-as-an-art' might be, I thought it useful to rail against what it may not be. Fighting the good fight, in this instance, drove me toward staking a claim for the arts against those made by the (social) sciences, marking out an area where it felt safe to work in ways that I wanted, without unwanted constraints that other disciplines might impose. It meant, in places, making unnecessary divisions between the arts and the (social) sciences. It led to a decision to, mostly, reject social science terminology and frameworks. The choice of selecting 'research-as-an-art' as a name put aside battles fought and won by others who call themselves qualitative inquirers, rather than social scientists, so that I could carry out my own battle. I thought at first it might be a quick

joust on an open field, but it has turned into a different kind of battle. One where I am trying to forge my own path through the dense swamp forests of the research 'delta' (Rolling, 2010:103), rarely being carried serenely along a waterway, usually hacking my way through the undergrowth?¹².

Conceiving 'research-as-an-art' felt political and it also felt illicit. Was I transgressing, was I doing something wrong? Had I crossed a border and found myself in a foreign land? I decided to take ownership of these thoughts and feelings and use them as a positive force in my work. I decided to think of 'research-as-an-art' as an act of 'border crossing' (Giroux, 1992:28). The kind of border crossing I was thinking about at first was reminiscent of the Native Americans who raided white settlements created on their land (Brice, 1987), or a romanticised version of the Scottish Border Reivers (Gray, 2000)¹³ reclaiming land and property they thought their own. To do this I had chosen to take a provocative stance, one where the naming of the approach was a challenge to the status quo. Whereas other arts-related research practices tended to claim a space where arts practices could be seen as research, I had in mind the suggestion that many social science practices should be reclaimed as arts-based practices. Although, at first, I felt a negative sense of injustice about ways that the arts are treated in the research community, this soon morphed into a positive search for justice and equality. Giroux (1992:138) writes of crossings that help people 'reclaim their voices as part of a process of empowerment' and people who have been othered may 'need to both reclaim and remake histories, voices, and visions as part of a wider struggle' (*ibid*). What the classification of 'research-as-an-art' was trying to do was claim a space where I could operate legitimately, where, rather than my first thoughts about research being grounded in science or social science principles, they were grounded in the arts. I moved on from feeling alienated, threatened, or discounted by elements of the (social) science research community that see arts-

and Arts-Based Educational Research) which represent a tending-towards the other stream. The water is in constant flow, the land is eroding, and at times there are floods. The area has only been partially mapped. People are creating new settlements along the banks of the rivers all the time; others live on the waterways moving around on their craft. The map offers no real fixity. The only way of properly understanding the region is to visit it and explore, or take up residence. The locals are friendly, generally.

¹⁰ Durán and Rogg (2006:63-64) explain that 'Don Quixote and Sancho disagree almost all the time about the world around them because each one of them interprets what he sees according to a code. This code is based on the individual, his culture, his experience, a worldview that can be very special, and many other factors: thus the multiplicity of viewpoints and interpretations'. Sancho Panza sees in a realist fashion, while Quixote takes an imaginative and metaphorical approach.

¹¹ The phrase, tilting at windmills, does not appear in Cervantes (2003) book. It first recorded usage may be in The New York Times in 1870: 'They [Western Republicans] have not thus far had sufficient of an organization behind them to make their opposition to the Committee's bill anything more than tilting at windmills' (Martin, 2020:online).

¹² Consideration of Durán and Rogg's (2006:68) critique of the reader's reception of *Don Quixote* will be a useful guide to the reception of my writing as I battle my giants in this thesis: 'It is true that our admiration for him is tempered by our laughter at his ridiculous efforts, which end always or almost always in defeat, his lack of acceptance of his limited strength, and his constant mistakes and misunderstandings. [...] His will and his imagination are powerless against the resistance of real life represented by the objects, and the knight is ignominiously defeated by things, or rather by his miscalculation about things, their real being, their resistance and stubborn opposition to his will.'

¹³ An abstract for a qualitative research conference talk I gave included a playful reference to Mel Gibson's (1995) Wallace in *Braveheart*: 'they may take our lives, but they'll never take our subjectivity' (Webster, 2019).

related research as ‘special interest groups’ (Haraway, 1988:575), who are not allowed to have ‘any discussion of consequence outside our own little circles’ (*ibid*). I realised tilting at social science windmills was a generative process, but the real battle involved deciding what I was for, rather than what I was against.

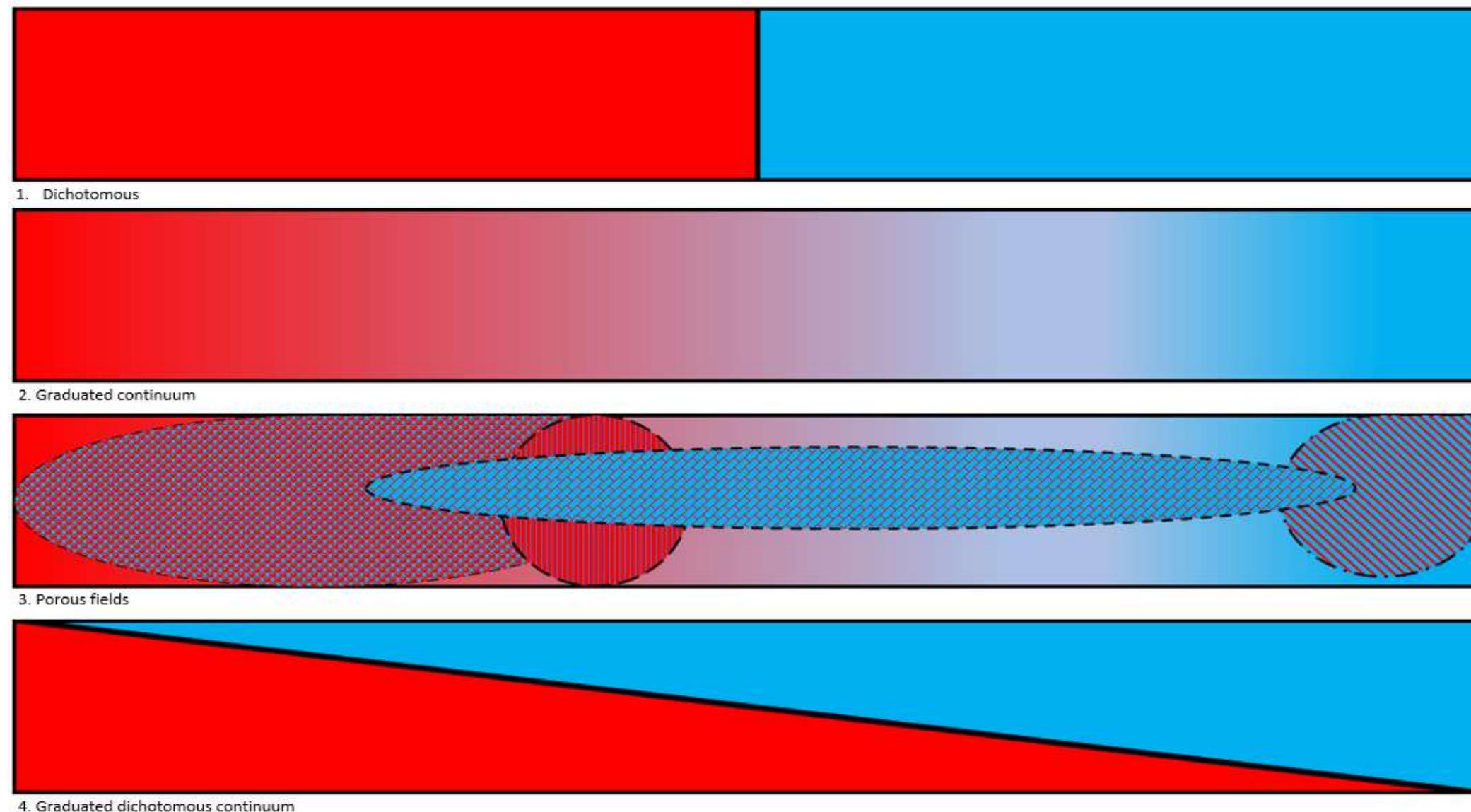


Fig. 6. Conceptualisations of relationships between arts-related research considering their arts practice and social science influences¹⁴. Simon Webster (2020).

¹⁴ 1. tries to show a dichotomous positioning of one’s practice as either arts based or social science based, with little or no recognition of the other. For example, a social scientist may not recognise the artistic elements of their writing located in their use of metaphor and simile. 2. shows reconciliations and integrations between arts practices and social science research. This kind of continuum is in alignment with Artistic Inquiry, Practice-Based Research and some interpretations of Arts-Based Research. One’s practice may sit anywhere within the continuum. For example, Eisner (2006:11) carried out ‘educational research that was rooted in the arts and that used aesthetically crafted forms to reveal aspects of practice that mattered educationally’. 3. shows identifiable fields of practice, each combining arts and social science approaches, but the boundaries within and between the fields are ‘porous’ (White, 2011:84; Barone

& Eisner, 2012:7), allowing people and ideas to move between classifications. For example, Arts-Based Research and Arts-Based Educational Research have commonalities, but are not resolved into one classification. 4. shows how arts practices and social science practices may be used in conjunction, but the two approaches are not resolved. For example, Selkirk (2014:19) recognised he had to find ways to overcome tensions: ‘the taxonomic, textual and linguistic devices employed to create a standard manuscript were not going to be sufficient for me to make sense, or tell the story, of my inquiry, I was also mindful that the legitimacy of including sculptures to assist in telling the story could well be contested and challenged’. Where one’s practice is placed on the continuum represents the degree of influence of the arts or social science practices.

The manifesto

I sensed I was turning ‘research-as-an-art’ into a manifesto proposition and rallying call. The Manifesto of Futurism (Marinetti, 1909) offered ‘a new response to the age’ (Harrison & Wood, 2003:128) and began ‘an adventure in artistic expression’ (Danchev, 2011:1). The Futurist manifesto was a response to modernity and mechanisation; it was a call to ‘discard the art of the past and to usher in a new age that rejected tradition and celebrated change, originality, and innovation in culture and society’ (Joly, 1912). The Futurists were influenced by Bergson (Harrison & Wood, 2003) and his thoughts on the duration of time, intuition, and the *élan vital*. They explored a society in motion, or flux; one that seemed to offer new opportunities and hope for the future, as technology seemed to bring dynamism and freedom. The manifesto, as a communicative format, was traditionally used for expository purposes, but in artists’ hands it tends toward the persuasive. The OED (in Perloff, 1984:66) traces its usage back to 1647 and defines it as ‘a public declaration or proclamation [...] for the purpose of making known past actions and explaining the reasons or motives for actions as forthcoming’. Marinetti combined a number of uplifting declarative statements about the direction he wanted art to move in with a narrative that both explained a transformative event that inspired the statements and also ushered in their future demise. It was something for the present, something to work on, something to work with, something to aspire to. As Marinetti rejected the past, he knew that those who followed would reject him also:

They will come against us, our successors, will come from far away, from every quarter, dancing to the winged cadence of their first songs, flexing the hooked claws of predators, sniffing doglike at the academy doors the strong odor of our decaying minds, which will have already been promised to the literary catacombs.

But we won’t be there... At last they’ll find us—one winter’s night—in open country, beneath a sad roof drummed by a monotonous rain. They’ll see us crouched beside our trembling aeroplanes in the act of warming our hands at the poor little blaze that our books of today will give out when they take fire from the flight of our images.

They’ll storm around us, panting with scorn and anguish, and all of them, exasperated by our proud daring, will hurtle to kill us (Marinetti, 1909:online)

The manifesto offers the writer a chance to speak out in their own voice, to communicate on their terms, although ‘It is only to be expected that the thinking is not in straight lines. Artists’

manifestos are full of quirks and foibles’ (Danchev, 2011:10). In the writing that follows, I may not go as far as Marinetti, whose ‘narrative contains a good deal of intentional buffoonery and declamation: everything is presented in the most extreme terms possible’ (Perloff, 1984:71), but I do slip into this mode at times. Because the manifesto breaks with the past, it does not need to use terms or concepts from the past, or reuse them in ways that would be recognisable in the past. It may even actively distance new concepts from old ones by attacking them. Marinetti believed, for example, ‘the secret of the successful manifesto lay in its violence and its precision (*l'accusation précise, l'insulte bien définie*¹⁵)’ (Danchev, 2011:6). I did consider using the term manifesto, rather than methodology or approach, for this research project. This, in conjunction with the rejection of other organisational tropes¹⁶ that are often accepted as norms in social science research, would help distance the research from the conceptualisations and expectations that would otherwise bind this project to the social sciences.

Thinking about manifestos and how they have been used to frame artists’ approaches to their work helped me develop some principles or tenets for ‘research-as-an-art’. Because ‘representations [such as manifestos] are always produced within cultural limits and theoretical borders, and as such are necessarily implicated in particular economies of truth, value, and power’ (Giroux, 1992:219), they are always flawed or biased. I stand by the tenets I have made wholeheartedly – until I renounce or alter them. I know they are incomplete, inexact and temporary. The manifesto is a ‘proposition’ (Manning, 2009:226), or ‘terminus-in-action’ (*ibid*)¹⁷. Writing manifesto style statements can feel liberating, but also humbling. Yes, yes, yes!.... no. Much like making an artwork, at some point it is declared finished and as good as it can be; shortly after, the making process starts again as dissatisfaction with the old sets in and the search for the new begins. The tenets, as held in this thesis are a version of the thoughts I have had. They have been tinkered with a number of times before completion of the thesis will, no doubt, have been altered many times more since.

¹⁵ This phrase translates into ‘The precise accusation, the well-defined insult’

¹⁶ Structuring terms like methodology, literature review, findings, discussion and so on have been (mostly) avoided.

¹⁷ Bergson (in Wood & Harrison, 2003:141) had interesting things to say about fabrication that I was unaware of until I carried out reading for this project, despite having Harrison & Wood’s book since its publication nearly 20 years ago – it is an enormous book though!: ‘intelligence which aims at fabricating is an intelligence which never stops at the actual form of things nor regards it as final, but, on the contrary, looks upon all matter as if it were carvable at will.

[...] The whole of matter is made to appear to our thought as an immense piece of cloth in which we can cut out what we will and sew it together again as we please. Let us note, in passing, that it is this power that we affirm when we say there is a space, that is to say a homogeneous and empty medium infinite and infinitely divisible, lending itself indifferently to any mode of decomposition whatsoever. A medium of this kind is never perceived; it is only conceived.’

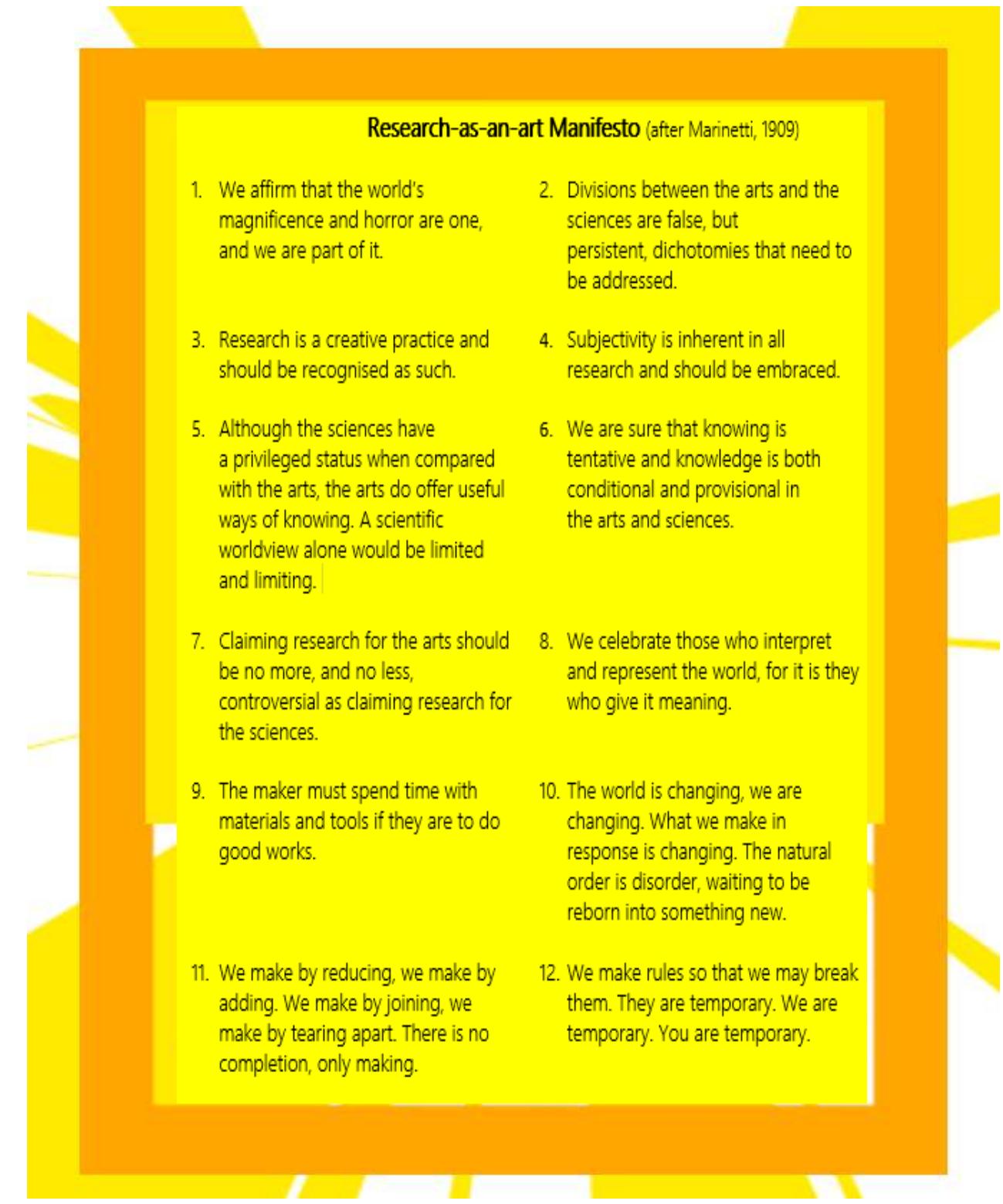


Fig. 7. *Research-as-an-art Manifesto*. Simon Webster (2020).

Setting off: Leaving the grief behind

I began this project thinking I would be using Grounded Theory (Glaser & Strauss, 1967) and Symbolic Interactionism (Blumer, 1969) as the slits through which I beamed my research data, but as the project progressed I found I used a wider range of apparatuses (Barad, 2007:141) to create the diffractive patterns that I study and write about. I am suggesting an approach more like Guattari's **metamodelling** that:

makes felt lines of formation, starting not from one model in particular, but actively taking into account the plurality of models vying for fulfilment. Metamodelling is against method, active in its refutation of pre-existing modes of existence, meta in the sense of mapping abstract formative conjunctions, in continuing variation, across varying deflections. (Manning, 2016:138)

Parallels can also be drawn with Gale's (2018:17) 'non-methodology', or 'methodogenesis' (*ibid*), challenging the stance taken by a fixed methodology that sets out the route to be taken before the journey has begun, rather than one that unfolds as the journey progresses. Gale's (2018:161) approach tries to 'disallow narrowness of thought and practice and to trouble the tyrannies of epistemologies of fixed meaning'. Similarly, Blumer (1969:32) warns against over-operationalising one's research, but he also warns against claiming one's research conceptualisations 'as valid because they sound good'. As the approach to this project has developed, and in an attempt to move it from accusations of pure whimsy, or it being an idiosyncratic mental construction, I have had to consider Blumer's warning – how do I ensure that the research project has an acceptable degree of rigour? How do I justify my approach?

Kübler-Ross (2019:273) proposed 'five stages of grief' she recognised in those who were learning to come to terms with dying and death. The five stages are: denial and isolation; anger; bargaining; depression; and acceptance. The stages 'do not necessarily occur in any specific order' (Axelrod, 2019:online), can be returned to, and can occur concurrently, but Kübler-Ross reports a tendency for people to move through the stages in the order they are laid out above. As I have proposed, justified, developed, and enacted this research project I feel that I have worked through these stages. I have worked through feelings of denial many times: I have denied the fact that I had signed up to a PhD and had deadlines to meet, instead finding other things to do to fill my time rather than sit and write; I have denied pressures that try to enforce compliance with expectations

¹⁸Murad (1943:231-232) explains that 'the definition of money as the commodity functioning as a medium of exchange, a standard of value, a store of value, a standard of deferred payments and a reserve for bank credit is wrong. It harbors two fundamental misconceptions. The first of these is that money is both the medium of exchange and the standard of value (all other "functions" are derived from these two). The means of payments are qualitatively different from the standard unit of value. They are the tangible or intangible manifestations of debts and claims, arising from indirect exchange and expressed in terms of the standard of value, or money. The second misconception is that money

for what a research project should be; and I have denied (as well as accepted) that I will have to justify my approach to others, to convince them of its worthiness. As explained at the start of his chapter, there were feelings of isolation as I set out on my journey. I felt I was alone – and this isolation created some fear: fear of the unknown, fear of being found out, and fear of failure – fear of being trampled. Of course, I wasn't alone - I had a large amount of ignorance with me! Part of my justification for the 'research-as-an-art' approach that has been adopted is the move from isolation that has helped assuage feelings of denial. I have spoken with people and read extensively, I have found similar minded people, or people who may be differently minded but who have been through similar experiences and who have felt similar challenges to their belief systems. Although the approach to my research can and will be challenged, so can all the others. I argue that the approach taken was, if not necessary, certainly appropriate.

Stages of anger and bargaining (Kübler-Ross, 2019) took place as I carried out my reading around research methodologies and wrestled with dualistic divisions between the arts and the sciences and concomitant research approaches. I found that some of the teaching that I had been doing with my PGCE students around research methodologies and methods was referring to various models 'because they are current intellectual coins of the realm' (Blumer, 1969:33), without thinking too much about the real nature and complexities of the system of money (Murad, 1943)¹⁸. I had been conditioned, or had allowed myself to believe, or at least replicate and prolong through my teaching, ideas based on the supremacy of the scientific method and the need for other methods to try to replicate the scientific method as best they could, while accepting they were of lower status. As my eyes were opened to different ways of thinking I became angry with the research methods I was reading about, angry with myself for my complicity, and angry with the othering of research in the arts. Nelson (2013:48) describes how the wider arts community can be 'shocked to find in the context of the academy that their work is regarded as insubstantial – entertaining and decorative rather than knowledge-producing'. Foucault (1981:52) explains how exclusion from a discourse can come about by 'prohibition', by simply banning some parties from taking part in a discourse, perhaps denying them access to research funding (Cortez, 2014),

is a commodity. Neither the means of payment nor the standard of value could be regarded as a commodity. The standard of value is bound to be abstract. The means of payment may assume concrete form; they can be made of paper, nickel, silver, gold or some other commodity, but they can never be media of exchange by dint of this materialization. A correct definition of money must not imply that there is any connection between the standard of value and a commodity, nor that the standard of value and the medium of exchange are two aspects of the same thing'. The dislocation of money from value is similar to the dislocation of words from things.

publication, or inclusion in Research Excellence Framework (REF) processes. Foucault (1981:53) notes a second way that people can be excluded from a discourse, a way that relates to the othering of arts-based research:

There exists in our society another principle of exclusion, not another prohibition but a division and a rejection. I refer to the opposition between reason and madness. Since the depths of the Middle Ages, the madman has been the one whose discourse cannot have the same currency as others. His word may be considered null and void, having neither truth nor importance, worthless as evidence in law, inadmissible in the authentication of deeds or contracts, incapable even of bringing about the trans-substantiation of bread into body at mass. On the other hand, strange powers not held by any other may be attributed to the madman's speech: the power of uttering a hidden truth, of telling the future, of seeing in all naivety what the others' wisdom cannot perceive. It is curious to note that for centuries in Europe the speech of the madman was either not heard at all or else taken for the word of truth. It either fell into the void, being rejected as soon as it was proffered, or else people deciphered in it a rationality, naive or crafty, which they regarded as more rational than that of the sane.

To help find my voice and use it confidently in an authentic fashion, and to try to let it be heard and listened to, I had to carry out some bargaining, seeing how I could compensate for any perceived lack of rigour in the research approach. A framework for the reception of the work had to be developed, including statements about ethics and methods. Stages of depression and acceptance (Kübler-Ross, 2019) are still being worked through. Coming to terms with what I have done, and what I have not, is difficult. This research has been carried out in its own particular way and that has been at the cost of other ways that would have been interesting to explore. Unlike Helen Quilley, Gwyneth Paltrow's character in *Sliding Doors* (Howitt, 1998), I am aware of the paths that have gone untravelled. Despite a sense of loss for the things I have not done, I do accept and embrace the choices I have made. The following sections will explain more about decisions that were made and how the project was carried out.

Trustworthiness

If 'research-as-an-art' is substantively different from social science research then how is it to be judged, how is it to be received and valued? Barone & Eisner (2012:5-6) asked similar questions of arts-based research (whereby the research output is through an artistic form):

Given the apparently elusive character of art forms, how will we determine the "validity" of what an arts based research project yields? How will we know if it is accurate or inaccurate? Can arts based research be trusted? [...] [the writer Stegner said] a work of fiction needed to be true in order to be great. The irony is clear. Truth is not owned simply by propositional discourse; it is also owned by those activities that yield meanings that may be ineffable ultimately but that nevertheless ring true in the competent percipient. What we seek is not so much validity as it is credibility. The virtues to be found in arts based research are not located in some isomorphic relationship between a statement and an event; it is to be found in the degree to which, as Geertz says, it makes our conversation more interesting.

While much social science research has tended toward a tradition of seeking reliability, validity, generalisability, and objectivity as important markers of quality that the researcher should try to establish (Silverman, 2013), some have placed more emphasis on the reader's reception of research and concepts of trustworthiness have been developed, whereby credibility has been preferred over internal reliability; transferability over external validity or generalisability; dependability over reliability; and confirmability over objectivity (Lincoln & Guba, 1982; Shenton, 2004; Schwandt, 2007; Rolfe, 2006 & 2007). Rolfe (2007:108) argues 'a study is trustworthy if and only if the reader of the research report judges it to be so'. The 'research-as-an-art' approach used in this project tries to ensure that the study reaches a level of rigour that can aspire to be received by its audience as trustworthy. The write-up regarding sketchbooks and new technologies is written for Art & Design educators; it tries to use terminology, critical frameworks and a research approach that is reconcilable with, or sympathetic to, Art & Design educational practices. It is hoped readers of the finished study will find familiarity in the discussion of the research and ways that sketchbooks are being used in Art & Design education, thus giving the study credibility and dependability. It is the utility of this project to others that will determine its confirmability and transferability, as readers of the finished thesis engage with its spirit, approach and themes.

Moving towards methods

'Research-as-an-art' embraces skills, processes, attitudes, perceptions, and ways of knowing that are used by artists and that have value to them. Artists make things; they find ways through or around problems; they are pragmatic. Slager (2009:55) lauds the way 'artistic research continually produces novel connections in the form of multiplicities characterized by temporary, flexible constructions', making what Tepper (2013:online) calls 'connections in all directions'. Internal dialogues produce external articulations in many forms, including sketchbooks and works of art. They are usually interim statements or expressions of an ongoing debate or experiment. Artists produce series and bodies of work that are evidence of ongoing enquiry, often with many connections between works of art within a series and between series themselves. What artists do in their practice has been framed as a form of research (Nelson, 2013; Cortez, 2013; Barrett & Bolt, 2019). What artists are trying to achieve with their research may have fundamental differences to other forms of research but also very significant areas of common interest and approach that could open up possibilities for 'border crossings' (Giroux, 1992) that allow for deeper or alternative insights into research formulations and practices, perhaps through triangulation (Denzin, 1978), as

well as a feeling of partnership, or collegiality with other disciplines: Buchler (in Mottram, 2009:13-14) thinks 'the aim of academic research is the production of expert knowledge; the aim of art is the expression of understanding as an account of experience'. Elkins (2009:116) adopts a similar outlook, stating 'for the majority of artists, *knowledge* is not what art produces. Expression, yes. Emotion, passion, aesthetic pleasure, meaning. But not usually knowledge...'. In the approaches described by Buchler and Elkins, the artist is working in a phenomenological field and, although they may not be aiming to create knowledge directly, they are producing the opportunity for those experiencing works of art to construct or reconstruct their own knowledge. This view underplays the contributions to knowledge that artists make. Biggs (2006:190) helps to explain the roles of the artist and audience by citing Ricoeur's claim that artistic work *can* provide new knowledge 'in a way that makes us arrive at it through the work of interpretation' and this presupposes that the artist has made something that exists to be interpreted. Compagno (2012:49) insists the audience should always consider, as best they can, the known limits of the author's intention, which 'leaves some freedom to the interpreter, an open field of possibilities, but not complete freedom' (Compagno, 2012:49). Dewey (1980:54) identifies work that the audience has to do, including trying to understand the work from the artist's perspective, warning that 'the one who is too lazy, idle, or indurated in convention to do this work will not see or hear'. Whatever degree of interpretive freedom the audience has, there is a degree of intentionality and communication of meaning coming from the artist and the arts offer ways to create and communicate meaning that are powerful representations of human experience that add to the body of knowledge we share. Although 'the research of artists can be stubbornly, promiscuously nonlinear in its approaches and results' (Cortez, 2014:online) it can be read; meanings can be found and made, but those meanings may exist between the lines and in the spaces (Solzhenitsyn, 2003), or in the reader's mind more than in the text.

The interview becomes the intrerview

Interviews between two people are 'a collaborative effort' (Fontana and Frey 2005:696). They offer an opportunity for pre-existent meaning to be recalled, reported or uncovered; but meaning can also be constructed at the time of the interview (Blumer, 1969; Denzin, 2001). Fontana & Frey (2000:657) discuss the history of interviewing, from earlier times when the influence of the interview was not recognised, through a period where there were 'new ways to conduct interviews, in the hope of minimizing, if not eliminating, interviewer influence', and onto a later

stage where it was established that interviewer influence could not be eliminated and had to be recognised. As I sought ways to recognise my influence in the planned interviews that were going to be carried out during this project I came across the concept of the 'intrerview' (Kuntz & Presnall, 2012; Stender Petersen, 2014). Kuntz and Presnall (2012:1) use 'intrerview', rather than interview, in an attempt to differentiate their approach from other approaches to the interview, emphasising the 'intra-actions' (Barad, 2008:810) they sought, rather than the more traditional interaction. Barad (2008:815) explains how 'relata do not preexist relations; rather, relata-within-phenomena emerge through specific intra-actions'. Stender Petersen (2014:33) states:

While interaction assumes that there are several distinct individual agencies prior to the interaction, the concept of intra-action states that agencies do not precede their interaction but instead emerge through it and cannot be understood as having clearly defined borders.

It is through the 'diffraction grating' (Barad, 2008:811) of the intrerview that meanings will come into existence. Kuntz & Presnall (2012:1) see the intrerview as a 'wholly engaged encounter' that brings together the interview, interviewee, and the physical context of the interview. They saw the intrerview as a way of moving beyond a conceptualisation of the meeting of two separate human subjects and turning it into a meeting influenced by Pink's (2009:3) work on 'sensory ethnography' and contemporary thinking around posthuman materialism (Barad, 2007).

Kuntz & Presnall (2012) incorporated walking into their intrerviews, using the spaces within and around the classroom and school to help different perspectives regarding teachers views of their practice experiences to appear. In their study

the teacher, school, and environment exist in dynamic relation, each contributing meaning in the event. In this sense, meaning is generated within such relations, not between discreet entities—meaning as a becoming. (Kuntz & Presnall, 2012:732-733)

Stender Petersen (2014:33) used a puppet mouse in their intrerviews to help create a 'repertoire of material-discursive meaning'. The puppet was constructed to be familiar enough in form to be easily relatable to through familiarity, but abstracted enough to leave room for the children to build their own relational meanings with it. In effect, the puppet decentred the researcher and helped change the power-relations that can be inherent in an interview (Holstein & Gubrium, 1995). These approaches, involving the walking and the puppets, appealed to me, with the sketchbook and the studio offering me equivalent kinds of things to fold into my approach. As I adopted their ideas about the use of material elements in my interview process I found myself adopting the term intrerview as well. I decided to carry out my intrerviews in the studio space where the students worked. I thought it would relax them and would also put them in a space that would

create memories and stories about what they thought had happened in the past. The space would be where their sketchbooks had been created (partially, at least); the studio is where they would have had tutorials with their lecturers and taken part in crits¹⁹ with their peers; the studio also has the tools that the students use in their creative works. The tables carry the marks of making in their patinated, scratched surfaces; splashed paint is going through entropic decay on the floor.

I thought that carrying out the intrerviews in the studio was important, but what I most valued was carrying out the intrerviews with the student's sketchbooks present, allowing the sketchbooks to be at the centre of the intrerview process. The presence of the sketchbooks would help the participants engage with 'sense at the level of affect and material embodiment' (Kuntz and Presnall (2012:4). The sketchbooks carried meanings from the past into the future, they held ideas, they had a physical form that encouraged touch, and visual data that offered opportunities for meaning making in the present. The presence of the sketchbooks was highly generative. Alaluusua (2017:online) carried out similar interviews for their study into artists' sketchbooks and noted

When the artists were interviewed for the research project a number of them pointed out, there and then, that they had just realised something new about their own sketchbooks. Through verbalising their sketchbook practice the artists discovered some aspects of their own sketchbook usage they had not been aware of before, for example a reoccurring theme.
(Alaluusua, 2017:online)

A student's sketchbook could be thought of as 'vibrant' (Bennett, 2010:viii), with a 'thing-power' (Bennett, 2010:2) that influences, it is 'intra-acting' (Barad, 2007:170) within the phenomena of the intrerview. The presence of the sketchbook opened up opportunities for me to gain some 'empathic understanding' (Bresler, 2006:58) of the student's working processes. It helped me attune myself to what I thought was the right 'aesthetic distance' (*ibid*) in relation to the student's work. Having their sketchbooks present brought me much closer to their work than I otherwise would have been. The intrerviews consisted of a student and I, standing or sitting side-by-side, leafing through their sketchbook work, discussing what was in the sketchbook and what meanings we could construct from it. Through the intrerview process, I was involved in 'an embodied engagement with the materiality of the research data' (Sayal-Bennett, 2018:online). The students and I journeyed through the sketchbooks, taking in the sights, telling stories about what we saw and what came to mind. We moved back and forth, making connections within sketchbooks and between sketchbooks. The sketchbooks became a space that we travelled to and lived in for a

while; they transported us. We became less aware of our studio surroundings, less aware of the researcher and researched constructions that were formulated by the ethics paperwork that preceded our encounter. Initial guarded reservations fell away and my encounters with students and their sketchbooks quickly became engaged conversations around, with, led by, the sketchbooks.



Fig. 8. "and what is the use of a book," thought Alice, "without pictures or conversations" (Carroll, 2000:1-2). Lola Webster (2020).

¹⁹ Crits, or a crit, is a commonly used abbreviation in Art & Design related pedagogical practices. Crits are critiques, and offer opportunities for students to explain the progress they are making with their work and to receive feedback from peers and tutors (Healy, 2017; Fitch, 2016; Barrett, 2010; Blair, 2006).

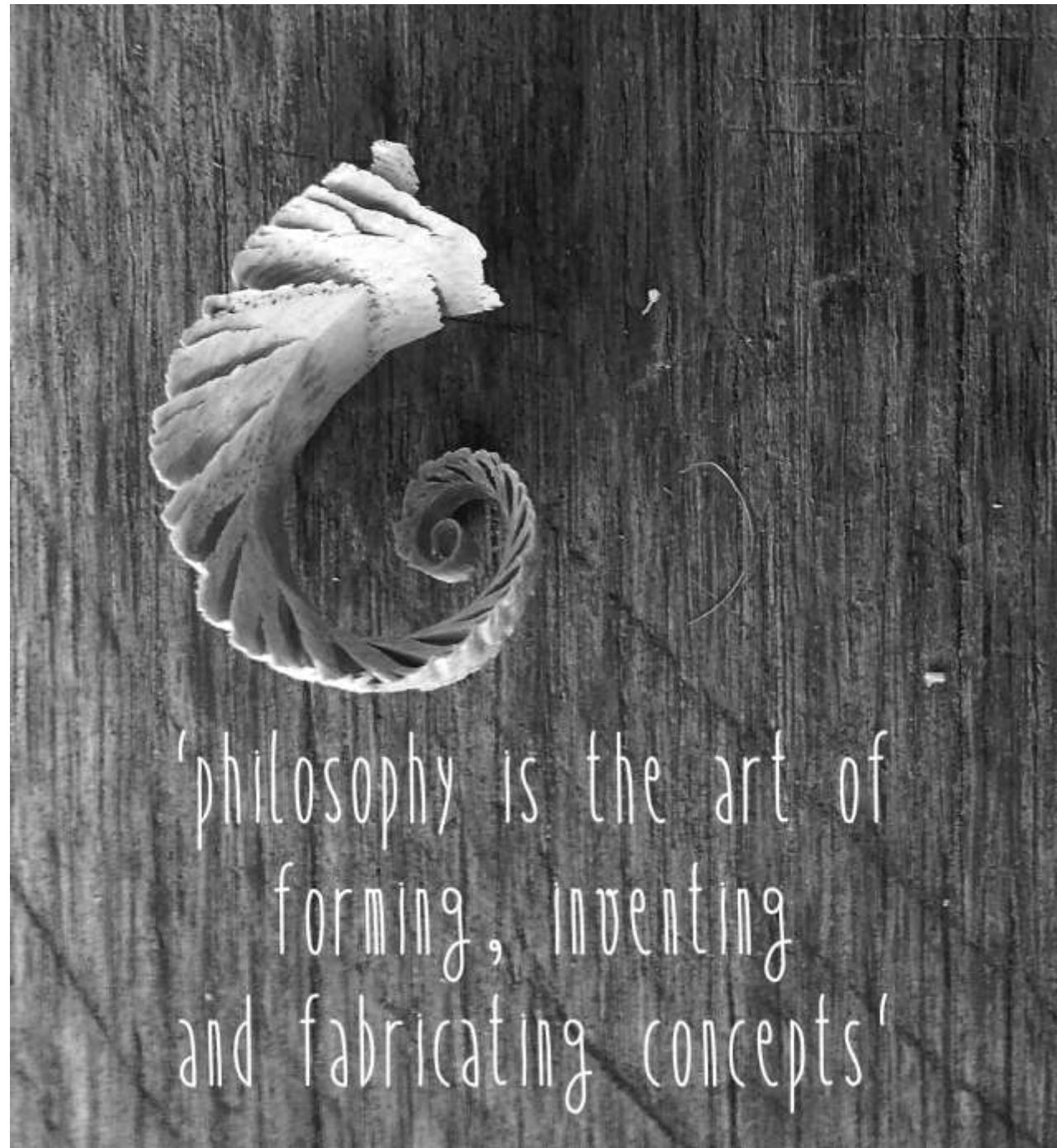
Fabricating meaning

Adopting bricolage within this project's research-as-an-art approach is seen as a pragmatic response to a complex situation. Earl (2013:26) asserts 'To really, truly, rigorously know and understand, surely, one has to delve into many different academic disciplines and use multiple methods of inquiry'. Because 'any single research perspective is laden with assumptions, blindnesses, and limitations' (Kincheloe, 2001:682), the bricoleur does not adopt a single, reductionist and 'monological' (Kincheloe, 2005:326) approach. The bricoleur is not constrained by, or limited to, one approach. I argue, bricolage is not a method in itself, it is an orientation, outlook or philosophy – it is a desire and demand to be free to respond pragmatically, reflexively and authentically to a presenting situation in ways that seem appropriate to the bricoleur – it 'resists its placement in concrete as it promotes its elasticity' (Kincheloe, 2005:325).

Collage, as an art practice, is associated with gluing down fragments of material onto a ground. It is the making of a composite image; sometimes a reconstitution of parts of an image into a new composition; often the combination of multiple, disparate, fragments brought together, whereby, 'In the place of a perfect, transparent unity of form and content, we find the evident manipulation of codes and a preference for multiple meanings and fragments' (Poggi, 1992:32). Parallels can be drawn to bricolage and assemblage, which have art origins in three-dimensional work, while collage tends towards the two dimensional. Alternatively, it would also be fair to say that bricolage tends towards the sculptural, while collage tends towards the pictorial. If the two terms were represented by a Venn diagram then there would be a large overlap; partly because the terms do not have fixed meanings and partly because, art practitioners like to break rules, blur boundaries and appropriate the practice of others for their own means. For example, an historically significant work of art that embodies a hybrid three-dimensional bricolage and two-dimensional collage approach is *Still Life with Chair Caning* (1912) by Picasso. The collage utilises paint, objects and painting of objects in a picture that combines multi-perspective cubism, transparency and occlusion. *Still Life with Chair Caning* does show a cafe scene, but is a commentary on still life traditions regarding materials and forms of representation. When utilised as a descriptor in the 'research-as-an-art' approach being used in this project, collage could be applied to the composite parts of the representation of the project through the deployment of various theories and images used on the page. The words were put down on the page over time, sometimes individually worked and reworked, selected and replaced multiple times - at other times they came

more freely, in larger groups. Sections or fragments of writing are offered up to each other to see how they sit together; sometimes ideas are placed in juxtaposition, sometimes harmony and flow is sought. The process of montage is relevant here.

Montage is the 'the technique of selecting, editing, and piecing together separate sections of film to form a continuous whole' (OED in Dix, 2016:62). Montage allows a film editor to mark the passage of time and, or, move action from one place to another with immediacy. Three significant montage theorists are Kuleshov, Eisenstein and Tarkovsky. Kuleshov saw the potential of montage to create meaning through the sequencing of juxtaposed images - significant meaning could be created between individual shots. Eisenstein (1937) added a political dimension to Kuleshov's technical approach, focusing on the cumulative and holistic effect of montaged sequences and the multiple jolts that happen as images are montaged together in a film. Tarkovsky (2012) celebrated the poetics within film shots as well as in the editing between them. He tended toward longer shots, with fewer cuts than many other directors and editors and he tried to establish a sense of rhythm within his work, which he called 'sculpting in time' (Tarkovsky, 2012:121). All of these approaches to montage can be applied to the writing up of this project. The representation of the intrerviews and of the analysis that took place after them, is a montage of meaning making within and between theories and stories. It is an edited, composed, representation of what I saw and was told during the research; it is a narrative account of actions carried out by an ensemble cast, with many of them never meeting or even knowing of each other. Since those intrerviews, the recordings have been watched, analysed, annotated, theorised and were used as inspiration for further thinking and reading. Elements of the intrerviews, their analysis and the thinking and writing that they inspired have been joined together to form this body of writing. This writing has not been completed in a simple linear narrative, whereby I would have started by writing the introduction and proceeded serenely to the conclusion. At times, it has felt like all the sections of writing have been on the cutting room floor and have been spliced together so many times, in so many configurations, that the editing of the finished work has become the mode of production. It may still need a director's cut!



'philosophy is the art of
forming, inventing
and fabricating concepts'

Fig. 9. Deleuze & Guattari (1994:2) Photograph Simon Webster (2014).



Fig. 10. Deleuze & Guattari (1994:5) Photograph Simon Webster (2020).

The researcher as apparatus

Barad (2003:816) argues an apparatus plays 'a crucial, indeed constitutive role in the production of phenomena'. An apparatus is not neutral, it is not objective, or distanced. It is part of the phenomena it intra-acts within:

apparatuses are not mere static arrangements in the world, but rather apparatuses are dynamic (re)configurings of the world, specific agential practices/intra-actions/performances through which specific exclusionary boundaries are enacted. Apparatuses have no inherent "outside" boundary. (Barad, 2003:816)

According to Sayal-Bennett (2018:online), the kind of diffractive practices suggested by Barad aim to be:

involved in the production of the world rather than offering a neutral and objective description of it. In this way, diffractive analysis accounts for the entanglement of researcher and researched, rather than considering the researched object in isolation, from a distance.

In relation to the approach taken with this project, the sketchbook is an apparatus²⁰, the research interview is an apparatus, and, perhaps most importantly in the context of a PhD thesis, the researcher is an apparatus – a human apparatus; a living, subjective, somewhat fickle, multi-faceted, ever-changing person; one who is constituted by, and who constitutes, their world of experiences. The researcher, when conceived of as an apparatus, is a data creating tool, rather than a data collecting tool. Although this may seem like a radical approach for understanding research processes and knowledge construction, it is a useful way of thinking about ethical and procedural practices, and what they produce. It also challenges conceptions of objective scientific truths. Interestingly, when considering Intelligence Quotient (IQ) scores and how they are formulated²¹, Andersen (1994:131) coined the term 'creata', instead of research data, to frame the effect that a researcher has on their research. Research data is collected and compiled within epistemological and procedural social constructs that impose complex processes of 'creation and construction, and not just a process of "discovery" or "obtaining what is given.'" (*ibid*). Polyani (2005:18) discusses 'the art of knowing' and 'personal knowledge', arguing that knowing is both situated and is built upon experience and exposure. The apparatus that we

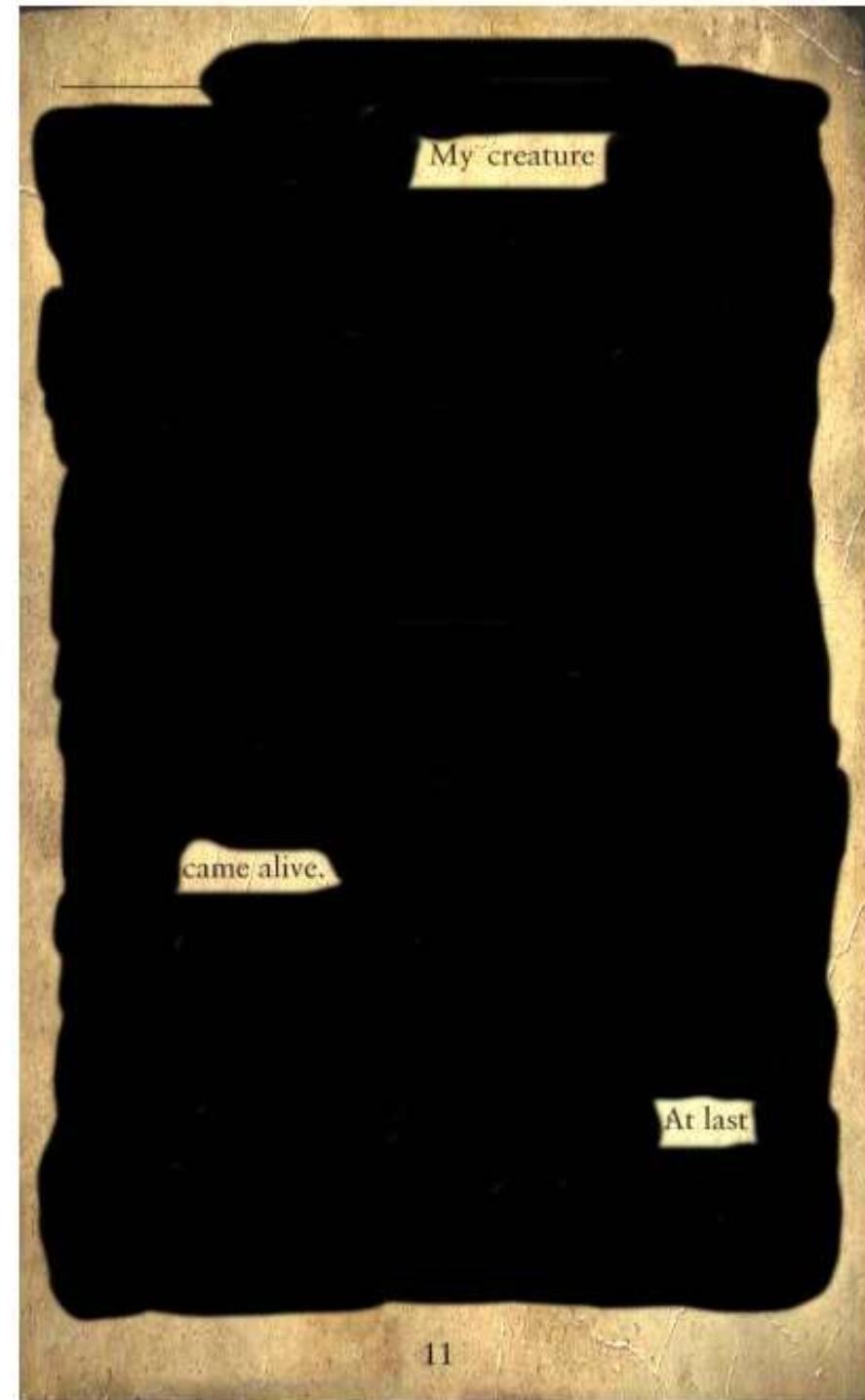


Fig. 11. *Alive!* Simon Webster²² (2020).

²⁰ If an apparatus is a data collecting, or creating, tool, then the sketchbook itself is an apparatus, constantly collecting data – some things are consciously entered into it by people, but it is also collecting patina and other records of how it has been handled, stored, moved, used and abused. Bennett (2010:xvi) writes about 'the strange ability of ordinary, man-made items to exceed their status as objects and to manifest traces of independence or aliveness [...] a liveliness intrinsic to the materiality of the thing formerly known as an object'. Bennett (2010:2) quotes W. J. T. Mitchell: 'objects are the way things appear to a subject - that is, with a name, an identity, a gestalt or stereotypical template. ... Things, on the other hand, ... [signal] the moment when the object becomes the Other, when the sardine can looks back, when the mute idol speaks, when the subject experiences the object as uncanny and feels the need for what Foucault calls 'a metaphysics of the object, or, more exactly, a metaphysics of that never objectifiable depth from which objects rise up toward our superficial knowledge'. But what of the object or the thing and their perspective, their life (as

recognisable by the aliveness that Bennett mentioned)? It is so hard to consider the non-human from anything but a human perspective.

²¹ IQ scores are criticised for being presented as objective truths when they are subjective constructions. Andersen (1994:131) states: 'The reification of the concept of intelligence, and the interpretation of certain statistical concepts as if they represent "laws of nature," are, thus, often used to mask the human decisions and social processes involved. [...] IQ test scores do exist, but not IQ. IQ is found in that land populated by Easter bunnies, tooth fairies, and other mythical creatures'.

²² This experiment was inspired by the black page in Sterne's (1759) *The Life and Opinions of Tristram Shandy, Gentleman* and by the black-out poem *All in* by Carriezona (2013).

are/become within a phenomena or assemblage is partly formed by previous experiences, or what we bring to the assemblage. An apparatus also reacts to the phenomena it is part of. What we take away with us from engagement in a phenomenon is an altered apparatus and a set of data that we have created. That data is waiting for further intra-action, reforming itself into other constructions of meaning with each reading of it. The data, or 'creata' (Andersen, 1994:131), is a 'vibrant matter' (Bennett, 2010:xix). As Dr. Frankenstein said in the film (Whale, 1931:2'40") as he brought his monster to life, "Its alive, its alive, its alive, its alive, its alive, its alive, its ALIVE... in the name of God... now I know what it feels like to be God!". The researcher is, as Barad (2003:816) states, 'crucial'.

Just as the research intrerviews were crucial, so were the later engagements with the photographs, video and audio recordings made during the intrerviews. The research is based on and flows from those intrerviews, but hundreds of hours more were spent interpreting the materials produced in the intrerviews than were spent engaged in the intrerviews themselves. Meanings were made before the intrerviews, were re-made during the intrerviews, and have been remade since. Janesik (2000:388) compares research processes to the choreography of an improvised dance, believing researchers to be 'more like artists than they may think'. Improvisation is a form of practice that:

Accents and embodies real-time creative decision-making, risk-taking, surprise, and collaboration, improvisation has much to teach us about listening – *really* listening – to what is going on around us, much to tell us about responsibility and hope. (Caines & Heble, 2015:2-3)

To improvise one has to respond. To respond one has to be aware. To be aware one has to be engaged. To carry out the project in a way that I thought was methodologically and ethically appropriate I had to constantly be aware of what I was doing, what I was trying to achieve, and how I had to constantly reform the project in its enactment. I could not just play out a scripted set of actions. I had to constantly take responsibility for the project and how it unfolded. These improvised interpretive dances have taken place throughout the project and to such an extent that I no longer think it is truly accurate to say that the project had stages (the design stage, the data collection stage, findings, discussion, etc.). The stages that seemed to be there when I first submitted the project proposal have had their boundaries dissolved and an iterative process of reconsideration and reframing has reformed the project a number of times, or perhaps, constantly. While writing up the thesis I have re-imposed some semblance of order and structure to help me (and the reader) make sense of my notes. The imposed structure could be thought of

as a form of telescope or microscope, it may bring you closer to what I have been doing and thinking, it might isolate parts from the whole so that they can be studied in detail. Really though, what has taken place has been more like looking through a kaleidoscope. A kaleidoscope refracts, mirrors, and creates patterns; small individual bits of glass are resolved into a visual field of coherence, but they are apt to reconfigure themselves into another pattern with the merest suggestion of input from the viewer. Things that seemed resolved when viewed from one perspective seem quite different when viewed from another. A kaleidoscope 'makes it possible to view everyday objects in extraordinary ways' (Optical Wonders, 2019:online). A kaleidoscope brings joy and wonder when a new pattern is formed – and at times a sense of disappointment. Sometimes, when you give a kaleidoscope a jolt or twist and a new pattern appears it is unappealing, and you make the kaleidoscope give you a new pattern. During this kind of 'pre-reflective experience' (Greenberg & Clark, 1981), when aesthetic decisions are immediately felt, rather than thought, you tend not to study the pattern in detail, you tend not to develop a theorised appreciation of the aesthetic that on first viewing seems ugly (Heller, 1993), you tend to move on. Sometimes what you see apprehends you, it stops you in your tracks, it takes your fancy, and you study it further (Greenberg & Clark, 1981). During this project I have opened myself up to these processes in a research context. I have responded to the diffractive patterns (Barad, 2007) that have presented themselves, or that I have created. Some of the patterns have been rejected immediately, others have been studied in detail. Some of the rejected ones may have had real worth, but they are gone. Not only have patterns been rejected or set aside, so have apparatuses.

Lost

During the period when I was working through the transfer from MPhil to PhD and getting ethical approval I had a period of time where I could read but could not start data collection, I became increasingly interested in how data was supposed to reveal or create theory. In the original Grounded Theory model (Glaser & Strauss, 1967) it seemed that by arranging the data and memos about the data into patterns and looking at the patterns you would be able to see the theory emerge, like one of those Magic Eye (N.E.Thing Enterprises, 1993) pictures that resolves into an image if you stare at it for long enough. I thought the researcher must be playing a very active role in the collection of data, memo writing about the data, the creation of categories, in the comparison of data within the categories, and in the meaning making between categories. The research seemed to be grounded in the researcher as much as it was grounded in the data, and it was this aspect of Grounded Theory that really interested me. There were places in Glaser &

Strauss's text where strict processes and structuring were loosened, and possibilities for recognition of the subjectivity of the researcher leaked out:

[A Grounded Theory researcher's] main goal in developing new theories is their purposeful systematic generation from the data of social research. Of course, verifying as much as possible with as accurate evidence as possible is requisite while one discovers and generates his theory - but not to the point where verification becomes so paramount as to curb generation. Thus, generation of theory through comparative analysis both subsumes and assumes verifications and accurate descriptions, but only to the extent that the latter are in the service of generation. Otherwise they are sure to stifle it. (Glaser & Strauss, 1999:28)

Still dependent on the skills and sensitivities of the analyst, the constant comparative method is not designed (as methods of quantitative analysis are) to guarantee that two analysts working independently with the same data will achieve the same results; it is designed to allow, with discipline, for some of the vagueness and flexibility that aid the creative generation of theory. (Glaser & Strauss, 1999:103)

When the sociologist consciously starts out to suggest a theory plausibly, rather than test it provisionally, then he can relax many rules for obtaining evidence and verifications that would otherwise limit, stultify or squelch the generation of theory. (Glaser & Strauss, 1999:186)

And later, having split from Strauss, when Glaser was defending his version of Grounded Theory he distanced himself somewhat from the centrality and importance of data, stating: 'Abstraction frees the researcher from data worry and data doubts, and puts the focus on concepts that fit and are relevant'. Charmaz (2000, in Glaser, 2002:online) explored these kinds of subjective leakage, suggesting a constructivist version of Grounded theory could be developed:

Constructivism assumes the relativism of multiple social realities, recognizes the mutual creation of knowledge by the viewer and the viewed, and aims toward interpretive understanding of subjects' meanings.

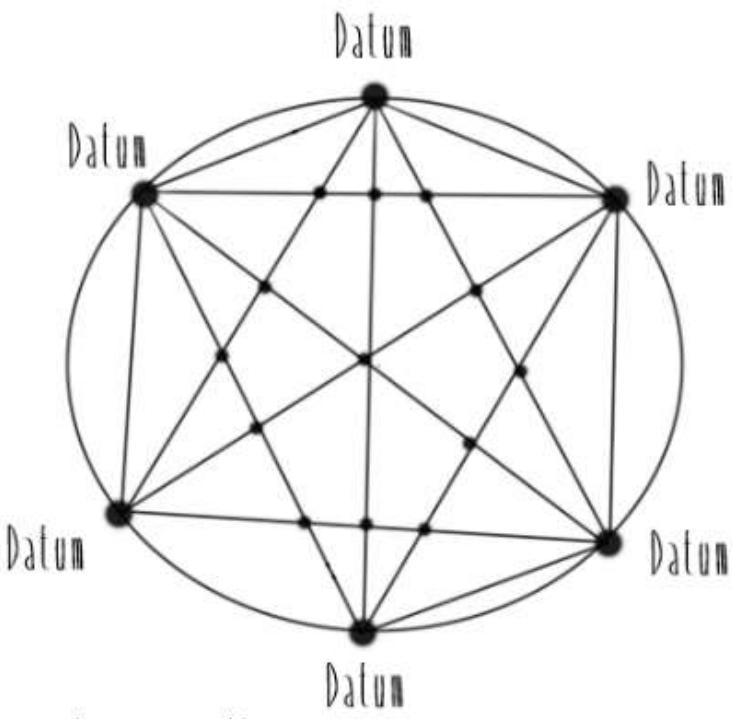
Glaser (2002:online) could see some value in interview data that 'represents the mutual interpretation of the interviewer and of the interviewee as the interview proceeds', but offered a firm rebuttal to Charmaz, viewing her constructivism as a qualitative data analysis approach that was not part of Grounded Theory. I read more of Charmaz's work (2014), and could see how I could align with it, in parts, but felt that Grounded theory over-operationalised the research process. I did think that I could adapt parts of it though, taking advantage of what I liked and leaving what I didn't. I was beginning to feel like an unwelcome house guest; I could hear the Grounded Theorists arguing in the other room, and I also thought they would not approve of me - I knew it was time for me to leave. But, from my research into Grounded Theory I had found something that was of most interest to me in relation to this research project, something that I thought I could develop. I was interested in the researcher's ability to theorise, to make connections between things, to offer 'plausible interpretations' (Glaser and Strauss, 1999:13) and substantive theorising, if not substantive theory or formal theory.

Recognising, embracing, and utilising my own positionality, predispositions and proclivities felt like the right way to progress with a project that was going to take some years to complete. I did not want to be fighting myself the whole way, working in ways that denied approaches that had been successful for me in my earlier studies as an Art & Design practitioner and lecturer. I knew that carrying out the research would change me, but that did not mean that I had to expunge my earlier self. I felt somewhat challenged, even threatened, by many of the research text books I read and wanted to find a way of thinking about my own research that was ethical, rigorous, and in keeping with my Art & Design outlook. To help me formalise my research approach I have been experimenting with a conceptualisation of 'research-as-an-art'. The research for this project is primarily concerned with the sketchbook. Over time, an idea was developed about the approach to the research, and the final presentation of the thesis, having a flavour of the sketchbook about it - how I use the sketchbook, and how the students I spoke with used their sketchbooks, could inform the project in ways that I had not imagined when I initiated the project. Gittens (2014:94), when discussing sketchbook usage, captures the spirit of the approach to this project that began to emerge:

They allow free thinking, sporadic and untimely propositions [...]. The contents of a sketchbook have a propensity for meandering, coupled with an inherent appetite for finding lines of flight steering away from fixed modes of thinking and doing. Engagement with the sketchbooks propensity for negotiating other, less rigid and confined avenues of thought encourages the development of unconventional modes of operation and eccentric forms of expression.

I recognise these traits in my own working practices and have sought to work with them, rather than against them. Although this does not describe the only way that I work, it is, I believe, an important part of my working method. Barone & Eisner (2012:4) claim 'the frame of reference through which one peers at the world shapes what one learns from that world'. As I wanted to learn about sketchbooks from an Art & Design perspective it made sense to frame the 'research-as-an-art'.

Although 'research-as-an-art' may prove to be a flawed concept due to its tilting at windmills, with limited utility and a short lifespan, its conception helped develop tentative feelings and procedural possibilities for how this project was carried out. In this chapter I have tried to explain the most important issues I faced as a researcher. What I cannot explain may not be directly articulated but may be exemplified (Massumi, 2002) through the thesis as a whole.



The Grounded Theory approach, using the constant comparative method to generate theory with an internal logic

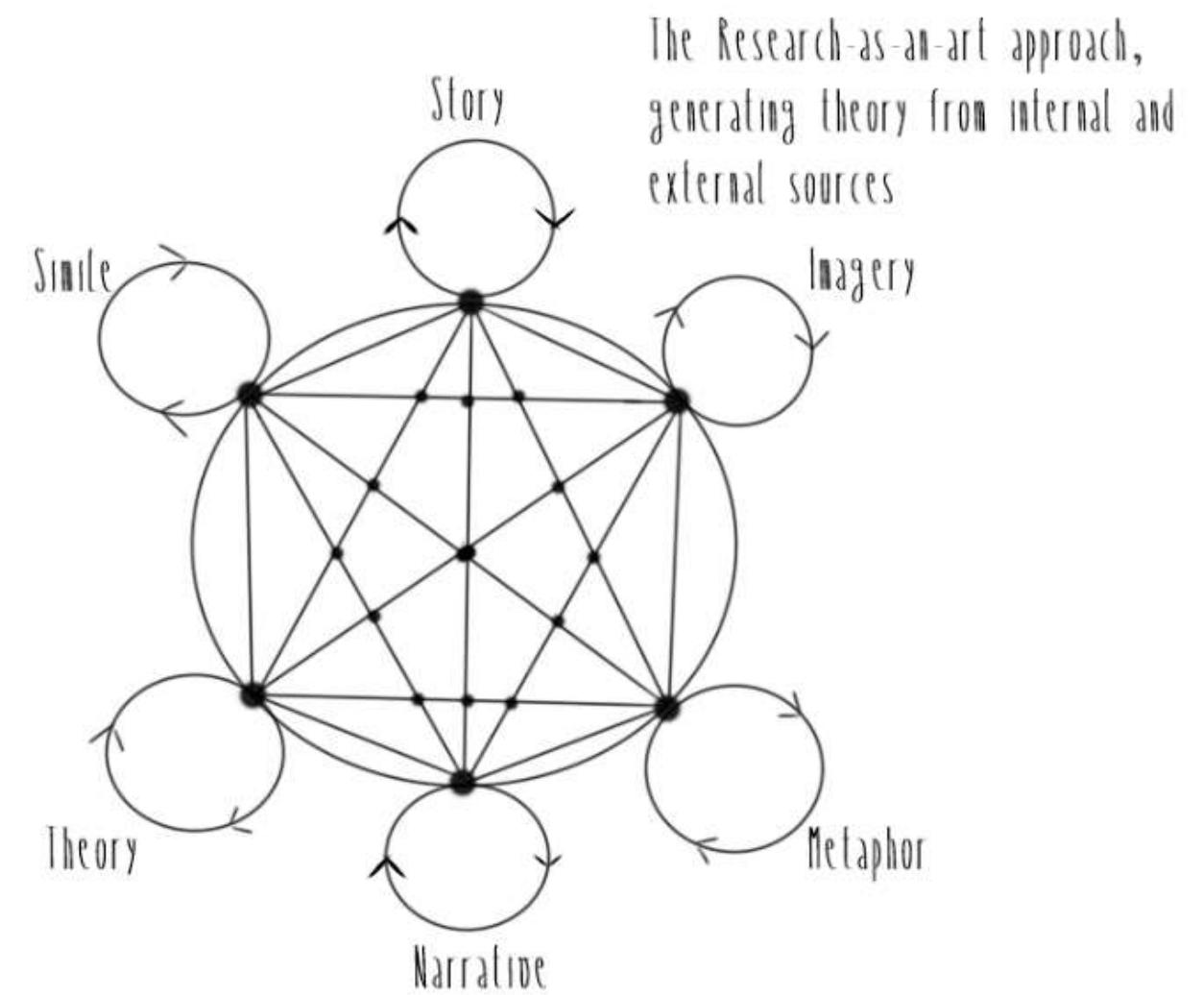


Fig. 12. Comparison of Grounded Theory and Research-as-an-art approaches to data interpretation and theory generation. Simon Webster (2020).

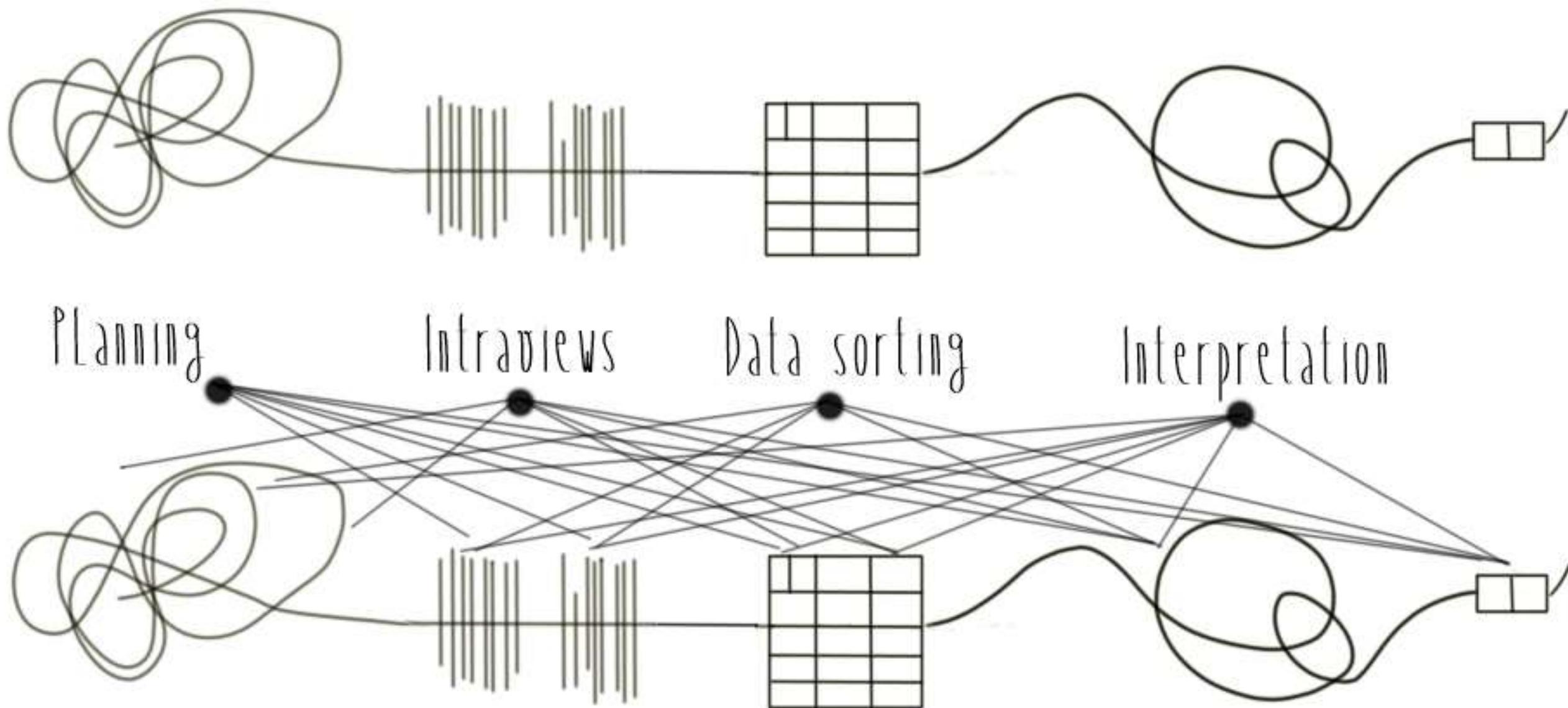


Fig. 13. The upper part of the diagram shows early project assumptions concern the project structure: Planning²³; intrerviews; data sorting²⁴; interpretation. The lower part of the diagram shows how a 'methodogenesis' (Gale, 2018:17) took hold, with divisions between stages dissolving into an array of constantly emerging, intra-related practices. Simon Webster (2020).

²³ The sampling technique used to select lecturer intrerviewees was a mixed methods approach (Teddlie & Yu, 2007). Selecting the first people to talk with drew upon volunteers as part of a 'convenience sampling' method (Teddlie & Yu, 2007). This 'insider-research' (Costley *et al.*, 2010) with colleagues meant the intrerviewees were 'easily accessible and willing to participate' (Teddlie & Yu, 2007:78). Because of my previous knowledge of the lecturers and their courses gained through carrying out teaching observations in my role as a teacher educator, I had some degree of assurance regarding the potential utility of carrying out an intrerview with a particular lecturer. For example, I have prior knowledge of some courses at a particular art college and know that the use of sketchbooks is encouraged and encompasses the use of new technologies. The sampling pattern was emergent and responded to both the desire follow up on ideas generated in earlier intrerviews, and to add to the diversity of the sample (Dick, 2003). Increasing the diversity of a sample, or adding to the array, is a form of purposive sampling (Teddlie & Yu, 2007). Purposive sampling is not random, it selects samples that may represent particular aspects of a population that are of interest

to the researcher that may be missed through random sampling, thus allowing for comparative analysis between differing aspects of the population. For example, following an intrerview with a lecturer they would suggest students for me to approach whose work might offer examples of, and insights into, ideas discussed during our intrerview. Teddlie & Yu (2007) would class this as representative sampling. I also received suggestions to meet with students whose work was idiosyncratic, atypical or 'unique' (Teddlie & Yu, 2007:82).

²⁴ After making notes and transcribing large parts of the intrerviews, NVIVO was used to tag the writing, in an attempt to make access to it easier. NVIVO was also used to tag some excerpts from my reading around my various topics. I gave up on NVIVO after a couple of years and went back to using the original recordings and my initial written analysis. There is a woodwork saying that suggests you should keep a piece of work as long as you can for as long as you can – once cut, the wood offers less opportunity. I found the same was true with the recordings, writings and readings.

Summary

I see this research as a project underpinned by an artistic sensibility, rather than one that would automatically align itself with (social) science. My preferred term for reconciling my research approach, which, sits within wider Arts-Based Research approaches, is 'research-as-an-art'. Primarily, conceiving 'research-as-an-art' is an attempt to allow me to experiment with my engagement with my subject area in a way that has parallels with the theorising I do in my own art practices, while still trying to meet the requirements of the PhD qualification. I have tried try to enact, or bring these concepts to life (Gale, 2018), through the form of the presented research project. It is a work in progress, one of 'forever unfinished discursiveness' (Bourriaud, 2002:26), one temporarily stopped in flight, so that it can be engaged with by others. Reading the final chapter of Gale's (2018) *Madness as Methodology*, I was taken with the way he wrestled with normal expectations of book structure, with premises leading to conclusions and with the linear approach to reading that books tend toward²⁵. He worked with and against these structures, hoping that the reader had used 'the index to help them choreograph the dance of their lines of flight' (Gale, 2018:163). As he was writing the final chapter he knew that he would be going back to rewrite the earlier ones – the book would never feel complete, it would always be 'in-formation' (Manning, 2013:20; Gale, 2018:163). The published book appears to be a work of coherence, with a high degree of certitude concerning the authors thinking, as books generally do: it has sentences, paragraphs, and chapters that flow. But Gale makes it clear that the book is not really settled and finalised – what the reader is presented with is a mere snapshot, one that has been composed well through editing, but that is only a fleeting moment of apparent fixity. The writing in the book mirrors the still photograph on the front cover – the boy runs down the sand dune – we know that he is moving and the sand is moving under his feet. He runs beneath clouds that are billowing with the portent of change in the weather; he runs toward the sea that is constantly moving, stirring things up, making a noise as the waves hit the shore that is both comforting and exhilarating. The boy himself is growing, changing experience by experience, day by day, year by year. The photograph is wonderful, but it is as if nothing compared to the boy and the life he lives.

²⁵ *The Unfortunates* by Johnson (1999) offers an interesting break with traditional book structures. The book is held within a book-like box. The first and last chapters should be read as such, but the other chapters are separate pamphlets that can be read in any order.

This section is for the reader to make notes, make connections, and add their own thoughts on sketchbook and research related practices as a summary to the chapter.



Chapter 2: Conceptualising the sketchbook

An important consideration for this project is the study of changes or differences concerning the sketchbook and sketchbook work because of the influence of digital technologies. The approach that Alaluusua (2016) took in her study allowed the adoption of sketchbook definitions that centred around traditional paper sketchbook formats and their relationship to artist's own practices, to art criticism based on the review of sketchbooks, and to curatorial practices concerning the public exhibition of sketchbooks. Alaluusua (2016:8) carried out a project that investigated artists' sketchbooks, but the study excluded students' use of sketchbooks in an educational setting 'because it was felt that students were not completely free to develop their own personal strategies for using sketchbooks'. For now, I will put aside relevant discussions about: whether any of us have free will and/or agency (Beebee, 2013); whether artists may also be students, especially now that so many artists are pursuing Masters and Doctoral level qualifications (Elkins, 2009), where boundaries between education and professional practices are blurred; whether students can be artists; or whether the term artist is a form of address, status, or identity that is antithetical to being a student and can only be conferred once educational study is finished. Alaluusua's study produced an initial intensional²⁶ definition of the sketchbook before the analysis of the data began and then an updated definition after the data analysis was complete, both are reproduced below:

For the purposes of this research, SKETCHBOOKS are defined here as blank books with sheets of paper bound together before artists and other creative people have used them to record and store visual material that is often drawn, sometimes written or glued on the pages.' (Alaluusua, 2016:22)

SKETCHBOOKS have served different personal uses for artists and other creative people. They have been used to collect and store material, as a practical tool, as a rehearsal and learning space to consider representation as well as application. In sketchbooks artist[s] have recorded their observations, worked from memory and visualised their ideas – with a view towards future referral. (Alaluusua, 2016:43)

The first definition is more explicit about the intensional form that a sketchbook takes, while the second places more emphasis upon the 'methods used in sketchbooks by artists' (*ibid*). Although the second definition does not explicitly align the sketchbook with paper books, Alaluusua did try to maintain a strict focus on them throughout her study. Her personal and research interest is in

the sketchbook as an object, an object that is recognisable in the tradition of the paper filled books that an artist may keep. Despite this, there are a few places in Alaluusua's interviews with artists where alternative forms of sketchbook do get mentioned, like the use of the digital camera to replace drawing when travelling or using iPads to store images rather than a paper filled book, but these are asides, rather than central themes in Alaluusua's study.

What are your intensions?

For the purposes of this project, where sketchbook use in an educational context is being considered, defining what a sketchbook is is difficult. Lexical, or dictionary, definitions are, by their nature, reductive, tending toward commonly held generic concepts, lacking specificity that relates the use of sketchbooks in an educational context and failing to encompass idiosyncratic or anomalous forms of practice that deviate from the lexical norm. For example, Merriam-Webster (2018:online) defines the sketchbook as 'a book of or for sketches', and Ryan (2009:36) as 'originally empty pocket books which have gone on to be drawn and written in'. Although I was shown many sketchbooks that were in alignment with these definitions and their intensional characteristics, I was also shown paper and digital technologies that were not.

If an intensional or lexical definition will not work, how about an extensional one? I put forward two major reasons why a full extensional definition of what a sketchbook is, one that lays out every possible member of a set, is not possible. First, all forms or types of sketchbook that may sit within the set have not been agreed by people who use the term. Sketchbooks (and words) are cultural phenomena that have contested and negotiated meanings in different contexts and, even within the sample of lecturers and students that I spoke to, there was a range of terms and concepts used regarding sketchbooks and sketchbook work. Second, over time, practices, technologies, and designs provide new possibilities for sketchbook conceptualisations and realisations, so the set cannot be completed as all the forms are yet to be realised – it is an ever-expanding field of practices. The second point was one of the driving factors behind this project; I wanted to see what effect digital technologies were having on sketchbooks and sketchbook practices that were seen as relatively stable and traditional (Alaluusua, 2016) and to do this it is useful to find and examine outliers or idiosyncratic forms of practice as they may 'yield very valuable information about heretofore unstudied phenomena' (Teddrie & Yu, 2007:82), phenomena which are likely to exist

²⁶ Cook (2009:155) explains that 'An intensional definition provides the meaning of an expression by specifying necessary and sufficient conditions for correct application of the expression. An intensional definition should be distinguished from an extensional definition, which merely provides a list of those instances in which the expression

being defined is applicable. For example, we might provide an intensional definition of "bachelor" by specifying that bachelors are unmarried men. An extensional definition of bachelor, on the other hand, would consist merely of a list of those men.'

at the outer edges of an expanding field of practice. Creating a complete extensional definition for the sketchbook is not possible, but, pragmatically, hoping to add to the body of knowledge that forms extensional conceptualisations of what a sketchbook might be is in keeping with the approach that this inquiry took and with the PhD expectation that research should be a ‘contribution to knowledge’ (University of Plymouth, 2017:35).

During the project I had to come to terms with complexities concerning the use of language regarding sketchbook practices, particularly within the setting that I was researching. Use of terminology concerning the forms taken by things operating as sketchbooks varies between practitioners and cultures (local, international, and historical). For example, terms that I have heard used, or have read about, during this project include: sketchbook (Şener, 2015; Orr & Shreeve, 2018), drawing book, notebook, journal (Smith, 2010), learning journal (Thompson, 2005), workbook (Glenn, 2016), technical journal, studio book (Lyndsay, 2016), scrapbook, portfolio (Thompson, 2005), research file (Ashley, 2016), blog, and travelogue. Although all of these terms have, or suggest, differing practices, they can all fall under the more generic term of sketchbook, often used when discussing two-dimensional preparatory work in Art & Design education²⁷. For example, in a Graphic Design assignment brief for year three students in the module leading up to the Final Major Project, the students are asked to submit evidence of their research in a ‘Blog and/or sketchbook’²⁸. The and/or used in the assignment brief suggests both differentiation and commonality between the blog and the sketchbook. Although they are different, they are able both able to fulfil the required function, alone or in tandem. The project or assignment brief, and the corresponding subject pedagogy, are allowing for new forms of practice via blogging, which seems to be held in equivalence with sketchbook work. In fact, blog is named before sketchbook in the quoted assessment guidance, which may represent status, lecturer preference, perceived student preferences or a recognition of, and response to, contemporary debates about the increasing role of blogs in art education (Budge, 2012, 2013, 2015; Maloney, 2007; Gröppel-Wegener, 2012). I found numerous examples of free interchange of language taking place during the intrerviews that I carried out, with lecturers and students moving between terms

in ways that they, and I, did not find difficult to traverse. Alaluusua (2016:173-174) found a similar issue regarding the interchangeability of terminology for sketchbooks and related forms of book, with one of the interviewees, for example, having ‘drawing books’ and ‘notebooks’ and ‘true sketchbooks’, each with specific practices associated with them, but ‘the naming was blurred, and shifted even during the interview’. Perhaps, for the person doing the drawing and the writing it is the practice itself that is important and not the classificatory naming of it – that is left up to the poor researcher who brings these woes upon themselves!

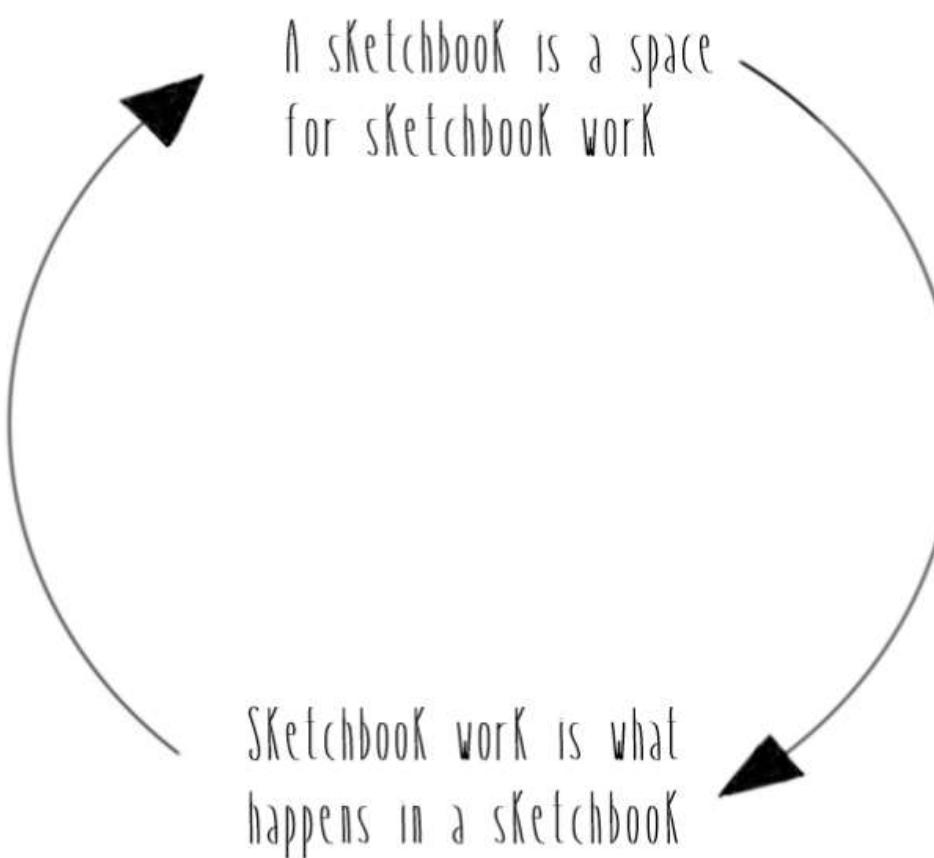


Fig. 14. The intentional and extensional definitions of the sketchbook. Simon Webster (2020)²⁹.

²⁷ It should be noted that three-dimensional preparatory work, like the maquettes made in sculptural practices, or glaze tests in ceramics can also be classed as sketchbook work. This conceptualisation is supported by Şener (2015:32): ‘In an educational context, although the term “sketchbook” implies graphical content that articulates a student’s emerging design ideas, the term is actually more encompassing to include the documentation of all work that is carried out by a student in the transition from a design brief to a final proposal, including for example the creation of physical

mock-ups’. I do note that, during this project, the students tended to show me photographs of three-dimensional work, rather than the objects themselves.

²⁸ This quote is not referenced to help protect the anonymity of the college where the research took place.

²⁹ This experiment was inspired by R.D.Laing’s (1970) poetry collection *Knots* – relationship issues distilled into few words, show relationally. If you like the book, also listen to *Knots* by Gentle Giant on their *Octopus* album – a great entry point into Gentle Giant’s work.

It is what it is

As stated earlier, to help engage more fully with the complexities and vagaries of practitioner discourse (both student and lecturer), rather than me trying to enforce a strict definition for what is, or is not, a sketchbook or what constitutes sketchbook work, students were invited to bring the sketchbooks they are currently working on with them to their intrerview. In this way I hoped to build up a picture of what sketchbooks and sketchbook work might be, rather than prompting the students to respond to a particular, limiting, definition of what constitutes a sketchbook that I already held before the project began and was trying to impose on the project. I was interested in learning about their conceptualisations, rather than making them conform to mine. I am reminded of both my O Level Physics studies and of the writing of Barad (2007) concerning the observer effect³⁰, whereby the researcher has an influence on what it is they are trying to look at, most famously exemplified through wave/particle duality whereby light will appear to behave in the way that your research apparatus is set up to detect – the researcher will find that light acts as a wave if that is what is looked for, but will be a particle under a different experimental gaze. Some students brought one sketchbook with them to the intrerview, some brought many. Some brought sketchbooks that were paper based, and some were digital, most had a mix. With the students who only brought one form of sketchbook with them, through discussion and review of the sketchbook they had brought it soon became clear that there was more, related, sketchbook work. For example, a digital sketchbook might have a digital photograph of drawings for a project that were in a paper sketchbook. Or, during our discussion of a paper sketchbook, the student would take their mobile phone from their pocket and show me related materials that were held on their phone or in a cloud storage site. The approaches that I took, that encouraged the students to show me their sketchbooks and sketchbook work, were an effective way of sampling the kind of work that is going on in contemporary educational practices and of starting to construct an extensional definition of an expanding field of practice, but it should be remembered that there was no expectation that the study would be, or could be, exhaustive.

Simmons (2009) suggests that various disciplines have related, but differing, traditions, purposes and terminology concerning notation. For example, the visual arts may tend toward the use of the

³⁰ The ‘observer effect’ is also something recognised in the social sciences (Frey, 2018:online). It is often associated with the Hawthorne Effect, which was a classic efficiency study carried out at the Hawthorne Works electricals factory. The Hawthorne Effect was supposed to show that workers in the factory worked more efficiently because they were being studied, separate from the effects of particular exercises that were carried on the workers. The interest taken in the worker’s was supposedly motivational. Despite being commonly referred to (Gross, 2015), the study only had 5

term sketchbook, writers may tend to use journal, while scientists may use the term laboratory notebook. Although Simmons (2009:41) has a collective term, ‘Notebook for Creative Inquiry’ for the various approaches used in all the disciplines, her paper expresses a preference for the use of the subject specialist terms because they bring you nearer to the particular practices associated with a discipline. It is in this spirit that I have adopted the overarching term of sketchbook, but am also using terms associated with specific disciplines and courses within the wider Art & Design nomenclature. For example, as you will read more about later, *Lindsay* (2’50”), a lecturer on a painting, drawing and printmaking course, adopted the term studio book, instead of sketchbook, for their course:

"I think it is quite important because it sets in train in the student's mind a thought about what it is that they are doing when they are keeping supporting work and records and so forth and that the word sketchbook appeared to be less useful [...] – although you might have a sketchbook which indeed contains sketches – and the concept of a studio book, for us, was that it would contain sketches and drawings but it would be a book that, if you like, lived in their studio spaces, lived in the studio and became a vessel that contained technical notes, artist research, and so on and so forth. And, indeed, the studio book is not necessarily one book and it can be a series of books which maybe split those things down into individual components".

Lindsay is recognising the way that words do work; they shape our thinking overtly and covertly, explicitly and implicitly; what words are used and what words are not used affect the discourse and performative understandings (Austin, 1962) and the performative actions that arise from them (Blumer, 1969). Through her study, Alaluusua (2018:9) ‘began to understand sketchbooks not only in practical terms but also conceptually, as socially constructed objects that were shrouded in assumptions’ and *Lindsay* was trying to confront and affect assumptions and social constructions that the students might have or make. When Shotter (2014:309) explains the way that words can be made to work for us he is offering a justification for *Lindsay*’s tactical deployment of terminology to try to set up a pedagogical culture within their studio setting:

For it is in the agential “movements,” in the “efforts” we make in the course of our expressions in our efforts to “get them right”—that is, to repeat, in our intonations, in the word choices we make, in our emphases, etc.—that we “show” the recipients of our expressions how they should orient themselves towards them.

So, in this thesis, I will be using the overarching terms sketchbook and sketchbook work when discussing more general concepts, but will also be using more specific terms, like studio book or blog, when exploring more particular, specific practices. The approach is akin to the textual

participants and when two of those were not producing data in line with the researcher’s desires, they were switched out for two others! (McCarney *et al*, 2007; Hammond, 2009; Oswald, Sherratt & Smith, 2014). The observer effect is also associated with ‘social desirability’ (Barriball and While, 1994:331), whereby an interviewee may provide answers to questions that aim to please, or meet the requirements of, the interviewer, rather than give a genuine response.

analysis technique of the hermeneutic circle, whereby the whole is understood by examining the parts and the parts are understood within the context of the whole (Ricoeur, 2004); there is a process of constant zooming in and zooming out that is likely to make the reader feel a little queasy at times.

Through reading of the literature and through the intrerviews carried out, I found a range of meaning making approaches concerning the nature of the sketchbook. For example, it could be defined by its purpose, its form, its functionality, its usage, or its content (i.e. what it is designed to do; its material properties and configuration; what usage opportunities it offers; how it is actually used; and what is in it after it has been used). In the following section I will start to explore the purposes and functions, while its various usages will be explored in the following chapters as I start to open up my interpretations of the intrerviews, and associated reading and thinking.

What are the purposes and functions of the sketchbook?

The purposes of the sketchbook, in an educational setting, are manifold and complex (O'Neill, 2011; 2013). They can have a purpose for a student that is not in alignment with institutional needs (aspects of diary-style entries may be considered too personal for an institutional context, for example), or there can be institutional needs that are seen as overly prescriptive or even an affront to the student (perhaps a requirement to keep complex technical data or to make records of creative practices that might be received as stifling, rather than enabling). More complex and nuanced purposes of the sketchbook will be explored later in the thesis, but, for now, in simple terms, the purposes of the sketchbook will fall under three categories: a site of practice; a repository of work; and a communication tool.

As a site of practice, the sketchbook is a place where students go to carry out their thinking and experimentation. It is not the only place where thinking takes place as that can happen at any time or location, whether walking down the street, or taking part in a group critique, or crit, (Blair, 2006), but it is a place that is recognised as important, even central, to Art & Design education (Clayton & Weisenthal, 1991; O'Neill, 2011,2013; Nelson, 2013). It is 'is designed to encourage independent informed critical analysis of the practical work through research' (Smith, 2010:1). The sketchbook work that is carried out brings together Critical Thinking, drawing, and collected research materials, it acts 'as an in-between liminal threshold, as a portal through which creative

intentions can find their fix in the world' (Gittens, 2014:91). It is a portal in the sense that ideas may pass through it on a journey toward realisation as artworks or designs, but it is also a place where ideas are formed, synthesised, and developed. It is more than a tool for recording external ideas, it is a tool for creating ideas and for having creative experiences. It is Jules Verne's (2020) time machine; it is *Star Trek's* (1989) holodeck; it is the imaginarium of Doctor Parnassus (Gilliam, 2009). The sketchbook 'presents an immanent field of potentiality whereby the *virtual* can find expression in the *actual*' (Gittens, 2014:91). As abstract thinking is turned into images and notes they offer back new sense data that re-informs a reflexive creative process. The sketchbook as a site of practice is a place for process; students can immerse themselves in their thinking/acting, sometimes entering a state of 'flow' (Nelson & Rawlings, 2010) where and when they become less aware of their surroundings and the passing of time, becoming deeply entangled with the work that they are doing in their sketchbooks. Later in the thesis there is a chapter that explores Critical Thinking, creativity and the sketchbook in detail and another section that investigates the posthuman entanglement and emotional relationships that a student may have with the sketchbook. For now, the sketchbook as a site of practice can be summed up as fulfilling a generative function. The generative function brings together the two creative processes described above – the conceiving of ideas and the gestation of those ideas.

The sketchbook can also be thought of as having an important role as a repository or 'storage vessel' (Gittens, 2014:92). It allows students to build up and keep a range of resources that have significance to them and that can be retrieved at a later time. These may be original drawings or notes that they have created themselves, or ones that they have copied from another source. They may be clippings from a magazine, photographs or ephemera from a trip, or detailed notes made from academic textual research. The sketchbook functions as a record of a student's research processes and each student is likely to have a personal approach to that process. For example, *Harper* (06'25"), a photography student, carried our research for a promotional brochure for some North Cornwall towns. They had a paper sketchbook that was, perhaps, best conceived as a scrapbook/travelogue hybrid (although they called it their sketchbook). It had a chronological order and contained parking tickets, examples of promotional brochures collected from the towns visited, notes made from interviews with locals, and diary style entries that reflected upon each day of their journey from town to town. All of these records were stored for later retrieval and reference and would be used to inform the text of the brochure being made. *Jordan* (40'00"), another photography student, had a paper sketchbook with pages of drawings for model poses

and photographs of lighting test shoots from the photography studio. It also had images and analysis of photographic artists' work whose technical approach had been an inspiration. Both *Harper* and *Jordan* had committed their research to the structure of the paper book, with work being organised chronologically or thematically. Other students kept a more open-ended approach, storing materials in a ring binder, or keeping it digitally, in ways that allowed them to retrieve and reconfigure materials at their pleasure. For example, *Nico* (10'02) would download their research on artists from the web onto their Macbook and make annotations on it. Copies would then be kept on OneDrive cloud storage for later reference, with items being downloaded and put into their paper sketchbook in support of work for a particular module where and when appropriate. Sir Joshua Reynolds, the eighteenth century leader of the Royal Academy, wrote, 'it is indisputably evident that a great part of every man's life must be employed in collecting materials for the exercise of genius' (in Clayton & Weisenthal, 1991:113) and this collecting, over time, accumulates into a store of research that can be revisited, reviewed or reconceived by an artist multiple times over their career. As *Nico* (2'35") said to me, "you may spend 5 months to 5 years to 50 years, but I don't think you can ever really, truly say you have resolved something". Keeping a personal repository of research materials helps to inform artists and designers practices, helping them to build a body of knowledge that underpins their work. *Nico* (2'45") again:

"that is why my research is in here, because sometimes I look back on them and go "oooh" - there is that one page, that one bit of research. [...] It is all the same body of work, it is all on the same idea, but there are always different avenues to go down [...] When you flick back and you can see different artists, different exhibitions, or gallery spaces, you think "right – I am going to revisit that."

The storage and retrieval functions of the sketchbook attempt to capture the generative function and are also used to inform the generative function. It consists of the research that is found or made and collected, and that research feeds back into the generation of further research (O'Neill, 2013). The repository of information allows for processes of fission and fusion, whereby nuclei of thought and action can be broken down or reformed in ways that seem to produce endless amounts of energy and inspiration for the artist or designer.

The sketchbook also has communication purposes. As discussed in relation to the generative and repository functions of the sketchbook, it is used to communicate with oneself as a reflexive, diffractive tool, showing the user their own research processes as they unfold and storing the

materials produced through research. With the way that many people use their sketchbooks, with multiple ideas and research processes being described within one book or file, there are opportunities for connections to be made between elements that are unplanned or serendipitous,

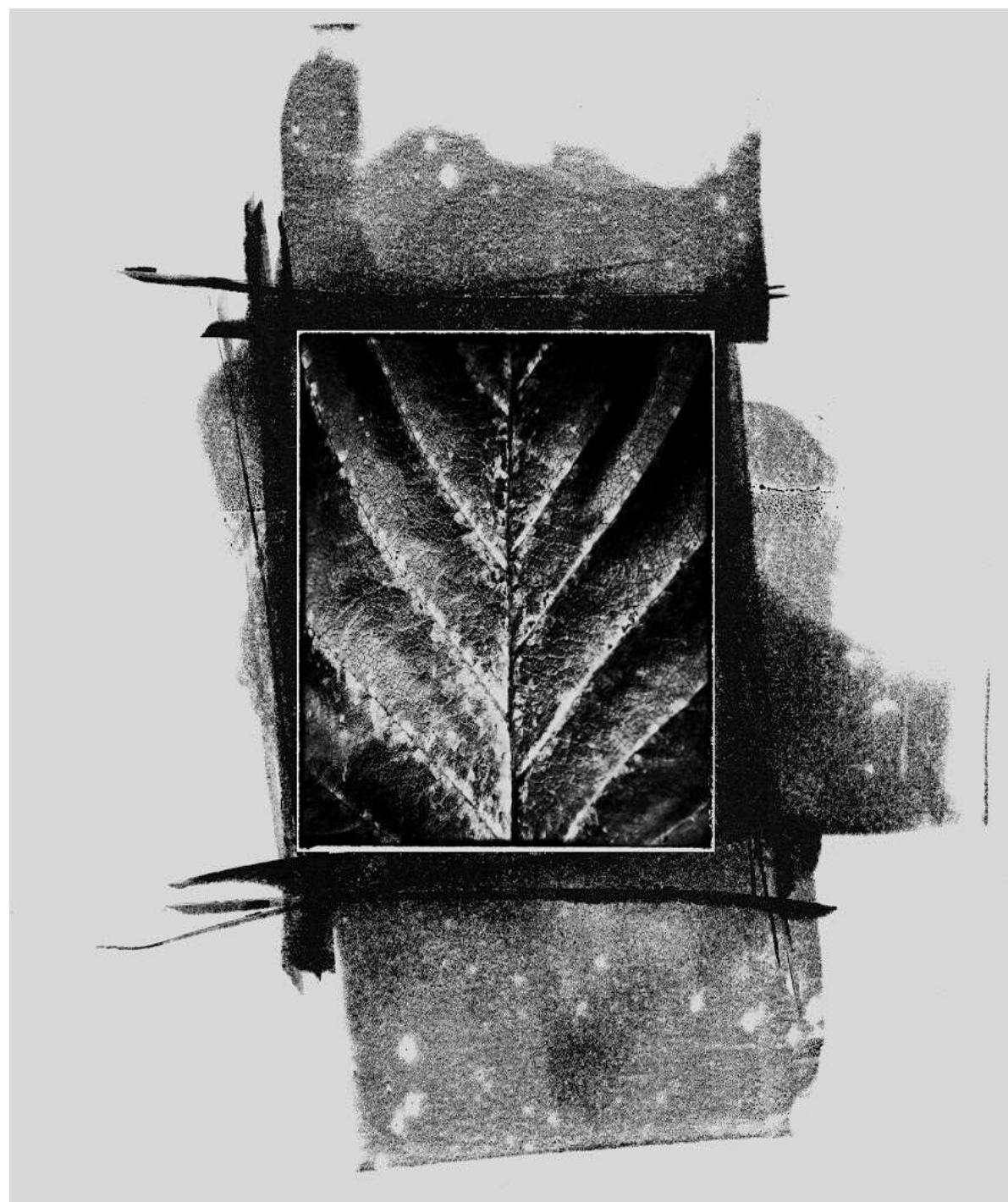


Fig. 15. *Printed leaf V.* Simon Webster (2018)³¹.

³¹ Sir Joshua Reynolds (in Clayton & Weisenthal, 1991:115) thought 'Invention, strictly thinking, is little more than a new combination of those images that have been previously gathered and deposited in the memory; nothing can

come of nothing; he who has laid up no materials can produce no combinations.' This image is made from a photograph of a leaf and one of my hand printed frame experiments made in the printing studio.

intuitive, or 'rhizomatic' (Deleuze & Guattari, 1987:20) as students thumb or scroll backwards or forwards through pages. Gittens (2014:94) describes this as a 'propensity for meandering, coupled with an inherent appetite for finding lines of flight'. The sketchbook can also be used to communicate with others, and this is particularly important when considering the purposes of the sketchbook in an educational setting. Sketchbooks may be shown to peers during crits to help explain the directions that research has taken, or to illustrate a particular design idea. Sketchbooks also play a similar role during formative one-to-one tutorials with lecturers. A student's sketchbooks are also submitted as evidence of engagement with a module at summative assessment points. Many of the sketchbooks that I saw had been adapted, or explicitly created, for assessment or exhibitions. The students that I met wanted to project a professional identity and, as I found when looking at the use of sketchbooks in summative assessments, many of the students were carefully editing and constructing sketchbooks in strategic ways. For example, *Dane* had created a whole series of materials that were targeted at lecturers and potential clients, each designed for different depth of engagement based around the expectation *Dane* had for how long the viewer may have to review the work (longer for formal summative assessments, shorter for a busy exhibition) and what the viewer might be looking for. The communicative functions of the sketchbook (including *Dane's* work) are analysed in depth later in the thesis, particularly as communicative functions are being transformed through use of social media and self-publishing.

What forms do sketchbooks take?

Clayton & Weisenthal (1991) trace the origins of the sketchbook back to medieval times, with its formation and dissemination of professional bodies of knowledge through the guild system. In medieval mason's guilds, for example, visual resources were collected by members of the guild as they travelled around Europe studying buildings, selections of these drawings were edited and organised into the master mason's sketchbook, which was then used as a repository of knowledge and a teaching tool (*ibid*). Of course, drawing has a history that predates medieval times, and can be traced back 30,000 years to surviving cave paintings (Valladas *et al*, 2001) and is likely to have an earlier, more diverse history which has not survived. I am thinking of drawings on the ground or on a vine leaf (the original vignette as described by Gale (2018)) which have decayed, hastened by weathering. Drawings that can be completed on location and can then be transported (unlike the cave paintings) have, over the past couple of thousand years, relied on technology. Papyrus,

vellum, and then paper have made it ever easier to draw, and with the refinement and standardisation of paper, the compilation of books has become easier too. Earlier, loose leaves

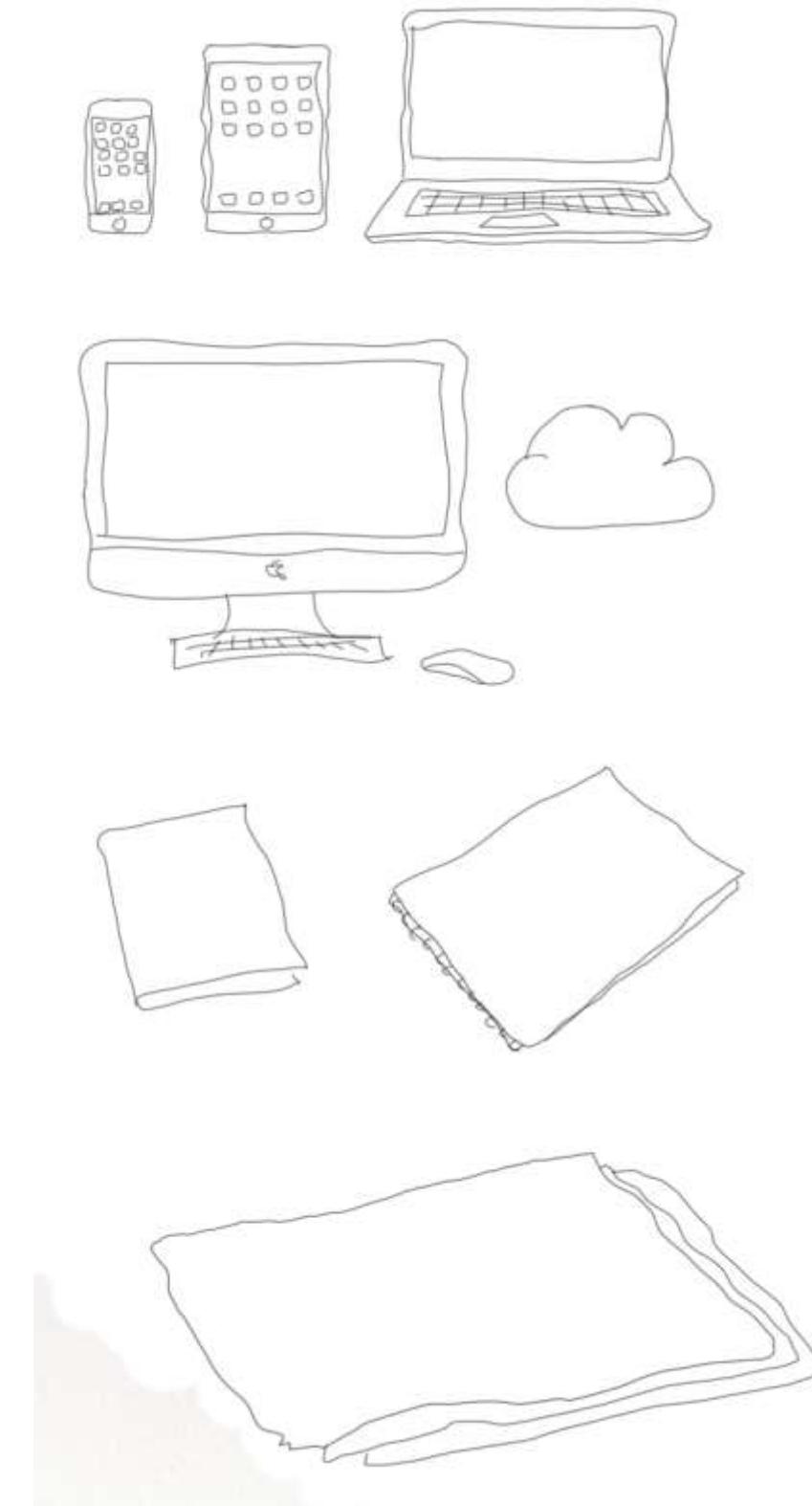


Fig. 16. Some sketchbook forms: phone; tablet; laptop; desktop; cloud; notebook, sketchbook; looseleaf. Simon Webster (2020).

were collected together and bound into books, but once the book became recognised as a marketable product it was manufactured as an empty vessel for an artist to fill. Here can be seen one translation of the sketchbook as a book of sketches into a book for sketches (Merriam-Webster, 2018).

The modern paper sketchbook is available in a variety of formats, usually following the standardised sizes designed by the International Organization for Standardization (ISO) in ISO 216:2007 (ISO, 2007). These range from pocket sized, portable notebooks (sizes 10 to 5) up to desk filling books that allow for larger gestural mark making and more fulsome layouts (size 1 to 0). Most of the paper sketchbooks that I saw during this project fell between size 6 and 3. There was a mixture of binding types: perfect; tape; spiral, sewn (Designer Insights, 2018), as well as stapled. There was a roughly equal mix of hard and soft covers. The paper quality used was generally high (with little seen of the lower quality sugar papers commonly used in scrapbooks from my youth). The number of pages in these sketchbooks ranged from about 20 up to 160. The range of paper sketchbooks offer good quality paper, consistency, a protective cover, binding which keeps pages together, and degrees of portability. It is, despite challenges from digital technologies, still a very useful and commonly used tool and I found it to be the norm, common referent, or archetype for discussions of the sketchbook or sketchbook work carried out in the educational practices I engaged with in this study.

Another form of paper sketchbook that I encountered, although nowhere near as common as the bound sketchbook, was the loose-leaved sketchbook. The sheets of paper tended to be larger (between sizes 3 and 0) and consisted of drawing and painting experiments, with little or no notation. The sense of this work actually being part of a sketchbook was diminished as it tended to be held in a large draw or portfolio. But it should be noted that this is work that students or lecturers would refer to as being part of their sketchbook work (in the sense that sketchbook work is a catch-all phrase that may be used to describe preparatory 2D research practices and evidence). Also, in an historical context, Leonardo is not only famous for his notebooks, that were books for drawing that he filled with his notations, sketches and diagrams; there were also books of drawings that were compiled by him during his lifetime, or by others at a later date. MacCurdy (in Clayton & Weisenthal, 1991:114) quotes Leonardo as writing about one of his sketchbooks that it 'will be a collection without order made of many sheets...'.

I know that some students at the college make their own paper sketchbooks after learning the relevant bookbinding skills. Bookmaking is an interest of some lecturers at the college and it is offered as an option during elective interdisciplinary modules. The students that I met with during this project did not show me any work in this format, but I was shown multiple examples of books produced through professional, online, self-publishing sites like Issuu (2018) and Blurb (2018). When using these sites there are options for compiling digital books and magazines in a variety of formats. The pages do not tend to follow the ISO 216:2007 sizes but there are a number of landscape and portrait sizes available, as well as square formats that, perhaps, reflect the popularity of images posted on Instagram (2018) which users might want to memorialise in a book. Once a book or magazine has been made in a digital format it can be printed into a hard copy by the online company, either as a one-off or in multiples. It can also be offered as a saleable item, whereby members of the public can get order a copy of the book for themselves. The online companies are offering formats of books for sketches and the user is creating a book of sketches (the term sketches refers to text and multiple forms of image in this context). Parallels between self-publishing and loose-leaved collections compiled into books can be drawn as they both involve the production or transfer of images from outside the book into the book (as you would do with a scrapbook or photo album), rather than drawing directly into a sketchbook. Incrementally, self-publishing sites are moving towards being places where the generative functions discussed earlier might be carried out. Already there are possibilities for simple editing of images within the software, spaces for writing text, and plug-ins that allow for complete integration with InDesign (Adobe, 2018). Self-publishing tends toward machine aesthetics (Risatti, 2007) and digital aesthetics (Hoy, 2017), and away from a handmade aesthetic. It is a hybrid form that allows for transformations between paper and digital manifestations. The digital formats used in self-publishing (as with desktop publishing using software like InDesign) allow for reconstitution and adaptation of sketchbook work in response to the perceived demands of a particular audience. The form of a self-published sketchbook is compiled of potentially transient elements while in a digital form, only becoming fixed once printed.

In the expanded field of sketchbook conceptualisations and practices that I found during this research project there were many examples of students showing me their sketchbook work via digital technologies. When thinking about the form of the sketchbook in relation to these digital technologies the form factor varied from a mobile phone at the smallest end of the range of sizes,

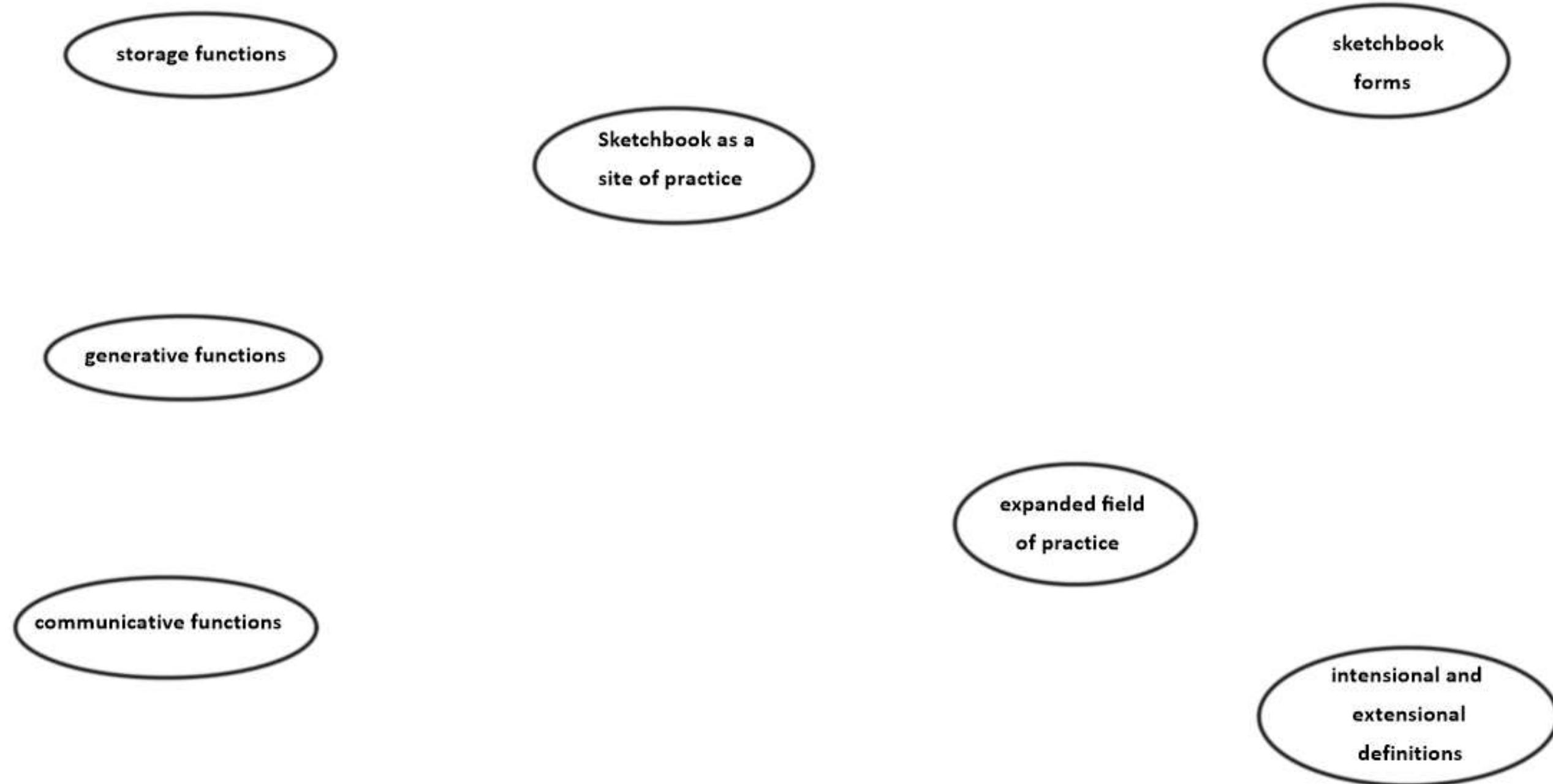
then there were tablets, laptop computers, and desktop computers. Considering the physical form of the digital device as a sketchbook is a convenient way of thinking about the relationship between a student's sketchbook and their sketchbook work (e.g. Lecturer asks: "Can you show me your sketchbook, please?; Student replies, as they pass over their iPad: "Yes, here it is."). But, the software that carries the sketchbook is probably just as, or more, significant than the hardware. Some elements of a student's work may be held on their device and viewed via a gallery app that compiles individual files into a sequence and allows you to view them through scrolling or swiping (Manandhar, 2017), other elements may have been compiled into a single file by the student (perhaps a PDF, INDD or PPT) and then viewed by a viewing app (like Adobe reader), or via

the software that the student used to make the file (like Adobe InDesign, Microsoft PowerPoint, and so on). Creative software like Adobe InDesign, Photoshop, or Lightroom can also compile sets of images into a less formal gallery view. As well as the form factor and the software, when considering the form that a digital sketchbook might take the place where the sketchbook work is stored is also significant. Is it on the device, or an external device, or in the cloud? How it is stored and where it is stored will help determine how and where the sketchbook work can be accessed, manipulated, shared and shown. Issues related to the points raised here are further discussed in the 'Digital technology and the sketchbook' chapter.



Fig. 17. *Wicked!* Simon Webster (2020).

This section is for the reader to make notes, make connections, and add their own thoughts on sketchbook related practices as a summary to the chapter



Chapter 3: Digital technologies and the sketchbook

The chapter opens with a romp through the industrial revolutions and considers some of their effects on working practices, exploring relationships between people and technologies. It then moves onto a more focused exploration of the effects of digital technologies on Art & Design education and, in particular, thoughts on the effects of digital technologies on the practices investigated during this research project.

Our concepts of technology are scalable. They move between individual devices or tools that are often held in, or used by, the hand, through to individual systems and on to connected systems. On a grand scale, societal systems like democracy or consumerism can be conceived of as technologies (Perkmann, 1998; Foucault, 1979). Ellul (1964 in Tirosh-Samuelson & Hurlbut, 2016:2) has a focus on what technologies can do, rather than on their physical forms, conceiving it as ‘the totality of methods rationally arrived at and aiming at absolute efficiency (for a given stage of development) in every field of human activity’. I believe that we must not just see technology as a set of tools or processes that we use to shape the world around us – we must also recognise that they shape us too through intra-active engagements. The industrial revolution led to ‘functions of decision-making and coordination of production [being] transferred from workers to machines, so that work roles [became] atomized and deskilled’ (Burris, 1988:36). The nature of work at the time is summed up in a report on cotton production in Manchester:

Whilst the engine runs the people must work - men, women and children are yoked together with iron and steam. The animal machine – breakable in the best case, subject to a thousand sources of suffering, is chained fast to the iron machine, which knows no suffering and no weariness. (Kay-Shuttleworth, 1832 in Pheasant, 1991:8)

... and in Engels (1845/2010:147-148) report on clothes production in London:

Enervation, exhaustion, debility, loss of appetite, pains in the shoulders, back, and hips, but especially headache, begin very soon; then follow curvatures of the spine, high, deformed shoulders, leanness, swelled, weeping, and smarting eyes, which soon become short-sighted; coughs, narrow chests, and shortness of breath, and all manner of disorders in the development of the female organism. In many cases the eyes suffer so severely that incurable blindness follows; but if the sight remains strong enough to make continued work possible, consumption usually soon ends the sad life of these milliners and dress-makers.

During the industrial revolution a shift in the power relations between technology and people seems to have taken place. Industrialisation and the technologies that came with it increased the scale of cities and their infrastructure, drawing in people to live amongst the technology, using it but also serving it. Technology showed how it can be a producer of wealth but also the cause of misery and hardship, alienating most people from the creative aspects of work and deskilling them

by reducing the range and nature of work that they did (Marx, 1990; Lang, 1927; Chaplin, 1936; Wendling, 2009).

If the first industrial revolution was characterised by the rise of steam powered machines and the technology of the manufactory building; the second by the introduction of electricity, the third industrial revolution was identifiable by the increasing centrality of the microchip and computers to our lives. We are ‘in the midst of an ‘Information Age’ (Dewar, 1998), which is transforming our engagement with education and work not known since the industrial revolution. Although the workings of a computer may be beyond the ken of most, they have been very enabling for many artists and designers. For example, desktop publishing allowed one person to engage with writing, design, layout, typesetting, editing and printing processes – although largely virtual, the artist or designer had been reconnected with a broader skill set, allowing them to express a wider range of creativities, and work more efficiently (although they also have to learn new skills and probably lose some aspects of expertise that had previously been carried out by others). It is argued that we are at the start of the fourth industrial revolution, characterised by ‘interconnectivity’ (Covington & Carskadden, 2913:2) and the importance of data; it is exemplified by the internet of things (Wilkins, 2019), whereby the things that surround us, from our toaster to our car, and the surveillance cameras that watch us throughout the day, communicate with each other without requiring ‘human interaction to produce and consume network information’ (Covington & Carskadden, 2913:2). In popular culture this revolution has SkyNet as its teleological outcome. SkyNet (Cameron, 1984) is a fictional artificial intelligence network that has become self-aware and has identified humans as a threat to its existence that must be exterminated – it is a technology that has moved beyond our control. Less fictionally, Tirosh-Samuelson & Hurlbut (2016) plot a developmental path from the human, via the transhuman, to the posthuman. This form of technological posthumanism sees the human mind and body transposed into and then developed through technologies (Cohen, 2013; Rutsky, 2018). Some see this transformation as ‘an irrevocable shift [...] that must and will’ take place (Tirosh-Samuelson & Hurlbut, 2016:8). ‘In this narrative of the anticipated future, the transition from the transhuman to the posthuman is imagined as a gradual and voluntary but ultimately inevitable process’ (*ibid*). It is driven by a desire for ‘superior physical and mental traits, the ability to live a longer and happier life, and, ultimately, to postpone death indefinitely’ (Tirosh-Samuelson & Hurlbut, 2016:6). Kurzweil, Google’s Director of Engineering, has ‘set the date 2045 for the ‘Singularity’ when we will multiply our effective

intelligence a billion fold by merging with the intelligence we have created' (in Reedy, 2017:online).

I, Robot³²

If we are on the cusp of these things taking place, is there evidence of us/me already being on this journey toward a technological posthumanism that melds people and technology, perhaps with technology being the dominant, or most significant element? For example, some superior physical and mental traits are seemingly realised through virtual travel that let me visit museums in cities far away, fly through the Grand Canyon, or meet and talk to friends around the world almost instantaneously... and when I am Skyping my friends and family in Canada, or atop a mountain in the Alps, I willingly let a digital representation of myself stand in for me. I act as if the conversions of my physical being into digital code, their journeying to a far-off place via an undersea cable or a satellite in space, and their reconfiguration into audio and visual simulations, *is* me. Also, in terms of superior mental traits, I use Google and its algorithms to search a vast network of knowledge. I let it sift, sort, and make decisions about the relevance of information that may be apposite in a particular context. I access a range and number of texts, images, and films (as well as make connections between them) that were unknown to me one minute and laid out right in front of me the next. I store information in my computer, in the cloud, and on memory cards that I no longer try to keep in my head – we are moving to a stage where knowing how to access information is more important than knowing information (Glister, 1997)³³. Information is now seen as something that can be, should be, manipulated, remixed and (re)presented - we have moved from a sense of permanence to impermanence when we talk of building a body of knowledge. We now conceive information as building blocks for knowing (Vaughan, 2003) – Lego-like, discrete blocks that can be constructed into a variety of forms. Glister (1997:230) used the term 'knowledge assembly', which carries constructivist connotations, emphasising a lack of fixity. Lyotard (2004:4) explained how information that cannot be translated into forms that can be accessed and shared via computers will be 'abandoned'. While computers have helped us access information, they are also shaping, simultaneously expanding and restricting, the nature of the information that we can and do access.

³² A snippet from Asimov's (1950:9) *I, Robot*: "But something might go wrong. Some- some—" Mrs. Weston was a bit hazy about the insides of a robot, "some little jigger will come loose and the awful thing will go berserk and- and—" She couldn't bring herself to complete the quite obvious thought. "Nonsense," Weston denied, with an involuntary nervous shiver. "That's completely ridiculous. We had a long discussion at the time we taught Robbie about the First Law of Robotics. You know that it is impossible for a robot to harm a human being; that long before enough can go wrong to alter that First Law, a robot would be completely inoperable. It's a mathematical impossibility. Besides I have



Fig.18. *I, Google*. Simon Webster (2020).

an engineer from U.S. Robots here twice a year to give the poor gadget a complete overhaul. Why, there's no more chance of anything at all going wrong with Robbie than there is of you or I suddenly going loony — considerably less, in fact.'

³³ Glister's (1997:230) influential text on digital literacies identifies four key competencies: 'Knowledge assembly, internet searching, hypertextual navigation, and content evaluation'. The focus of the opening three competencies is on finding, and finding one's way around, information; the fourth involves a sifting of that information.

Returning to Samuelson & Hurlbut's (2016) second driver behind a technological posthumanism, what about my/our attempts to live a longer and happier life, postponing death indefinitely? In the more virtual, mediated, and networked lives that we lead, representations of an idealised reality have become ever more important (Bonanno, 2014). The curation and presentation of our lives through social media projects an idealised version of ourselves. After our death our social media representations live on – we leave a digital legacy (Carroll & Romano, 2010). In a recent survey (Digital Legacy Association, 2017) 69.5% of those surveyed said they had accessed a friend or family member's social media site after the person had died and all the major social media sites have instructions on how to manage your digital legacy after death. Whether we actually live longer and happier lives because of digital technologies is perhaps questionable, but we can certainly make it look like we do.

So, we are headed toward a technological singularity – we are not there yet, and we may not arrive (Clark, 2013), but we seem to be headed in that direction. Parallels can be drawn between our relationship with digital technologies and the relationship that workers had during the first industrial revolution, as discussed earlier. Then, craftspeople or workers moved from tool use that was predominantly, and literally, an extension of the craftsman's hand, to also being operators of machines that replaced humans; machines that wove, welded, pressed, and forged. Veblen (1919:306-307) wrote about the relationship between the worker and the machine in the first industrial revolution, saying the worker was

an attendant, an assistant, whose duty it is to keep pace with the machine process. [...] His work supplements the machine process, rather than makes use of it.

Now we live in an information age, where information itself has become a product (Lyotard, 1979) and we are reorganising our infrastructure around the internet, or what we used to call the 'information superhighway' (Bray, 1995:348). As we use technology to shape the world around us, it shapes us too. Technology is no longer 'a tool that the human uses out of its own preferences, but exists relationally and agentially with humans' (Ceder, 2016:178). During the late twentieth century and now, as we move through the twenty-first century, new technologies that utilise the microchip and the internet have had a significant effect on society and culture in general (Jordan, 1999; Slack and Macgregor Wise, 2015). But what have the effects been of, or between, digital technologies and the use of sketchbooks in post-compulsory Art & Design education?

Atkinson (2005) observes the effects of technological change on society and on educational curricula. He thinks 'Western social contexts have become more plural; communications have become faster and, with the advent of cell phones, satellite TV and the internet, more ubiquitous and invasive' (Atkinson, 2005:21). The large screen, capacitive smartphones that are the norm in 2018 began to appear in 2007 (Temple, 2018). These devices, in combination with 3G, and then 4G, wireless mobile telecommunications technology, brought together high levels of computing power, high resolution cameras, easy internet searching, and access to social media. Today, most UK Art & Design students, studying in post-compulsory education, have access to the internet which is outside the control of the educational institution where they are studying. Students are used to using digital technology and accessing information before they come to college or university and the educational institutions no longer have a control over information and technology, or the materials and space needed to make work that they once had. Although educational institutions still hold power over the written and taught Art & Design curricula, the lived and learned curricula are owned by the student and are as much framed by the digital culture that surrounds them as it is by the educational institutions. Students have new opportunities to research, make, and share their work that simply were not available 30 years ago.

Digital technologies are so deeply embedded in our social and economic systems, the end-user of a product may be unaware of their influence. For example, simple things like sketchbooks and pencils will be manufactured via systems controlled by algorithms that specify what trees are cut down and how they are cut down for wood or paper pulp (Zheng *et al*, 2012), and algorithms control how pulp is made into paper in optimized ways (Figueira, 2011). The sketchbooks that we buy may be suggested to us by companies, like Amazon, that monitor our shopping patterns in ways unknown to us, making suggestions to us for things we may like. The following sections on aspects of sketchbook use in educational settings sometimes explore overt effects of digital technology, but often the effects are so covert I will be unaware of the full extent of the influence as I have become so used to a technological hegemony that I no longer fully recognise its effect. The headings of the topics below all relate to issues that became apparent through the research carried out for this project, but the headings do not define a clear set of categories that are hierarchically ordered, cohesive and exhaustive. The topics are inter-related; attempting to pull ideas apart is a pragmatic convenience to aid the writing, rather than it necessarily helping the reader gain a full understanding of the complexities of the relationship between digital technologies and sketchbook practices. Please accept my apologies.

The digitally impregnated sketchbook

While teaching Art & Design, and when carrying out research for this project in an art college, I did not encounter use of off-the-shelf digital sketchbooks, designed for use in educational establishments (e.g. SketchBook by Autodesk). What I did encounter frequently was the use of digital technologies within traditional paper sketchbooks and the use of digital technologies in other forms of sketchbook work. Other writers suggest there has been a move away from traditional paper sketchbooks to work on digital platforms or devices (Şener, 2015; Clayton & Weisenthal, 1991; Şener, 2014, 2015), but I found most, if not all, of the students I have worked with or who were part of this study were still using paper sketchbooks, but had also created work on digital platforms or devices – they had an expanded field of practice. *Billy (5'52")*, an FE photography lecturer, thought that there was an intentional, even imposed, move toward the digital sketchbook:

"[an] electronic sketchbook can take the form of a blog, or a Google Doc or a Microsoft program and we promote the use of blogs heavily in Media and Photography and we are moving away from the traditional sketchbook. There are several reasons for that: First of all, we are going completely paperless next year [2017-18] in Media and that is something that the Senior Management have decided here [...] the rationale behind that is to encourage the use of electronic technologies i.e. Google Classroom, Google Docs, etc. to enhance learning technically and obviously, then, to save money and the environmental factor as well. Probably for the last two years we have been looking at, in Photography, about 90% use of electronic sketchbooks and probably about 10% traditional".

Promoting the use of digital technologies in this way, embedding them throughout the curriculum, or embedding the curriculum within the technology, helps/causes/reinforces the idea that technology is central to our society and digital literacy skill-development needs to be seen as 'an inter-textual web of contexts and technology, rather than isolated sets of skills and competences' (Jewitt, 2008:47). Learning to operate digitally is becoming, or has become, the dominant form of sketchbook work in Art & Design education and this will have, is having, an effect on how students work and what their work looks like and is about (Kress, 2003).

Making affordances

From an industrial design perspective, but also with significance to discussions around much Art & Design education, Şener (2015:31) argues that '[...] within this digital world, the suitability of a physical sketchbook for effectively generating, capturing, compiling and communicating design development activity is questionable'. There is a suggestion here that a paper sketchbook is no longer fit for purpose, as it no longer offers the range of affordances needed by students operating in a digital world, it does not meet their transliteracy requirements Wheeler, 2016) (see Fig. 19.). There are pressures to move toward the digital and away from the traditional paper sketchbook

– pressures related to employability skills for the digital economy, quality assurance processes that demand sharing and storing examples of students' assessed work, and the perception that today's students are digital natives (Prensky, 2001) that expect their work to be carried out using digital technologies.

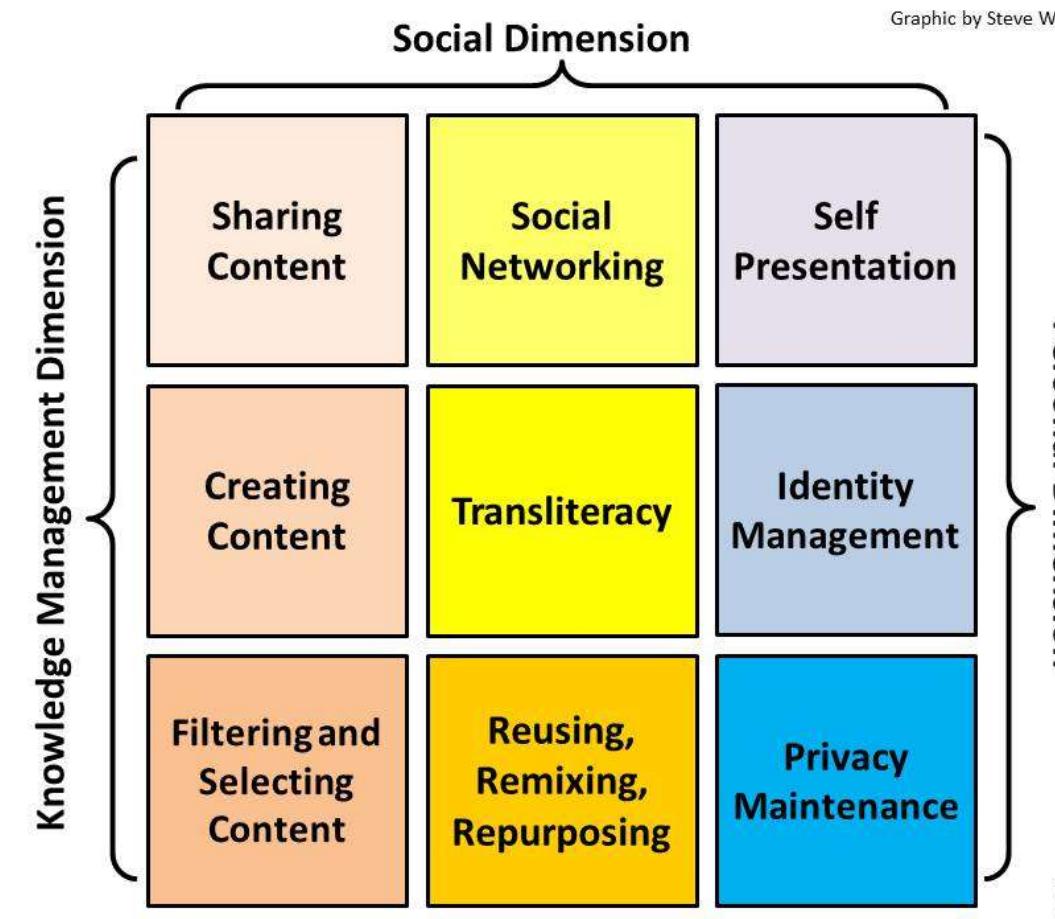


Fig. 19. A transliteracy Model. Steve Wheeler (2016).

It should be taken into consideration that digital technologies are designed for particular uses; they are not a part of the natural environment that Gibson (1986) first considered when he proposed the concept of affordances, like the tensile strength of the ground to support the weight of an animal, or the way a ledge might be used as a seat. Designers consider the affordances of the things they design; the design process considers the purpose of a thing and what functionality it should have. Part of the job of a designer is to make the purpose and function of a thing 'visible' (Norman, 2002:4) and its use 'natural' (*ibid*) in an ergonomic sense. Designing purposefulness into a thing creates a predisposition or weighting toward particular affordances, creating expectations in the user about what a thing will do and how it will be used to achieve certain goals

(Rams & Vitsøe, 2019). The thing is a product of, and helps shape, ‘societal praxis’ (Hammond, 2010:3). Art & Design has a long history of sketchbook use and digital sketchbooks tend to replicate (as well as further develop) the traditional functions of a paper sketchbook. It is reasonable to think, I believe, that designers try to replicate the basic functionality and functioning of the sketchbook when they design a digital sketchbook, and users are looking for something that enhances or replaces the functions that they are used to with a paper sketchbook³⁴. So, although a digital sketchbook is something quite different from a paper one, it is also something that has many of the same functions, purposes and contents (The conundrum of fundamental difference, but essential similarity will be understood by anyone who uses both film and digital cameras). Sketchbooks are a tool designed to carry out particular purposes; they are also things that have a range of affordances that may be discovered through creative or transgressive practices; the affordances that people find in sketchbooks promulgate further, similar, practices and these practices then get designed for. Cultural practices, like the use of sketchbooks, are formed, performed, transformed and reformed. An example of this process can be seen in the (very simplified) narrative development of one type of sketchbook with a particular feature: people like to sketch; sketchbooks are designed to provide multiple pages in an easy to use standardised form; people appreciate the form of the sketch and want to see them on their walls; artists create sketches to sell, rather than creating sketches to inform other work; a form of sketchbook is created that has a perforated line near the edge of the page that enables pages to be removed with a lessened chance of damage to the sketch.

With regard to the storage, generative, and communicative functions of the sketchbook, identified earlier in the ‘content and purposes’ section of this thesis, we can consider what affordances a digital sketchbook might offer, and what constraints might they impose. Storage in a paper sketchbook is (almost) limited by the physical dimensions of the book’s paper size and the number of pages within the book. These limits are frequently challenged though. Some students would not consider handing in a sketchbook unless it was bulging at the seams and had to be tied together with a ribbon. In relation to assessment practices, a full sketchbook is a signifier for thorough engagement with a project. In fact, I have known students remove pages from a sketchbook to

ensure that there are no blank ones and a sketchbook is therefore deemed ‘full’ when it is handed in for assessment. Further ways that a paper sketchbook can be made to burst with ideas and bulk up is to add in 3D artifacts or fold-out pages that are larger than the original page of the sketchbook. Another way that the storage capacity of a paper sketchbook is challenged is by not limiting oneself to one sketchbook being used at a time; *Dane (21'20")*, for example, said they had ‘dozens on the go’ by the time they had reached their degree show final major project.



Fig. 20. Examples of Dieter Roth’s storage of his sketchbook work from an exhibition at The Fruitmarket Gallery in Edinburgh, 2012. Simon Webster (2012).

³⁴ This kind of continuity can be seen with software like Photoshop that carries over processes from darkroom developing of images via chemical processes. Traditional processes also inform the icons used within the programme – for example, the dodge and burn tool icons make allusions to physical darkroom processes that do not have a direct translation into digital practices - the dodging tool has a handle and the burning icon shows a hole made by a finger

and thumb. Dodging and burning are carried out digitally via a mouse or digital pen, but the suggestion of the older practices lives on, even if the reference to them is not understood by those who have not made their own prints from negatives in a darkroom.

Storage capacity with a digital sketchbook is discussed in terms of data size – the size of the data storage available and the size of the data objects being stored. Although data storage capacities are truly enormous and comparatively cheap now, compared to what they were 20, or even 10 years ago, the amount of data that people store has also risen exponentially. I remember seeing a colleague in 2001 when he had just acquired a 128MB memory stick. He thought that he had all the storage capacity he would ever need. I presently carry around with me a 32GB memory stick and a phone with 64GB of inbuilt storage and an additional 128GB card; I am carrying around 1,750 times more storage than my colleague did 20 years ago! I also have access to 1TB of cloud storage and another 1TB in my desktop computer, as well as a further 1.25TB of backed-up data. Unlike my colleague 20 years ago, I know that I *do not* have all the storage capacity I will ever need. Students take and store many, many more films and photographs than they did when they were using film that had to be developed, partly because it is so easy to take still and moving digital images. The file sizes for individual films and photographs are also increasing as camera sensor and processing technology develops. As well as taking more images of one's own, students are, as part of their research, also collecting images that have been produced elsewhere. Visual data in digital form uses up the largest percentage of most student's storage space. It should be noted that digital sketchbooks allowance of storage of, and access to, audio files and moving image is a real enhancement, or further affordance, than that offered by the paper sketchbook. Despite the demand pressure for data storage, supply seems to be keeping up and students seem to have enough access to data storage to meet their needs. Colleges provide some storage space for students, increasingly through third party cloud services, and students often make use of their own personal storage facilities too. Students can, and do, store vast amount of data and this function of the paper sketchbook seems to be addressed effectively through digital sketchbooks.

An important aspect of the digital sketchbook, especially a cloud-based one, is the accessibility of the contents. Digital sketchbooks claim to allow anywhere, anytime engagement (Jones and Dirckinck-Holmfeld, 2009) - there is a growing assumption that the internet is always available and that students will always have access to appropriate technologies, allowing them to access it as and when they need. The lecturers and students that I spoke with during this project were all happy with their internet access to software, platforms and cloud storage and showed no overt signs of being on the wrong side of a 'digital divide' (van Dijk, 2006:221), that would leave them in a state of 'information poverty' (Norris, 2001:12). The anywhere, anytime engagement that a

digital sketchbook allows resonates with the artist/architect paper sketchbook tradition of it being 'always-at-hand' (O'Neill, 2013:6). I would argue, once filled, a traditional sketchbook, tends to live in the studio or home, ready for reference but can be, when needed, transported to another location. Completed digital sketchbooks have more potential to be accessed and worked on/from whenever there is a need to do so. They can be accessed through a smartphone or laptop computer and new entries can be inserted into the collection at any time.

Management of data, via digital sketchbook work, is something that has probably been improved in the digital age. Although, with a paper sketchbook, you tended to put something in the sketchbook and it would remain in its place, in relation to the things around it, making it comparatively easy to recall and find, with a digital sketchbook there are enhanced ways of finding entries. Each digital object can be named and/or tagged with metadata that make it easy to search through a large collection of objects, identifying data sets that match metadata keyword searches. For example, a collection of photographs that have been properly tagged could be searched via the date images were made, the artist who made certain images, the art movement/s the images are associated with, or the project/s that the student has linked the images to, or any other classifications that the student deemed fit. Tagging data can be a time consuming process, but algorithms are now being used by programmes like Google Photos that will search untagged images. These algorithms make use of face recognition software (Kastrenakes, 2019) and other deep learning abstractions (Lewontin, 2016), meaning that a collection of images can be searched via keywords that were not considered at the time the images were stored. Although these methods are far from perfect at the time of writing and do not find exact sets, strides forward are being made. Of course, tagging is possible with a paper sketchbook through colour coding pages or adding a key and coloured dots to entries that correspond to various themes that run through a sketchbook, but doing this digitally offers affords more complexity and sophistication through the associated search functions.

Another aspect of data storage and retrieval functions associated with the digital sketchbook are hyperlinks. Baggio & Corigliano (2009:309) claim:

Hyperlinks are the essence of the World Wide Web (WWW). They provide rapid access to segmented information chunks in non-sequential order, mimicking the associative non-linear process used by an individual looking for information (Conklin, 1987)'.

Hyperlinks can be thought of as a high-tech replacement for Harvard referencing. A Harvard reference is an invitation to the reader to take a journey from the in-text reference, to the end-of-text reference list and then, after some searching online or in a library, to the supportive evidence a student has used. A hyperlink will take the reader directly to the source material. It has an immediacy and transparency that makes Harvard referencing seem somewhat like a signifier for supportive research having taken place, rather than a convenient link to the supportive source material. Remembering Hammond's (2010) insight about affordances also being constraints, hyperlinks' immediacy encourages the student to link to, and therefore use, source material that can be hyperlinked. From all the available source material, students will tend toward those that are available online – and of those that are available online, they will tend toward the ones that appear high on lists provided by search engines (Park & Thelwall, 2006), or that are hyperlinked from sites that they have already looked at (Ooghe-Tabanou *et al*, 2018). Students will tend to take advantage of, and be constrained by, the interconnectedness of the worldwide web.

As well as allowing a student to hyperlink to resources available via the internet, they can also hyperlink within a digital sketchbook. In effect, this is a form of tagging. It enables students to link back or forward to previous entries, or sideways to more in-depth explanations of an argument or process, or to an aside (as you may do with a footnote³⁵). Hyperlinks offer a communicative affordance, helping the reader to make connections between related but different parts of the sketchbook work. Connections are made within the digital sketchbook that disrupt linear structuring by enabling other ways to navigate through the sketchbook (and beyond when the links go to external sources). Comparisons could be made to the Deleuzian 'fold', with a 'folding of one text onto another' (Deleuze and Guattari, 1987:6), or to the Einstein-Rosen (1935) bridge or wormhole that links points in spacetime. Or, perhaps, what is built can best be conceived as a web-like approach (Wheeler, 2011).



Fig. 21. *Hyper-linked*. Simon Webster (2020).

³⁵ Footnotes have a rich history. Grafton (1999:1), in his book, *The Footnote*, classed it as a 'high form of literary art', one in which 'they reveal themselves as anthills, swarming with constructive and combative activity' (Grafton, 1999:9). Stevens & Williams (2006:211) refer to History writing, where it was the fashion to use the footnote, rather than the main body of the text, as a place for confirming one's academic credentials: 'The footnote is written by an individual whose own voice has been rendered into a collective voice of similarly educated authors. That is, in the footnote the individual author purposefully loses his or her writerly voice to become part of this professional collective'. I have tended to use them as asides, helping remind me of connections made to things I have read, watched or listened to. They are a part of the 'research-as-an-art' approach that I am experimenting with, helping to fold in generative ideas,

or providing exit points for further reading at a later point. They offer me a kind of Freudian 'free association' (Freud, 1900:online), capturing relationships between ideas that 'rush in pell-mell' (*ibid*). Some, like Lipking (1977) prefer to use marginalia, offering a running commentary down the side of the main body of the text, bringing the note and the text into close proximity. Others, like David Foster Wallace's (1996) *The Infinite Jest* use end notes that 'leave the text clean' (Clark, 2015:online), but may cause constant transitions to the end of the text to find a note. I think the footnote gets the balance between proximity and cleanliness just right. I haven't gone as far as Danielewski's (2000) *House of Leaves* that has footnoted some of the footnotes!

A generative affordance of the digital sketchbook, an aspect associated with tagging and the retrieval of images from a collection held in a repository, is the enhanced ability to ‘remix, reuse, and repurpose’ (Wheeler, 2016:online) sketchbook entries. When I was an art student, working with paper sketchbooks, it was common practice (because of low cost and easy accessibility) to photocopy images and then make copies of copies, if needed. This meant that multiple versions of an image could be worked up differently, but the photocopies, especially the copies of copies, were high contrast and the image degraded with each copy of a copy – the process had some significant limitations. A digital sketchbook entry, perhaps a drawing, or some text, can be thought of as existing in a state of limbo, or in a state of virtuality, it is ‘real without being actual’ (Deleuze & Guattari, 1987:94). It can be manipulated, transformed or recontextualised any number of times because the copies or reworkings of earlier versions of the image or text are non-destructive to the original - a process that O’Neill (2011:1) sums up as “do”, ‘undo’ and ‘redo’. For example, *Dane*, a Graphic Design student, had designed a typeface as part of their final major project work and we discussed the development of one capital, italic A. *Dane* made a hand drawn A in ink on paper. The original drawing was scanned and then kept digitally, later it was opened in Adobe Illustrator and transformed. While the original A was lettering, the later work became part of an original digital typeface, which is scalable through different size, weights and styles of font. *Dane* (21'20") told me “A font is a series of marks that is always reproduced within a system; lettering has no spacing, no scale, it is just lettering - a font is more systemised than lettering”. So, not only could *Dane* go back to the scan of the original lettering and rework it in a different way at a later date because it was still intact, *Dane* had also developed a number of draft edits of the lettering and a finalised typeface that could be reproduced in multiple weights and sizes, italicized or underlined, etc. This is an example of a way that, through digitalisation, it has become easier to generate large quantities of creative experimentation (and evidence of it for assessment purposes) and to tailor the way that the evidence is displayed through desktop publishing software that allows text and images to be reconfigured and presented differently.

Not only can single digital images be altered or reworked, multiple images can be combined with ease. Layers, masks, stamps, healing tools, magic wands and a host of other tools can be used to combine multiple images into one. The remixing or reworking of source materials into something new is enabled by digital technology, but it seems that it may also be a form of practice that is



Fig. 22. Roman, heavy and thin examples of ways that *Dane* could rework a font they had developed.

emblematic of postmodern commentary on the centrality of technology to the modern economy and society. According to Fry (1990:170) ‘techniques of assemblage, like montage and collage –

which not only juxtapose different aesthetics but also different historical moments, were the precursors of what is now the general condition of production'. Jencks (1991) saw postmodern traits as tendencies towards, and embodiments of, the popular, semiotic, traditional, complex, eclectic, metaphorical, humorous, ambiguous, collaged, and mixed aesthetic. Although he was writing about architecture, by 1991 Photoshop had been in existence for four years, and the traits that Jencks identified can be applied just as well to image making as they can be to architecture. While Modernist creativity in the arts may have been concerned with avant-gardism, creativity may now be 'conceived of as merely an act of assembling and reassembling what has gone before in 'new' ways, rather than intending to be 'original'" (Economou, 2011:83). Sefton-Green (2005:108) argues 'software functions as a 'scaffold', a structure which supports [...] although it does raise the question as to how it may influence or determine the creative imagination' and 'how this scaffolding is realised is therefore central to what the learner will be enabled to do' (Jewitt, 2008:29). Technology affords certain approaches, but limits others, and therefore when working with a particular technology the work is produced *through* that technology but is also, to some extent, *about* that technology and what it allows and denies.

One of the ways digital technologies afford (and deny) communicative functions is through the interoperability of digitally encoded information. Interoperability is the capacity that different hardware and software systems have to run the same code or file formats. For example, file types like PDFs and JPGs can usually be shared, in person, via a mobile phone, tablet, laptop, or desktop computer, and they can be projected onto a large screen during presentations and group critiques. Files can also be shared via social media platforms, email, and cloud services. Communicative, storage and generative functions are combined when artists and designers work collaboratively online. Through their interoperability, digital technologies have greatly enhanced the ability of people to work together both synchronously and asynchronously. As long as the collaboration can be facilitated through an interoperable digital means, physical distance between collaborators and, thus, time delays can be overcome. The relative convenience and practicality of digital work means that non-digital work seems relatively inconvenient and impractical. Digital technologies

seem to offer the easiest and most common form of communication and we are seeing them replace so many forms of earlier technology³⁶. In Art & Design, especially in subject areas like Media, Graphic Design and Photography, we are seeing digital images, shared online, becoming the dominant form for completed work. Rather than digital images being a representation, or a temporary stand-in, for actual work to be completed in another form, digital work is now the final form, the digital has moved from being the virtual to being the actual. Films are streamed rather than projected; posters are made to be posted online rather than pasted on a billboard; photographs are more likely to be shared online than printed on paper. Digital communication is becoming the dominant form of communication and it is a form of communication that has firmly established itself in sketchbook related practices.

I want to return to a statement made earlier in this section – where I reported I that frequently encountered the use of digital technologies within traditional paper sketchbooks and the use of digital technologies in other forms of sketchbook work. I think that this needs some clarification as it is central to understanding ways that digital technologies are influencing sketchbook work. Digital technologies are ubiquitous and their involvement and influence on what we do and how we do it is not always transparent – or may be so transparent that we do not see it because it is hidden in plain sight. While a paper sketchbook was, and still can be, a site of practice, a place where drawings and notes are made, it is also a repository for images and text that have been produced elsewhere. Many of the students that I spoke with collect images from a variety of sources and tape, glue or staple them into a paper sketchbook. Sometimes these are from magazines or newspapers and they have been torn³⁷ out, cut with a pair of scissors, or cleanly extracted with a scalpel. Almost certainly these images have been produced through digital technologies. They may have been taken with a digital camera, stored in digital files, edited digitally, and then published using a digital design programme. Even magazine and newspaper printing processes rely heavily on digital technologies (Levaggi, 2015). By using more traditional forms of printed media, one is not avoiding the influence of digital technologies. Students also collect images from online sources and add selected ones to their paper sketchbooks, printing out

³⁶ In everyday life radio and television have largely moved from analogue to digital. Newspapers, magazines and academic journals are in the process of moving from hardcopy to digital. Letters are becoming emails – and emails are old hat for many. Phone calls are now digital, but are being replaced by texts, and they too are being replaced by direct messaging through social media sites. If the medium is the message (or as McLuhans & Fiore's (2008) book is actually titled *The Medium is The Message*) then it seems to be in a state of flux, constantly becoming something new.

³⁷ I love tearing paper. Grant (2013:online) offers a scientific overview of the physics involved, when answering his question 'why is it not hard to rip a piece of paper in half?'. Perhaps tragically, Fountain (2008) reports on a new type of nanotechnology paper that cannot be ripped apart; thankfully it is not yet dominating the market. As we move into the digital age, Sanchez (2019) offers advice on how to create a torn paper edge in Photoshop. Is nothing sacred?



Fig. 23. An example of a digitally impregnated sketchbook entry – an Affinity Photo corrected image, of a photocopy enlargement, of a collage, made from magazine extracts. Simon Webster (1999), photographed in 2020.

images via networked photocopiers or home printers. They may include photographs that they have taken, most likely from a digital camera or smartphone. Students also access much of their text through digital forms, using the internet as the primary, if not sole source of secondary research. Books, magazines, web pages, social media site, museum collections and research databases, like *Art Full Text*, are all accessed through the internet. Students also generate drawings, altered images, and page layouts in software programmes like Adobe Illustrator, Photoshop and InDesign – these can then be printed and entered into a paper sketchbook. A sketchbook may be made of paper, but much of what is in it, if not created within the sketchbook, is likely to be have been digital at some point in its existence.

Perhaps the hidden in plain sight nature of the influence and ubiquity of digital technologies has been facilitated through the use of legacy language from pre-digital technology processes. Terms like cut and paste, dodge and burn, pencil tool, even typing and printing refer to historical, physical practices and processes that are not replicated with digital technologies, although the achieved outcome may be the same. For example, an inkjet printer does not print; there is no contact between the print head and the paper; ink is not transferred through pressure, it is sprayed onto the page. Carrying over language from one process to another that replaces it normalises the new process and makes adoption of the new technology more acceptable, as well as conceptually accessible. I have played a similar kind of language game (Xanthos, 2006), or perlocutionary speech act (Austin, 1962), with the deployment of the phrase sketchbook work in this thesis. The phrase is an attempt to incorporate the kinds of work that were once carried out in sketchbooks into a wider set of practices that include work that is not carried out in a sketchbook, but that serves the same function. As you will see in the next section, I try to do this same trick with the phrase - the dispersed sketchbook... now, what was that maxim about fooling all of the people some of the time and some of the people all the time?...

The dispersed sketchbook

As an art student myself, or in the earlier years of my work as an Art & Design lecturer, it was usual to have most of the supportive evidence of research processes held in what were, generally, called sketchbooks. As discussed earlier, these may have been lever arch files or a loose-leaf set of images held in a portfolio, but, whatever the form, they did tend to exist as a relatively coherent body of work that was characterised by the physical proximity of the individual pieces of work to the whole,

often bound together in a book, or stack of books, or held in files. These collections carried out generative, storage and retrieval, and communicative functions.

In recent years, and particularly during research for this project, I have witnessed the traditional functions of the sketchbook being carried out via an ever-widening set of technological tools, especially digital ones. I call this phenomenon the dispersed sketchbook. The dispersed sketchbook is the set of tools and content that a student uses to do their sketchbook work and carry out the functions of the traditional paper sketchbook. For example, the generative functions of the sketchbook may still involve drawing, but the drawing may take place in Adobe Illustrator, or Autodesk SketchBook, and be held on a tablet or in cloud storage. Generative functions may be inspired by found or suggested images and these may be stored in various forms, like cloud storage, or on an Instagram board. The communicative function of the sketchbook is now as likely to be mediated through a smartphone, tablet or laptop as it is through a paper sketchbook.

When I carried out the intrerviews for this project I asked the students to bring along their sketchbooks with them as a basis for our discussions. What they brought along did include traditional paper sketchbooks, but most students also brought a laptop, tablet, mobile phone, or logged into a desktop computer to show me aspects of their work that was not held within a traditional paper sketchbook. Graphic Design student *Chris* had their work on online InDesign files, with much of the image content imported from work carried out in Illustrator and Photoshop, or a blog where *Chris* (28'30") kept "random notes and images". Working with 2 versions of an InDesign sketchbook that was being produced for assessment purposes, *Chris* would, over time "take notes from the messier book into the neater one" (*ibid*). The neater book was then printed via an online publishing site (self-publishing is discussed in more detail elsewhere). This printed version of the sketchbook was carrying out the communicative function for *Chris*, but the real generative and storage functions were carried out elsewhere, in a variety of digital locations.

Another Graphic Design student, *Eddie*, had a range of sketchbook work in a number of formats. There were traditional paper sketchbooks with pencil drawings and collected images, as well as ring binders with collected and collated materials that had been printed from the internet. Work was also stored on Facebook, Pinterest, Behance and Google Drive, which had a communicative function as it was used for sharing work with lecturers, peers, and external clients whom *Eddie* was working with for a live project. Marketing of *Eddie's* work was taking place online through

Facebook, Twitter and a blog. A self-published version of *Eddie*'s sketchbook work, for assessment purposes and trade shows, was presented in a newspaper format made via Newspaper Club, but much of the behind-the-scenes generative work was carried out using InDesign and Photoshop. When discussing the use of the software *Eddie* (4'45") told me "I need it - you can't really do half the stuff we do without it – I am looking at all these projects and I think that everyone uses Adobe Creative Suite in some way". To be a successful as a Graphic Design student and budding professional, it seems, there is a need to produce, store and communicate via a range of digital means.

Odell, a Painting, Printmaking and Drawing student, had produced installation work incorporating sound. In the earlier years of their study *Odell* had used traditional paper sketchbooks, but, as their interests and the nature of their work changed, *Odell* found that their approach to sketchbook work had to change too. When *Odell* started using a Dictaphone to make recordings that explored synaesthetic relationships between drawing and hearing they found that, in their traditional paper sketchbook, they were continually referring to audio files that could not be satisfactorily contained in, or accessed through, their sketchbook. Putting a memory stick or compact disc in the sketchbook was neither an elegant nor efficient solution. *Odell* adopted the use of a blog as a generative place for writing, a repository for found research, and a communicative tool that allowed *Odell* and the lecturers to hyperlink to the audio files that were stored on SoundCloud (a cloud-based service that lets users distribute and share audio files). *Odell* was also able to embed YouTube videos, created as part of their project, directly into the blog. *Odell* (3'50"), telling me about the affordances found through changes in sketchbook practices said:

"when I started progressing my work and looking at drawing, the expanded field of drawing if you like, and sound came into it, suddenly I had these audio recordings, had this film going on and it [the blog] was finally a place that I could document my thoughts, if you like, that would commonly show in a sketchbook – my thinking – how could my thinking be projected. In my module before this one I was using sound and had a paper sketchbook and it just wasn't working for me; I think it was less successful for assessment [...] I was printing out paper and referring to online places, when actually I could just do it here"

Odell thought the blog was easy to use and very accessible – traits associated with a paper sketchbook that can be carried in a pocket - "I could add videos and links, thoughts and reflections, so easily – it became a very mobile thing for me, very quick to get to log in, update, [...] etc. And it was just there" (*Odell*, 5'20"). The WordPress blog offered a template that allowed *Odell* to organise the structure so that it had the functionality of a webpage, with menu tabs for different

topic areas. This is in keeping with Şener's (2015:39) thought about the need of digital sketchbook to maintain 'compatibility with student's increasingly digital workflows'. *Odell*'s blog did not follow a simple linear, chronological structure, with each new entry appearing at the top of the blog, as early blog sites used to do. The blog was easy to rearrange and edit. For example, *Odell* told me that for an assessment multiple edits of a sound recording could be uploaded so that the lecturers could see (and hear) the ways that the work had been developed over time. *Odell* (8'55") mentioned other aspects of the blog that appealed:

"I am interested in [...] theory and research and one day I might like to take on an MA or PhD, or something, and what I am thinking about [...] is the legacy of this [blog sketchbook]. It becomes something more than just a sketchbook because I can share this, for example in a forum or in a conference, so I am thinking about the possibilities. Right now it is not ready for that, but it might be tweaked slightly so that it could be something that is developed and that I talk about in other forms and places – so I have got that in mind – I am not there yet, obviously. [...] I can see potential for it to be shareable externally, which might lead into a research project, co-research."

Ideas around sharing and collaboration are in keeping with the nature of digital learning environments and social media. *Odell* (25'10") felt differently about the blog-based sketchbook compared to the earlier paper-based ones:

"Instantly I wanted to share it [...] I think sometimes with my other sketchbooks, thinking back, and it might be something about myself as an artist, but previously I wanted to keep the book closed – you keep it close to your chest, don't you? - Suddenly, you know, an online thing... instantly... I don't know, it is something different. I suppose, although I haven't shared it publicly, as such, I have been more inclined to show people actually [...] it is not so much a closed book"

The nature of the digital sketchbook, and the discourse that surrounds it, were having an influence on *Odell* and, since leaving college, *Odell*'s online digital sketchbook has been made public. When *Odell* first started working with a digital sketchbook there was "a tendency [...] to get a little bit digital happy and make it about that" (*Odell*, 36'00"). There was a sense that *Odell* was somewhat intoxicated with the new medium and its possibilities – it had to be explored or played with and this interrupted their engagement with the synesthesia research that they were involved in (this kind of intoxication is a trait that I recognise from my own encounters with a new technology). Now that *Odell* is no longer a student, the approach to the blog has changed, with, for example, crit feedback and research into other artists now being removed; there is a cleaner, more stripped down and minimal look to the site. The blog now serves more as a communicative tool, projecting *Odell*'s professional profile and work – and acting as an information point for collaborative projects, seminars and publications.

The dispersed sketchbook, made up of constituent parts, allows for a more tailored approach. It enables students to select, or deselect, approaches to their sketchbook. They can choose from range of formats, selecting ones that fit a particular purpose at a particular time, dependent upon the affordances that they offer. Perhaps a blog for reflective writing that is to be communicated to a third party, a journal for more private writing, Pinterest for building a repository of images, Instagram for projecting a professional identity or seeking feedback on developing work, a scrapbook for collecting printed materials, and so on. There is a risk that this kind of specialised approach may lead to a lack of cross-pollination of ideas and approaches that is such a strength of the traditional sketchbook.

All the same, all different³⁸

Prensky's (2001) modelling of people and their relationship to technology had a flaw. There was an inbuilt assumption that people born into the digital age were 'natives' - they had an affinity with digital technology and they wanted to use it. Prensky's dividing line between natives and immigrants is based on a person's year of birth and, as he later recognised, his division between natives and immigrants has/will become ever less meaningful as time goes on and more and more people are born into the digital age (Prensky, 2009). But not all people born into the digital age are natives; despite interaction with digital technologies throughout their lives, some people do not '*think and process information fundamentally differently*', as Prensky (2001:1) put it; they want aspects of their work to be fundamentally the same, without involvement in digital technologies. In response to the anomalies in Prensky's model, an alternative conceptualisation of digital residents and digital visitors (White & Le Cornu, 2011) has been proposed. Digital residents feel they 'belong' (*ibid*) in a particular digital space (perhaps a social media site, or using Photoshop) and may inhabit it most of the time, while digital visitors might feel they are a 'stranger in a strange land' (Heinlein, 1961) or that they are using the digital space pragmatically, to get a particular job done, but do not inhabit the space for large periods of time. The residents and visitors conceptualisation is based on user preferences, rather than age and it has been suggested that the perceived convenience of the available approaches informs a person's choice of what

approach they would take (Connaway *et al*, 2013) (if they have the freedom to choose), or may be 'ad hoc and opportunistic' (Allen & Coleman, 2011:62). White & Le Cornu (2001) do not want their model to be seen as a simple set of binary opposites. They see the division as a continuum or sliding scale, and also context specific, meaning that a person may take on a different position on the continuum dependent upon the task they are trying to do, or the digital technology they are using.

The sketchbook work that I saw during this project could also be placed upon a continuum, with work that was predominantly digital at one end of the scale and work that was predominantly analogue/traditional at the other. The students that I met were choosing to work with traditional sketchbooks for some aspects of their work – some to a greater and some to a lesser extent. If Connaway *et al* (2013) are correct, then the choices that the students make may be based upon the perceived convenience of adopting one approach over another. Even though digital alternatives were available, students undertook traditional sketchbook work; they wrote by hand and they drew by hand for some of their work because they preferred it, or found an affordance in it. For example, *Dane* (46'20") showed me a traditional sketchbook entry of printed letters that had originally been conceived as hand drawn lettering, converted into a digital format for development into a font and then printed so that they could be annotated with directive arrows and notes by hand. *Dane* liked the hard copy of the letters because of the ease of annotation with pen on paper and because of the aesthetic of seeing the letters on textured paper that interacted with light, bringing the letters alive³⁹. *Eddie* (07'50") told me their storyboarding for a video was

"all hand done – I just find it easier – some people find digital so much easier, they are able to get it so precise what they are thinking, but because I am not sure what I want until I have got it on paper it is easier for me to sketch it and then tweak it"

Perhaps, for some students, drawing and writing by hand is perceived as a more natural and intuitive than using a digital technology. McCullough (1996:53) argued 'computers fragment our thinking by substituting discrete events for continuous actions, and by requiring us to learn and manage a bewildering multiplicity of processes.' So, the perception of the convenience of a digital technology is probably linked to the degree of mastery that one has with it. Now that 'the mobile

³⁸ This heading is from a distant memory of an Australian ceramics article that I read more than twenty years ago – it sits in my mind near to Pete Townsend's (1971) 'welcome to the new boss, same as the old boss' lyric. When hunting for the Australian article I came across the same words being used by A.S. Byatt (2020:online), when discussing Edmund de Waal's ceramics: 'in his hands clay becomes a repeated series of cylindrical forms, all the same, all different, each subtly changing the next pot in the group, and in turn the whole series'. This sense of subtle change over time may be the best way to think about the gradual adoption of elements of digital sketchbook practices within

Art & Design education. I know these words are problematic, but they serve a function here – the process seems to be evolutionary rather than revolutionary.

³⁹ I remember, in my youth, watching my father do his architectural drawings on what he called acrylic substrate, rather than paper. In Art & Design, substrate is term that is sometimes used in place of surface or medium, referring to what is being drawn or painted on (e.g. paper, metal, a layer of gesso). In biology a substrate is the surface upon which an organism lives, either in the wild or in a Petri dish. The biological sense of the term seems particularly apt in this instance.

and the laptop are as ubiquitous as the sketchbook' (Orr & Shreeve, 2018:10) it may be that some students are developing as much familiarity, skill or tacit knowledge (Polanyi, 2009) of digital technology as they are of hand drawing and writing and have mastery of different forms of work dependent upon the time they have spent engaging with the particular form.

Turkle and Papert (1990:3) classed the people who resist the move to the digital for aspects of their work the 'computer reticent'. Trying to work digitally can be alien and somewhat alienating because digital technologies offer certain affordances and deny others. They shape the way we work. Awareness of this has led to re-recognition of the opportunities that paper, pen, pencil and brush offer. The growth of interest in paper sketchbooks can be aligned with a more general analogue revival (Sax, 2016; Vacca, 2017), which includes a reappreciation of the paper book, the vinyl record and live performance. According to Vacca (2017:online):

This is not a revival, but a true renaissance. From this angle, the paper book can maybe be reconsidered as a "100% immersive de-connected format"; listening to vinyl records as "a full engaging experience of an album concept outside of the playlist stream" and the movie theatre or concert experience as some "collective sensorial immersion" ...This is Analogue 2.0.' (Vacca, 2017:online)

In this sense, a return to drawing, or collage carried out with paper and scissors, takes place within a conceptual framework that knows about the digital world and the effect that it has had on practices. Any return to drawing, particularly in the context of Art & Design education and its related creativities, cannot be atavistic and in denial of the digital as Andrews (2002) thought it was. Drawing with pencil and paper in the twenty-first century is an aesthetic and pragmatic choice, but it is not a 'pure' choice, it is not uninfected by the digital.

Some of the complexities of hybridised, infected, or impregnated drawing can be understood through the concept of the post-digital. The post-digital has a relationship with the digital somewhat like postmodernism's relationships with modernism. It is after it (or runs alongside it), it acknowledges it, it may reject it (Andrews, 2002), but it may also be a continuation of it (Ghosh, 2018). Those interested in the post-digital seem to refer to the digital as the period of the digital revolution (Raschke, 2003; Baron, 2009), when digital technology was a disruptor, when it was

relatively new, when its functionality was embryonic and when access to it was potentially limited. The post-digital is conceived of as a time and set of practices where this shock of the new is over and we have an acceptance of the pervasiveness of digital technology in all aspects of our lives. During the period of the digital revolution 'our attitude toward the internet and computers has moved from suspicion or curiosity to dependency' (Baron, 2009:ix).The post-digital is an acceptance that a digital revolution happened and that it changed everything, but not necessarily that the revolution is over (Deakin, 2016). Change is still taking place; according to Deakin (2016:9) 'Change is the only constant'. Jacob (2018:online) thinks post-digital drawings 'accentuate the artificiality of the drawing' through their knowing referentiality to the digital world and its virtual representation of the world. Post-digital drawing is both 'inoculated against the novelty of digital technique and attuned to the sheer ubiquity of "the digital" in contemporary life' (Ghosh, 2018:online). The work is referent to the hand-drawn or the hand-made but is actually a digital image – it has taken on an aesthetic of the hand-made: somewhat rough and ready rather than exact and perfect; referencing the mark of the maker, rather than the impersonal logic of the computer⁴⁰. Post-digital drawing (and living, in general) 'embraces a new awkwardness' (Jacob, 2018:online) that is indicative of a growing appreciation of, and challenge to, the virtual, representational world that we live in.

It is the hybridisation of the traditional and the digital that I find so interesting. The traditional and the digital have begun to meld to such an extent that it is difficult, in many (most?) cases to see where one starts and the other ends. An example of hybridisation between the traditional and the digital can be seen in *Morgan's* work. *Morgan* makes paintings that consist of paint on board or canvas. Much of *Morgan's* research is carried out via the internet. On the face of it, the distinctions appear clear cut, but when I talked to *Morgan* about the work and working processes more complexity and intra-action between the real and the virtual, the physical and the digital, became apparent. Working backwards from the paintings that I saw at the end of year show, *Morgan* had combined abstract paintings with words. The words had been added to the paintings via stencils. The stencils had been made using a laser cutter controlled by a computer. The typeface and font

⁴⁰The post-digital aesthetic is described in more detail by Ghosh (2018:online): 'Varied though these references may be, the post-digital drawing extracts from them an obsession with flatness and a virtuous refusal to engage with gloss, definition, fidelity, and multi-point perspective. Here, the visual accoutrements of photorealism have been replaced with another set of tropes: square aspect ratio, relentless frontality, impossibly high focal length, often the absence of perspective, the profusion of film-grain "noise" and texture overlays, the simulation of hand-made collage or

montage, suppressed or mute coloration, fragments of iconic paintings, idiosyncratic furniture, potted succulents, and sundry domestic ephemera. By valorizing the ordinary and rendering it to look like the past, the post-digital drawing is a belated manifestation of the aesthetics of millennial disaffection that first came into prominence over a decade ago.'

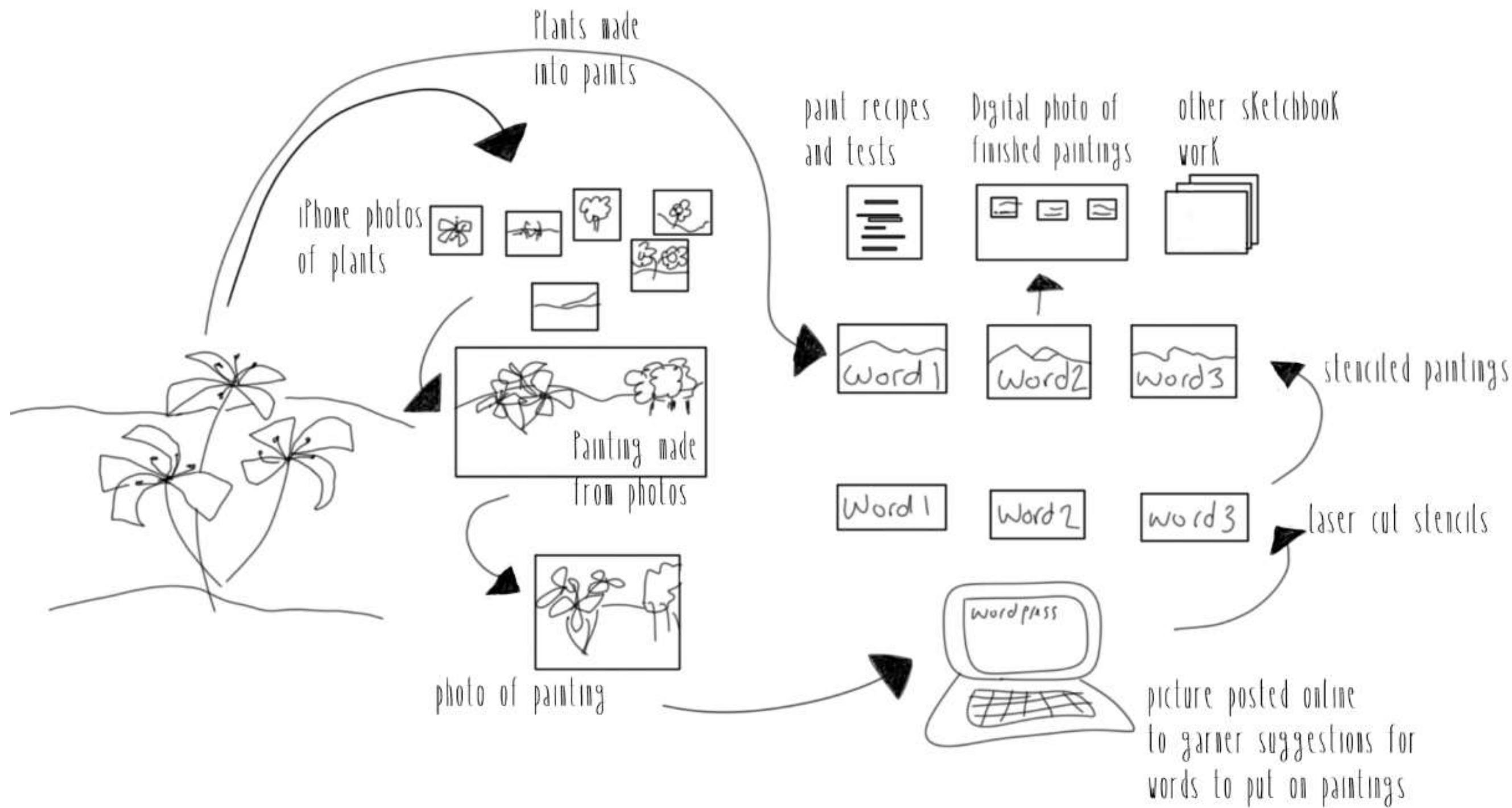


Fig. 24. Interplay between digital and non-digital processes in *Morgan's work*. Simon Webster (2020).

size had originally been generated through desktop publishing software before being transferred into code that the laser cutter could follow. The words put on a painting were selected from ones suggested by *Morgan*'s followers on WordPress in reaction to a JPG that *Morgan* had posted on the site. *Morgan* (24'55") told me "I get about 2000 people a month traffic through my blog. [...] which I am really, really happy about". The JPG was a Photoshop-enhanced photograph of an abstract painting that *Morgan* had made. The painting was abstracted from digital photographs of the landscape taken with an iPhone. The landscapes were of wider location shots and close-up details of plants that *Morgan* used to make the pigments for the paint used in the final images. *Morgan*'s sketchbooks contained further hybridisation. There were appropriated images and text relating to paint making processes that had been gleaned from the internet. There were brief explanations of other artists' work that were being used as contextualisation of, and influence on, *Morgan*'s work. There were printed screen grabs from the WordPress site that were a gesture to work carried out elsewhere... and, if you can follow this, a printout of an image of three printouts of digital images that were made using printed photographs of digital landscape images. The actual paintings had a complex relationship with digital technologies, but the representations of *Morgan*'s working processes that were held in the sketchbooks were far more complex.

The students that I spoke with tended⁴¹ to move between the actual and the virtual with ease, making few distinctions between one form and another. Artists and designers are very used to working with representations, be they paintings, drawings, photographs, or plans. They may be abstractions of things that already exist or designs for things that may exist in the future. They are things in themselves. Digital things appear to be as freely accepted by many students as any other form of thing. Digital ways of working are 'entwined' (Orr & Shreeve, 2018:10) with more traditional ways of working with paper. Students move freely between both ways of working, dissolving differences between them, often unaware of differentiations, through their practices they are 'rejecting the binary between the material and the digital' (*ibid*).

⁴¹the transitions between one form and another are not always successful though. For example, *Morgan* (24'30") had some hybrid pages in their paper sketchbook that had screen grabs of their Wordpress site – the paper sketchbook was struggling to incorporate this element of the work as the text on the screen grabs was small and, effectively,

unreadable; it was a 'gesture' (Blumer, 1969) toward work that sat outside their paper sketchbook/studio book, offering evidence that it existed, but not actually making it accessible.

This section is for the reader to make notes, make connections, and add their own thoughts on sketchbook and technology related practices as a summary to the chapter



Chapter 4: Creativity and the sketchbook

Creativity is a term oft associated with Art & Design education. Exploring creativity and its associations with the sketchbook, and how concepts of creativity may be influenced by new digital technologies is, I believe, an important part of this study. By understanding approaches to creativity and expectations concerning creativity I hope to show insights into sketchbook practices and associated assessment practices. Elsewhere within this thesis I discuss the difficulty of defining what a sketchbook is, or what it might be. Rather than trying to define a sketchbook I chose to explore conceptualisations and uses of sketchbooks and sketchbook work. In a similar way, there is difficulty in defining what creativity is. At the start of this chapter I explore attempts at defining creativity and arguments for conceptualising creativity differently. I then look at the concept of divergent and convergent thinking, which has a significant influence on making practices at the institution where this project was carried out. I then move onto explore an expanded field of creativity concepts that offer other ways of recognising and utilising approaches to creativity. In particular, I will draw upon the Bleakley's (2004:463) 'typology of creativities' and link it to other writings that have related or extended classifications and conceptualisations. What can conceptualisations of creativity do to help us understand where technology is, and is not, having an effect on sketchbook practices in post-compulsory educational settings?

Creativity

Thirty years ago, Fry (1990:168-169) considered creativity to be an under-researched category, one that was not viewed as problematic because it had not been problematised:

Perhaps of all that has been demolished in the critical passage of the trinity of postmodernist, poststructuralist and deconstructive theory, it is creativity which stands alone almost unscathed. It still circulates as an unexamined category, a taken for granted, a springing forth of the marvel of the human spirit when all else has been designated dead.

Since then, much has been written about creativity and now it *is* a problematic term. Eastwood *et al* (2009:119) note 'it is worth observing from the outset that if there were ever a concept that belied consensus, creativity would be right up there at the top of the list.' Harnad (2006:163) suggests 'creativity may be a trait, a state or just a process defined by its products.' According to Gibson (2005:153), creativity 'seems to be another of those ill-defined terms', but, because concepts of creativity are used in so many contexts, by so many people, to mean so many things, to try to reduce it to an exact definition is unhelpful and fails to recognise the

situated, constructed meanings in a given context. Despite the futility of trying to create an exact definition that covers all situations or contexts, creativity is seen as important in many subject areas (Runco & Pritzker, 1999). Harris & De Bruin (2018:online) claim 'creativity is an essential aspect of teaching and learning that is influencing worldwide educational policy and teacher practice, and is shaping the possibilities of twenty-first century learners'. Pink (2005:1) links the importance of creativity to a 'seismic' change in society, whereby:

we are moving from an economy and a society built on the logical, linear, computerlike capabilities of the Information Age to an economy and a society built on the inventive, empathic, big-picture capabilities of what's rising in its place, the Conceptual Age.

Because creativity, it is argued, is something that is needed by the economy to respond to changes in the nature of work (Gibson, 2005; Allen & Coleman, 2011; Leach, 2004) it has become something deemed important and in need of development during compulsory education (NCCCE, 1999; Simmons, 2009) and further developed during post-compulsory education (Bleakley, 2004; Maslow, 1994). Maslow (1994) thought approaches to creativity that had been developed in art education were the way forward for other disciplines. For example, in engineering, university courses were giving up

the tried and true methods of the past, in favor of trying to create a new kind of human being who is comfortable with change, who enjoys change, who is able to improvise, who is able to face with confidence, strength, and courage a situation of which he has absolutely no forewarning. (Maslow, 1994:56)

Creativity is generally seen as a positive force; a 'hurrah word' (Gibson, 2005:148); something that we can rally around and celebrate. Notions of creativity hold particular status in Art & Design education, it is seen as something that is inherent in what we do. Art & Design students develop their creativities, and these have utility within, and beyond, the discipline. Frayling (in Cook, 2004:online) explains that:

Art education is a means of bringing out things like problem-solving, self-confidence, the ability to say 'why not' rather than 'why', mental-manual coordination, the willingness to see as well as look, and a flexible approach to navigating through life. So [...] we think art is a good way of teaching life skills and preparing people for other types of work.

Bleakley (2004) traces the origin of the word creativity to two root uses of the word creative; one, in the seventeenth century, synonymous with creation and, more recently, in 1803, one synonymous with being productive. One strand of creativity relates to originality, the other to practical problem solving or utility. The two strands can be intertwined, but have their own separate attributes, rather like a climber's rope that may have strands that are there for tensile

strength and strands that are there for stretch; the differing strands can complement each other. As well as having the potential to be complementary, the two strands of thought that underpin notions of creativity can also compete, perhaps with one being dominant or more highly valued over the other. Gibson (2005) argues creativity in education has gone through periods when it was most closely aligned with self-expression and humanistic growth; with social construction of knowledge; and with the development of skills ‘crucial to our individual and national economic success in the economy of the future’ (Blair in Gibson, 2005:151). Bleakley (2004:465) asks why ‘certain constructions of creativity become legitimated at a certain point in history or within a specific cultural and social setting, to the detriment of other possibilities’ and this is something that will be explored with regard to pedagogy, student’s work with sketchbooks, and how new technologies might be influencing what practises we see as legitimate or illegitimate. This could be seen as a Foucauldian (2002) approach to the power structures created through the discourse surrounding creativity and education; for example, what forces are at play concerning vocationalism in education, and how is the associated language shaping how creativity is conceived and enacted in post-compulsory Art & Design education?

Kozbelt, Beghetto & Runco (2010) differentiate between scientific and metaphorical oriented theories of creativity. The scientific approach seeks ‘objective truth, generating empirically falsifiable hypotheses, and developing formal or computational models’ (Kozbelt, Beghetto & Runco, 2010:22), while metaphorical theories of creativity ‘offer a more speculative stance on phenomena and focus on provoking new understandings and possibilities’ (*ibid*). The scientific approach may ‘drift into conceptual and empirical extremes, in which researchers find themselves (inadvertently) shackled to the observable’ (*ibid*). Psychology experiments, for example, can oversimplify contexts and interrelationships between types of creativity in attempts to keep variables constant and allow specific focus on one phenomenon or type of creativity (Plucker & Makel, 2010), or they fail to lead to generalisable concepts because they study individuals in idiosyncratic situations which do not allow for stable classifications of groups of participants or

⁴² Deleuze (2006:148) reminds us that the virtual and the actual should not be seen as a simple binary of opposing conditions they are closely related and relational, they intra-act: ‘Purely actual objects do not exist. Every actual surrounds itself with a cloud of virtual images. This cloud is composed of a series of more or less extensive coexisting circuits, along which the virtual images are distributed, and around which they run. These virtuals vary in kind as well as in their degree of proximity from the actual particles by which they are both emitted and absorbed. [...] The virtuals, encircling the actual, perpetually renew themselves by emitting yet others, with which they are in turn surrounded and which go on to react upon the actual’. The actual and the virtual have ‘mutual inextricability’ (Deleuze, 2006:149).

types of creativity (Amabile, 2018). Despite the scientific and metaphorical approaches having shortcomings, this does not mean that they should be rejected out of hand for use in this project, especially as I have found a relatively high degree of shared language and concepts between the two approaches to understanding creativity. I will be drawing on both approaches to try to show what concepts of creativity can do to create interpretations of the idiosyncratic practices associated with his project, whether they be the more traditional or the digital-technology-influenced sketchbook practices.

New materialist, or posthuman, conceptualisations of creativity seem to focus on the making of new relations within relata (whether virtual or actual⁴²), with newness being associated with uniqueness or individuation. Manning (2008:11) sees creativity as a force that ‘modulates the bodies in its midst’. Discussing art making, Manning (2008:11) claims concepts to be ‘aspects of a creative process already active in the imminence of thought that can force the work to take form’. Creativity, then, involves bridging gaps between ‘between probability and potential, the possible and the virtual’ (Massumi, 2002:229). Creativity, in this context seems to be the process of realisation of a phenomenon as relata come together in new formations. Massumi (2008:23) appears to see the formation bonds⁴³ as relatively weak and ready to re-form:

What I’m trying to say is that formations communicate only immanently, at the points where they live themselves in, or at their self-embracing fringes. They only virtually relate. All relation is virtual. Earlier on, when I was talking about how vision related to the other senses, I ended up having to say that vision is virtual. It is only because relation is virtual that there is any freedom or creativity in the world. If formations were in actual causal connection, how they effectively connect would be completely determined. They might interact, but they would not creatively relate. There would be no gap in the chain of connection for anything new to emerge from and pass contagiously across. There’d be no margin of creative indeterminacy. No wriggle room.

This makes sense when combined with Manning’s (2008:11) earlier description of creativity as a ‘force’; Massumi writes about it somewhat like an electrical charge that would leap, or discharge, between one attracted relata and another, joining them temporarily. In a posthuman, monist approach (Abadía, 2018), as with gravity (Cook, Faller & Nordtvedt, 2019), everything has a bond

⁴³ Chemistry and Biology would, in no way, be deemed as areas of study that I am confident in. Looking at an old school report that I received in 1976, I see that for Chemistry I gained a 46% exam grade at the end of the year, along with a comment: ‘a better result than expected’ – I was damned with faint praise. In 1977, following a 40% grade for Biology, the single word comment was ‘Fair’. So, accepting my failings to grasp little more than the basics in these subjects, I was intrigued to read about the four types of chemical bond (Bartee, Shriner & Creech, 2017:online): Ionic, Covalent, Hydrogen, and Van Dr Waals Interactions (which are actually forces rather than chemical bonds. Classificatory complications are discussed in more detail in a later footnote!). If I were more able it might have been possible to make a clever connection between Massumi’s thinking about virtual connections and the Van Der Waals Connections that are ‘weak attractions or interactions between molecules’ (*ibid*).

with every other thing and, as with gravity, this appears to be how Massumi and Manning are conceiving creativity. Creativity, it seems, is everywhere, creativity brings relata together to create phenomena, and every phenomena is an individuated event with its own peculiarities. Everything is the product of creativity:

'Because every event is utterly singular, a one-off, even though with and through its one-offness a "likeness" is necessarily thought-felt to a whole population of other events with which it forms an endless series of repeated variations' (Massumi, 2008:36-37)

This is an interesting approach, but there is a danger that an all-encompassing embracement of creativity as a force that realises phenomena may be an over generalisation that does not greatly help analysis of sketchbook work. Manning's (2016) 'research-creation' propositions bring in more possibilities for understanding what sketchbook work might produce in terms of knowledge or ways of knowing. Manning's (2016:3'41") first proposition, that creating new forms of knowledge involves 'embracing the non-linguistic' is a good example. She says research-creation:

generates forms of knowledge that are extra-linguistic; it creates operative strategies for a mobile positioning that takes these new forms of knowledge into account. It proposes concrete assemblages for rethinking the very question of what is at stake in pedagogy, in practice, and in collective experimentation. Research-creation proposes new forms of knowledge, many of which are not intelligible within current understandings of what knowledge might look like. Consider that new processes will likely produce new forms of knowledge which may have no means of evaluation within current disciplinary models.

Manning's (2016:5'03") second proposition says that 'making is a thinking in its own right' and should be engaged with when it is 'fully in the act' (Manning, 2016:4'55"). Here the creative force is in enactment and what is being made may not be pre-defined or planned, but is still realised. Parallels can be drawn with Richardson and St. Pierre's (2005:959) 'writing as a method of inquiry', whereby you do not necessarily know what knowledge is going to be made, until it is made. Thinking, making and what is made are as one.

For this sketchbook usage project, because it is exploring emergent educational practices related to digital technologies that are themselves emergent and still under development, I have tried to see concepts of creativity as being socially constructed practices, which are 'neither invariant nor pre-existent, but in continuous emergence and flux through historical and material dialectic' (Bleakley, 2004:465). The 'practice architecture' (Kemmis & Grootenboer, 2008) of the particular art college associated with this research (such as the specific learning outcomes and assessment criteria, and the pedagogic approaches taken by individual courses, for example) inter- and intra-relates with art education discourse and the practices of individual students and lecturers, creating

an array of creativities. An example of the constructed nature of a creativity concept can be seen through examination of divergent and convergent thinking (Guilford, 1959). Concepts of divergent and convergent thinking are taught on the teacher training programme that I work on and are either explicitly or implicitly used by the awarding body, lecturers and students to inform or describe approaches to creative processes in Art & Design education. Ways that new digital technologies may be affecting student engagement with their divergent and convergent thinking will be explored here, but it should be noted that divergent and convergent thinking are not the only way that students' making practices are conceptualised and other approaches are explored in this, and in the Critical Thinking, chapters.

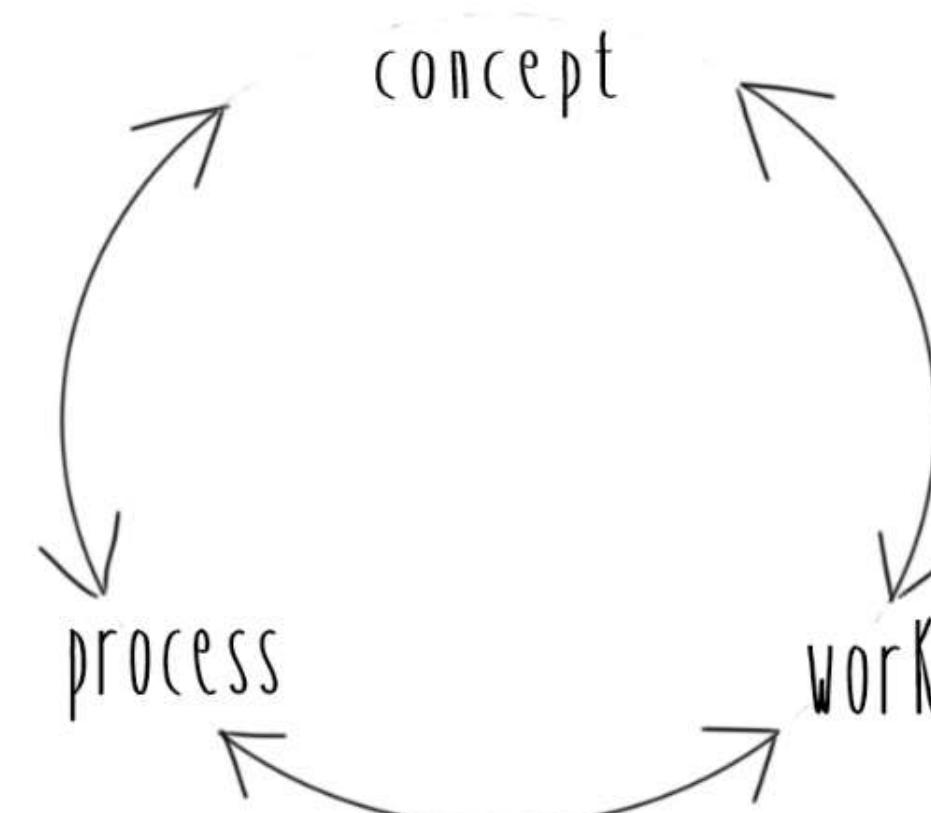


Fig. 25. 'To work with a concept is to explore what makes the work work' (Manning, 2008:11). Simon Webster (2020)

Divergent thinking involves ‘the ability to produce a diversity of responses to an open-ended problem’ (van de Kamp *et al*, 2015:48). Runco (2014:9) explains that divergent thinking is ‘not synonymous with creative thinking, but it does tell us something about the cognitive processes that sometimes lead to original ideas and solutions’. These cognitive processes are enabled by three key abilities: ‘fluency, or the ability to generate a great quantity of ideas; flexibility, or the ability to switch from one perspective to another; and originality in picking unusual associations of ideas’ (Csikszentmihalyi, 1996:online). Divergent thinking tends to be measured by psychologists through tests that count the total number of different responses that can be generated to a given question. In Art & Design we rarely, if ever, encourage or measure attempts to come up with as many divergent responses to a question or situation as possible, as if this were an end goal in itself. Students are encouraged to research or develop a range of responses in a given situation, perhaps making a mind map of ideas as an initial response to an assignment brief, as part of their ‘creative ideation’ (van de Kamp *et al*, 2015:48), but there is likely to be far more emphasis on the quality and qualities of the ideas, rather than simply on maximising the quantity.

As a simple explanation, psychologists say convergent thinking ‘involves solving well-defined, rational problems that have one correct answer’ (Csikszentmihalyi, 1996:online), or that it leads to ‘a single best answer and, thus, leaves no room for ambiguity: Answers are either right or wrong’ (Cropley, 2006:391). Clinical psychologists test the ability to carry out convergent thinking through IQ tests (*ibid*). Educational assessments often implement convergent thinking principles to measure knowledge acquisition through closed question or multiple-choice questions tests (Ku, 2009). Both of these forms of test tend to lead to one correct answer. The one correct answer referred to in the simpler conceptualisation of convergent thinking can be, but rarely is, the outcome of an Art & Design project within an educational setting. There will be times when students will make one sculpture, or have one photograph, as the final outcome of a project, but it is far more likely that a student will have multiple outcomes from a project and that one project

⁴⁴ Cropley (2006:396) discusses wider conceptualisations of knowledge, showing how knowing is a temporary, developing state and how this has particular significance for notions of creativity that link it to novelty, newness or originality: ‘it is interesting to note that because knowledge in a domain changes with the passage of time (usually by increasing), whether novelty is judged to be effective - and thus creative - may change with time. Indeed, once incorporated into existing knowledge, novelty of necessity ceases to be novel, thus creating a further paradox: Novelty (a) derives from what is already known; (b) is judged effective (or not) in terms of the already known; (c) passes into the body of knowledge if it is judged to be effective; (d) thereon ceases to be novel, and (e) having lost its own status as novel now influences the assessment of later novelty’. So, lecturers and students are caught up in acts of making and assessing that may be seeking originality in the sense of Kuhn-ian (2012:7) ‘normal science’, making work that conforms to and confirms contemporary modes of thinking about Art & Design work – what Sternberg, Kaufman &

will lead into another. A student’s work contributes to a body of work, either in one project, over the course of an academic year, or throughout a course. When viewed on the more macro level of a student project, rather than an individual instance of ideation, one correct answer is not an ideal concept to apply to Art & Design practices which aim to have multiple, ongoing outcomes. When viewed on the micro level of individual ideation or problem solving, the correctness of an answer is a complex issue, as correct is a subjective concept in Art & Design⁴⁴. The correct or best answer to a problem may be a nuanced aesthetic choice, or it may be the outcome of an idiosyncratic deployment of a particular technique (consider the different ways that Jackson Pollock, Clifford Possum Tjapaltjarri, or Bridget Riley solve the problem of applying paint to a canvas, for example) – the problem solving in these instances can appear to lead to the correct answer, when the answer is the production of work via one’s own set of working techniques that have become intuitive, tacit embodiments of a developed style (Schindler, 2015). In this sense, convergent thinking could be seen as reductive problem solving that leads one to, reaffirms, and develops, one’s style.

Cropley (2006b:392) argues ‘convergent thinking usually generates *orthodoxy*, whereas divergent thinking always generates *variability*’, which suggests that the two forms of thinking are inherently different, or at least have different outcomes. Csikszentmihalyi (1996:online) sees the divergent and the convergent as ‘two opposite ways of thinking’, but opposite does not mean unconnected. It is ‘very likely, divergent thinking and convergent thinking are actually two ends of a continuum’ (Runco, 2014:9) and work together. If creativity can be thought of as ‘the ability to reorganize the available knowledge, information, cues, facts and/or skills in a person’s reservoir to generate new ideas or useful solutions’ (Runco, Nemiro, and Walberg in Ma, 2009:39), then the novelty produced through divergent thinking relies on knowledge produced through convergent thinking. Convergent thinking is ‘intimately linked to knowledge’ (Cropley, 2006b:391) because it involves the deployment of known information, models and processes when problem solving –

Pretz (2011:79) call ‘replication’. It is difficult to break free and make something truly original, and if you do it may be classed as a non-compliant failure. If you make something that is ‘correct’ (Cropley, 2006b:402) and compliant with expectations then it is unlikely to be original! Another aspect of the complexities of correctness with Art & Design work may come from a ‘cognitive dissonance’ (Festinger, 1957:4) that a student may have because their view of the direction their work is progressing in may not be in alignment with the view(s) of their lecturer(s). Gonzalez & Haselager (2005:8) argue that a person’s ‘creativity is a self-organizing process’ based upon one’s own ‘stable beliefs’ (*ibid*), but for a student, still learning about their own aesthetic and theorisation of their work, their views may not be stable and lecturer input can either help stabilise, or further destabilise, a student’s positioning in relation to the work they are doing.

and the product of problem solving can be new knowledge⁴⁵. Convergent thinking can be seen as a process of moving a concept from the field of the possible (produced through divergent thinking) to the probable through a process of problem solving. Divergent thinking is also intimately linked to knowledge formation. Having the flexibility to be able to move from one perspective to another depends on having a knowledge of different perspectives. Similarly, being able to make numerous connections between ideas is enhanced by having knowledge of numerous ideas. Recognising the importance of knowledge changes the relationship between divergent and convergent thinking. Rather than divergent thinking being followed by convergent thinking, convergent thinking has to precede divergent thinking. Perhaps they are best seen as being in a dyadic relationship, both informing each other's process of knowledge formation. Schindler (2015:online) offers a useful perspective on the nature of knowledge as a 'capacity for action' when, 'in contrast to the rather static notion of "knowledge," the expression "knowing" is used to underline the processual character of knowledge generation' (*ibid*). Divergent thinking provides a range of new ideation and convergent thinking provides both the source material for the new ideation and the tools for evaluation, refinement and discernment of the new ideas to test their relevance or utility in a particular context. As Csikszentmihalyi (1996:online) puts it, 'Divergent thinking is not much use without the ability to tell a good idea from a bad one, and this selectivity involves convergent thinking' (which must be judged in relation to a specific context of enactment as things, including ideas, are not inherently good or bad).

It may be useful at this point to explore an example of divergent and convergent concepts manifesting themselves in course documentation that underpin a scheme of work for one of the courses involved in this project – and how thoughts about divergent and convergent thinking may underpin the content and ordering of a sketchbook that a student produced. The UAL (2019) Art and Design Level 3 Specification lays out a range of performance criteria that identify Art & Design project processes that students must evidence. The criteria are not explicitly linear, but, on the face of it, the way that the headings are ordered does suggest a simple process of divergent thinking, followed by convergent thinking. Their heading of Context can be equated with

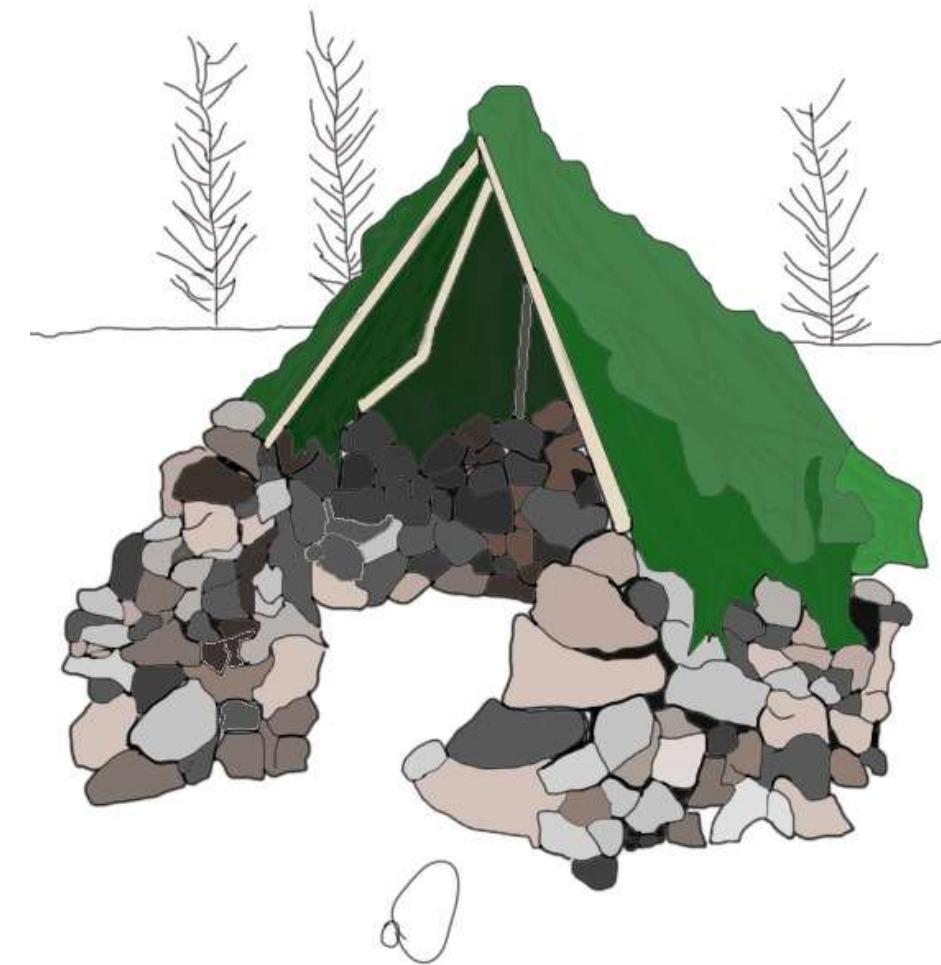


Fig. 26. Knowledge is a temporary structure. Lili Webster (2020).

problem stating; Research with divergent thinking; and the rest of the criteria headings (Problem solving, Planning and production, Practical skills, Evaluation and reflection, Presentation) can be aligned with convergent thinking that helps bring the student to a successful project conclusion. During the intrerviews carried out for this project, while talking with students and analysing their sketchbooks with them, I did recognise this simple pattern being replicated in the structuring of many of the sketchbooks because it was in keeping with the students' understanding of how they

⁴⁵ Knowledge, in this sense, as something made, or constructed, has a false sense of permanence, fixity or stasis – which of course it does not have. Knowledge is a temporary structure. Perhaps it should be thought of as a 'wild hut' (Langan, 2012:online) or 'rough roundhouse' (*ibid*) made from local materials to offer temporary respite from the real nature of the world with its wind, rain and beasties. Knowledge, like all structures, is in a state of decay or entropy

(Bois & Krauss, 1996), or 'decomposition' (Debord, 1979:120). Gale (2018:xi) places emphasis on the temporary nature of knowledge, often using 'knowing' to emphasize an 'active process' (Gale, 2018:10) rather than something that is fixed.

should evidence their engagement with their working practices. *Frankie*, for example, an FE photography student, had documentation of an initial idea for their project that was based on an ongoing interest in miniature photography and the student had collected a large repository of images, held on Google Drive, related to initial thinking about the project, collected via Google image search and Pinterest. These images, found through the use of key terms placed into search engines, formed a substantial part of the representation of divergent thinking in their sketchbook. They showed a range of possibilities for approaches to work that *Frankie* might directly mirror, or synthesise elements of, into their own work. The number of images was representative of fluency. The range of different approaches included showed flexibility. The repository and generative functions of the sketchbook can be seen as effective enablers of divergent and convergent thinking, as can access to the internet and the forms of knowledge, or knowing, that it makes available to a student. *Frankie's* initial idea was to explore climate change through miniature photography and the different perspectives researched were personal narrative, national politics, flooding, documentary photography, installation art, conceptual art, semiotic theory, and miniature photography aesthetics and technique. The relationships *Frankie* made between elements of the images from the different perspectives created original propositions for their own work. *Frankie* had shown all three of Csikszentmihalyi's (1996) abilities needed for convergent thinking. The project then seemed to follow a more convergent process, with representations of problem-solving and justifications for the various decisions that were made, all leading toward the final project outcome. *Lindsay* (06'00"), an HE lecturer at the college, spoke about this kind of relatively simple interpretation of divergent and then convergent thinking processes that might be seen in a sketchbook:

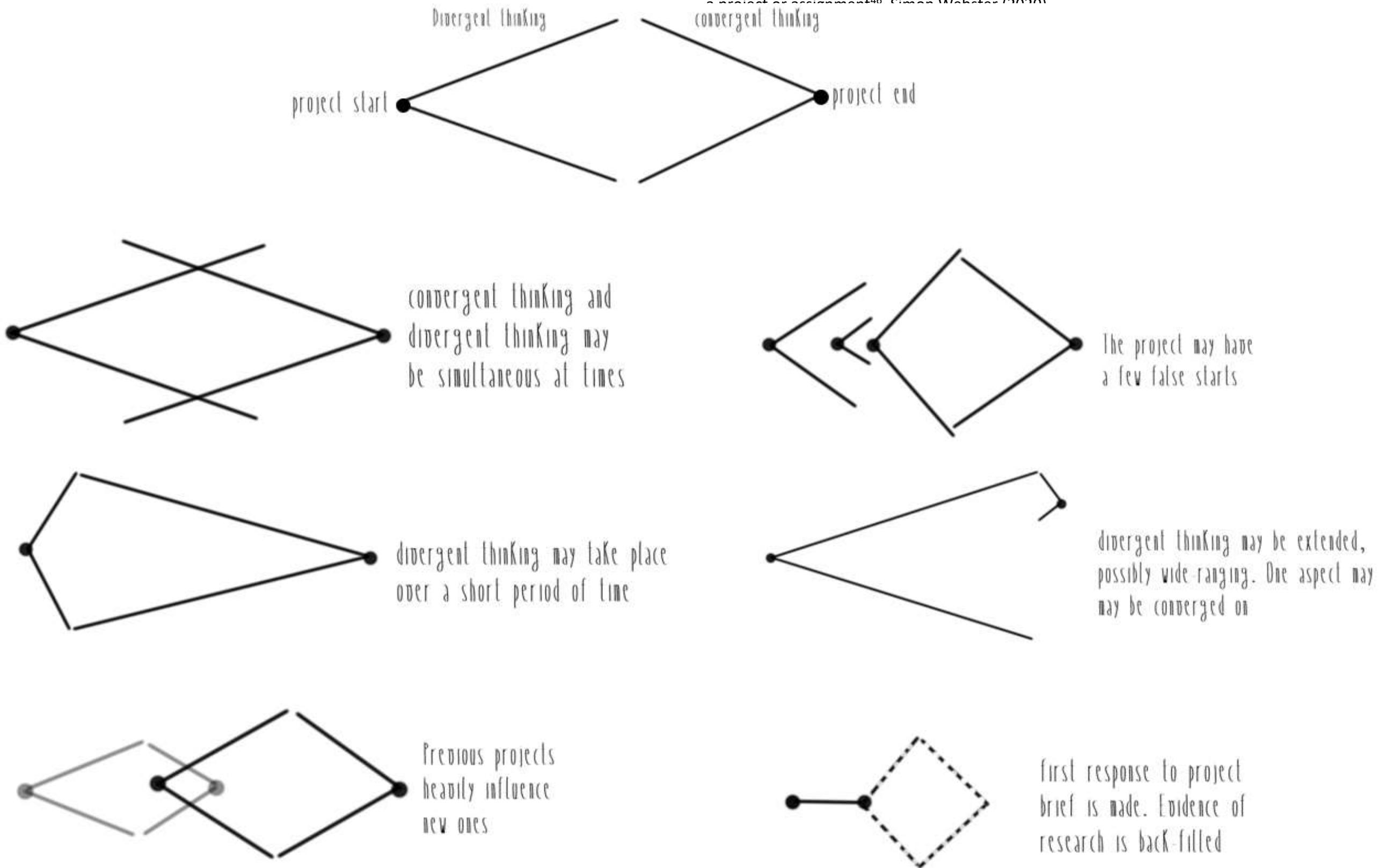
"there is, you know, a mind map – a seed of an idea starts to grow through wider research, starts to get narrowed down, some process testing and materials and so forth, and then the object starts being resolved and there is a general sense that, sort of, that is what happens."

But this general sense is not really an accurate analysis of what is taking place, or what *Lyndsay* wants to take place (although it does have a degree of validity when applied to the ways that some students I met with were constructing their sketchbooks for assessment purposes - this issue is discussed in depth in the pedagogy and assessment chapter).

When looking into the UAL specifications, beyond the headings, some criteria have elements that can be seen as evidencing divergent and convergent thinking within the same criteria. For example, under Context, being asked to 'Use critical and contextual perspectives to initiate a

personal self-directed art and design project proposal' (UAL, 2019a:50-51) could be aligned with flexibility in the use of perspectives to generate ideas (Csikszentmihalyi, 2006), while to 'Use analysis and evaluation to clarify and develop a personal self-directed art and design project proposal' (UAL, 2019a:50-51) could be aligned with the evaluative nature of convergent thinking. Under Research there is a predominantly divergent 'Use research to support the development of a personal self-directed art and design project' (*ibid*) and a predominantly convergent 'Use analytical and evaluative skills to develop creative solutions to realise a personal self-directed art and design project' (*ibid*). I would argue that students are using combinations of divergent and convergent thinking throughout their creative processes. Take the seemingly convergent-based criteria of problem solving: students are asked to 'Solve practical, technical and theoretical problems within a personal self-directed art and design project'. Although problem solving may be seen as a convergent thinking process (Brophy, 1998; Cropley, 2006b, Hsieh, 2017), it actually involves the consideration of a range of possible options, perhaps including the generation of novel approaches. If problem solving just involved the deployment of a single solution, with no evaluation of a range of divergent possibilities then there would not really be a problem to be solved, just a process to be followed!

Fig. 27. Some examples of ways that divergent and convergent thinking processes can play out in a project or assignment⁴⁶. Simon Webster (2020)



⁴⁶ Backfilling, or what Massumi (2002:7) might call 'back-formation', is discussed in more detail in the assessment and pedagogy chapter.

Frankie's representation of their working practices through their sketchbooks is a composed construction, designed for easy consumption by an audience (for classmates and lecturers during critiques, and lecturers and others associated with quality assurance purposes during assessment processes). *Frankie* did not simply carry out an expansion of ideas during a divergent stage and then a refinement of those ideas during a convergent stage of thinking. The model is enticing because of its simplicity – it offers an accessible framework for communicating ideas to a third party – but *Frankie* was involved in complex interactions between convergent and divergent thinking throughout the project (as well as before the project and after the project). *Frankie* (9'00"), rather underplaying the deep commitment they had to their work, told me "if I had planned more and decided - drew it down how I wanted it - it would have been less of a faff, but it was all trial and error and out of the top of my head". *Frankie's* comment highlights the importance of experiential learning (Kolb, 1984; Dewey, 1980) to them, the experience of learning by doing. Learning and creating for *Frankie* was happening in the now, it was not explicated in advance and then executed, it was a live process. Trial and error can be thought of in terms of divergent and convergent thinking, whereby the trial needs the summoning up of a range of possible actions and the error supplies the critical evaluation that is central to convergent thinking and helps inform what may be trialled next. When making the models for the shoot, composing images, experimenting with lighting, or adjusting their images in Photoshop, etc. *Frankie* was continually and iteratively expanding their field of prospective activity in response to any perceived issue and then contracting the field as they selected a course of action. ...Expand, contract, expand contract... each tiny decision-making process breathing life into the project. Rather than combinations of adjective and noun, divergent thinking and convergent thinking should primarily be thought of as a combination of adverb and verb; divergent and convergent thinking are activities. Evidencing activities in a sketchbook can be a mere abstracted representation with a simplified representation of the process imposed on the sketchbook structure and content. This form of imposed structure is, I found, more likely to happen when students are working with dispersed digital sketchbooks that can more easily be reconfigured for assessment purposes, or, similarly, with loose-leaved sketchbooks. There is more likelihood of seeing a more complete, genuine process when students are working with a paper, bound sketchbook and are treating it as a site of practice, rather than as a curated sketchbook that has a focus on its communicative function and has been prepared for assessment purposes. The constructed nature of sketchbooks is discussed in more detail elsewhere, but it should be noted that, even when students were using a paper, bound sketchbook, there is still a common practice

of leaving blank pages to be filled in later, in line with an expectation that an assessed Art & Design project should follow a divergent then convergent structure, with research into a number of options being followed by evidence of problem solving that leads to a justified conclusion and final evaluation. Students would work through their own process, but represent what they did, and the order that they did it, differently, in response to what they thought was expected of them. An example of this kind approach was found with HE Graphic Design student *Chris*, who made their sketchbook in InDesign. *Chris* would place images strategically within the InDesign document in line with a divergent/convergent process then fill the blanks in the page with placeholder text. The written narrative, analysis and evaluation would then be added at the end, with the whole document being designed for assessment purposes. Explaining their approach, *Chris* (09'45") said:

"The thing is, I had to develop it [my approach to showing my development process to lecturers] more and more throughout the year because – in the beginning of the year I never used to document very much because I used to assume that they would know that I had done it – but they were like "but you can't, you have to explain it to us very well" and that was why I wasn't getting the marks I wanted - and then I tried very hard to explain every single bit. Because it is a subject about South Africa, I had to explain the background, I had to explain every single aspect as what I thought was obvious, the people here didn't. So, I did a lot better on this one – so, I tried to explain every single thing. If I wasn't on the course I wouldn't have bothered.'

Chris and *Frankie's* creative practices, like all of the student's work in this project, can be made to fit into a simple linear trajectory. It can be represented through simple divergent and convergent thinking diagram (shown earlier). Its path can be defined early in the project through a written proposal and then the synthesis of some divergent research, with problem solving being used to affirm the logic of a seemingly deterministic, pre-set trajectory until it hits its target. But a model of creativity, whereby students simply form their work in response to an early conceptualisation and then use problem solving to realise their project, does not encompass the full range of creativities that students utilise when carrying out their work. New, invigorating ideas can be fed in at any time, adding impetus to a project or changing its direction. Creative abductive reasoning (Gonzalez and Haselager, 2005) can be used to add theorisation and justification for any work produced after making is completed, rather than existing before making starts. I have certainly seen many examples of preliminary drawings being created at the end of a project to meet assessment expectations for what has to be submitted because a student has carried out their project development through working directly with their preferred medium, rather than drawing or writing about the process in a sketchbook. The work associated with this project, including *Frankie's*, is in alignment with the more complex views of convergent

and divergent thinking shown earlier. Here the dyadic relationship between divergent thinking and convergent thinking can be seen to be taking place on micro as well as macro scales. As a model of, and a model for, explaining how an Art & Design project can be carried out, the simpler models of convergent thinking followed by divergent thinking have a certain utility for setting up basic assumptions about how students may go about their project work. The more complex models help to open up discussions about the reality of a making process, showing ways that students may work in less deterministic ways. Ultimately though, however useful divergent thinking and convergent thinking concepts are, they do not provide a full enough framework for understanding how creativity relates to Art & Design practices.

Theorizing creativity is difficult because it is a highly mutable concept. It can be summoned up and imprinted onto things in a multitude of ways. Perhaps, because we tend to see creativity as a positive attribute ‘the term is often employed uncritically, in the singular, and is reified’ (Bleakley, 2004:463) as existent in what we are celebrating, be that a person, idea, process or object. More formally, there have been concerted attempts to classify a range of types of creativity (Csikszentmihalyi, 2013; Hillman, 1972; Sternberg, Kaufman & Pretz, 2011). Bleakley (2004) has identified ten types of creativity, built on the foundations of Hillman’s (1972) six notions of creativity. Bleakley’s (2004) typology of creativities is metaphorical. The metaphorical approach is useful because it can help to extend, or open up, conceptualisations:

[The metaphorical approach] can spark new possibilities in thought and action, help people break free from overly restrictive and hegemonic beliefs about creativity, and – in some cases – carry more ontological traction and deliver more practical significance than more scientifically oriented frameworks. (Kozbelt, Beghetto & Runco, 2010:22).

Because of the amorphous and ever-expanding conceptions of creativity, Bleakley (2004:466) acknowledges that his typology ‘does not claim to be comprehensive’. What the typology does do is offer possibilities for understanding individual and combined types of creativity and how they relate to educational practices, including the conflicting and complementary strands of originality and problem solving mentioned above. They will also offer a framework for exploring some of the effects that new technologies have had on creative processes and outcomes for staff and students involved in this project.

Bleakley’s House⁴⁷

Bleakley’s (2004:463) 10 types of creativity are: 1. Creativity as an ordering process; 2. Creativity as rhythm and cycle; 3. Creativity as originality and spontaneity; 4. Creativity as the irrational; 5. Creativity as problem solving; 6. Creativity as problem stating; 7. Creativity as inspiration; 8. Creativity as serendipity; 9. Creativity as resistance to the ‘uncreative’; 10. Creativity as withdrawal and absence. The types are not mutually exclusive and the relations that I make between them are somewhat personal, arbitrary, and contingent. No doubt, I could come up with many, many more combinations and relations between the types, as a jazz player might improvise within a melody; the discussion is meant to open up ideas about creativity and how they can be used to help to understand aspects of the Art & Design educational practices that I saw and spoke about during this project, exemplifying differing approaches that may be adopted more generally by students within their subject areas. The analysis of Bleakley’s work will draw upon my wider reading around creativity and the intrerviews carried out during this project

Bleakley’s (2004:467) first type, ‘creativity as an ordering process’, involves ‘movement from the simple to the complex, invoking structure, boundary, method, principles and classification’. I would argue that this could also be seen in movement from the complex to the simple. For example, being able to identify patterns, or to construct theory through a methodical collection, analysis, and organisation of data can be a refinement of the complex into something elegantly clear. The process can be as much reductive as it is constructive. Aristotle undertook many projects involving the collection and ordering of facts. For example, he ‘revised, corrected and updated a list of Olympic champions’ (Baker, 1988:25) that had originally been made some 200 years before. He also wrote the first classificatory book about animals, *Historia Animalium* (Aristotle 350 BC). The collection and ordering of these facts can be seen as the creation of ‘order out of chaos’ (Bleakley, 2004:467). It is the creation of putting something in place that previously was not there. When thinking about notions of creativity and sketchbook use in post-compulsory Art & Design education, this could be as simple as a student collecting existing knowledge and putting it into their sketchbook. For that student the collection and ordering of information may be a foundational step in the construction of their knowledge about the possibilities offered by a theory, material or process. In psychology this process may be seen as an integral part of forming

⁴⁷ Dickens (2001:5) *Bleak House* has one storyline that follows a legal case about a contested will that had ‘become so complicated that no man alive knows what it means’. Bleakley (2004) tries to unravel the complexities of creativity, explaining approaches toward carrying it out. The ten types are pulled apart, separated from each other, for

convenience or accessibility. The categorisations act as a synopsis, but their full story is one of intertwined and entangled relations.

a schema or schemata. Schemata are ‘mental models of the world that contain knowledge of the world that helps us to encode new information into a meaningful context’ (Schacter *et al.*, 2016:188). Information is being used ‘in-formation’ (Manning, 2009:226), as an assembling process, helping ideation and creation emergence. Creativity as an ordering process can be compared to the ways that convergent thinking helps form, and then evaluates and makes discerning choices concerning, a range of possibilities brought about through divergent thinking. Ordering, whether from the simple to the complex, or the complex to the simple, creates, and questions, structure. It makes us ask “what is this, what can it do, in what ways do I know it, and how do I relate to it?”.⁴⁸

An extreme example of creativity as an ordering process⁴⁹ can be found in Landy’s art project *Break Down* (2001) and the publication that arose from it *Break Down Inventory* (2002), which contained a list of the 7,227 items that Landy had owned and then systematically destroyed. Landy made virtually nothing out of everything he had owned, but it was a hugely creative act, one that challenged his identity, consumerism, and the power of the art market (he not only destroyed his own work, he also destroyed the work of other leading artists that had been gifted to him, and, when art dealers and galleries wanted to buy sacks of the detritus left over from the project he refused and disposed of them with no recompense). The destruction of Landy’s physical possessions and their reconstruction into a list of words is a poignant testament to systems of ordering that seem to define ways of being in a consumerist society. Another example of creativity as an ordering process is exemplified by the work of Kosuth, who created a series of art works that contained an object (examples include a clock, lamp or chair), a photograph of that object, and reproductions of definitions of the word most associated with the object. Works like *One and Three Chairs* (1965) are simple, elegant compositions of the signified, the sign, and the signifier are an ordered representation of semiotic theory (Winter, 2015) and also a critique of it. They embody both aesthetic and conceptual knowledge through showing how visual and written language try to order things into identifiable, understandable, classificatory systems. Although, at first glance, creativity as an ordering process may seem somewhat limited, the examples above show that an

ordering process can be important at any stage of a creative process, from an early collection of research through to a completed, exhibited art work.



Fig. 28. Extract from Jordan’s sketchbook (36’08’’). An example of an ordering process, where multiple views of images informed analysis, evaluation and selection of a final image.

⁴⁸ Referring back to the earlier footnote about creativity sometimes merely being the ‘replication’ (Sternberg, Kaufman & Pretz, 2011:79) of what already exists, Pepperell (2005:13) warns ‘Good art always contains an element of disorder (discontinuity), bad art simply reinforces a pre-existing order’.

⁴⁹ Pepperell (2005:7) offers another warning, this time about subjective statements like the one I have footnoted: ‘What we perceive as ordered and disordered is often culturally determined [and] remain open to relativistic interpretation.’

It should be noted that lists of verbs like the ones created by Moon (2005) or Gosling & Moon (2002) were made to help lecturers comply with administrative demands and to help them formulate and run effective courses. They can both open up and close down conceptualisations of what is involved in educational experiences and how that experience should be assessed. For example, all of the terms in the table above, one way or another, can be associated with ordering, and this opens up a wide range of possibilities for thinking about creativities associated with ordering. But ideas can also be shut down by essentialising the words and turning them into reified actions carried out only within particular categories of learning based (mostly) upon the cognitive domain of learning (Bloom *et al*, 1956). Many of the verbs appear only once in the table and are therefore overly identified with one category of the domain. Is it right that to select can be attributed to 5 of the categories, but to order only appears once? Hussey & Smith (2008:109) point out that 'There are degrees of knowing, understanding, being capable, having an attitude and so on, and exactly where one learning event ends and another begins is largely arbitrary'. It should also be noted that, structurally, because of the category headings used, Moon's approach emphasises the importance of the cognitive domain over the psychomotor domain (Dave, 1970) and the affective domain (Krathwohl *et al*, 1973), both of which could be considered highly significant for Art & Design educational practices and that come with different categories than those associated with the cognitive domain that have been used by Moon. Two of the principles of education based on the use of learning outcomes are that 'All learning at whatever level can be expressed in terms of outcomes to be demonstrated' (Gosling & Moon, 2002:8) and 'Learning outcomes should be as clear and unambiguous as possible' (*ibid*). These principles have the (often realised) potential of making the language use very performative (Austen, 1962) and restricted – and it follows on from the use of language that the associated practices enacted by the students may be similarly limited. Hussey & Smith (2002:232) recognise that lecturers and courses are expected to use them, but they are largely dismissive, saying 'their alleged explicit clarity, precision and objectivity are largely spurious'.

Activities giving evidence of knowing	Define, describe, identify, label, list, name, outline, select, state, present, be aware of, extract, organise, write, recognise, measure, underline, relate, know, match.
Activities giving evidence of comprehension	clarify, distinguish, extend, generalise, exemplify, give examples of, predict, rewrite, summarise, perform, report, present, restate, identify, illustrate, indicate, find, select, understand, represent, name, formulate, judge, contrast, classify, compare.
Activities giving evidence of knowledge / understanding	Apply, construct, demonstrate, change, manipulate, modify, predict, prepare, produce, relate, show, give examples, exemplify, draw (up), select, find, choose, assess, illustrate, verify.
Activities giving evidence of analysis	Recognise, distinguish between, analyse, break down, differentiate, identify, illustrate how, infer, outline, point out, relate, select, separate, divide, subdivide, compare, contrast, justify, resolve, devote, examine, conclude, criticise, question, diagnose, identify, categorise, point out, elucidate.
Activities giving evidence of synthesis	Propose, present, structure, integrate, formulate, teach, develop, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, re-arrange, reconstruct, relate, re-organise, revise, write, summarise, tell, account for, restate, report, alter, argue, order, select, manage, generalise, derive, conclude, build up, engender, synthesise, put together, suggest, enlarge.
Activities giving evidence of evaluation	Judge, appraise, assess, conclude, compare, contrast, describe how, criticise, discriminate, justify, evaluate, rate, determine, choose, value, question.

Table 1. Extracts from 'Some Vocabulary for Writing Learning Outcomes and Assessment Criteria' (Moon, 2005:27)

Processes involved with ordering can be seen as being central to academic studies and wider concepts of cognition – notions of discernment, being able to structure and order extended pieces of writing and being able to contextualise one's work within complex strands of contemporary and historical art practices are examples that spring to mind when I think about the skills that art students develop. The ability to carry out ordering processes, and to present that ordering, has been greatly enhanced by new technologies. Not only do students have easy access to enormous amounts of information from which they can select, they also utilise search engines that help them refine their selections of relevant materials through Search Engine Optimization that tends to offer responses to searches in order of perceived significance, although there is likely to be a degree of commercial manipulation that influences the results (Jain, 2013). With the rise of desktop publishing, self-publishing via the web (both with readymade templates and formatting options) and with ever-increasing computational power being available, students are more able to construct beautifully structured and ordered sketchbooks that show evidence of their research in ways that communicate meaning to an intended audience. In particular, but not exclusively, I found that the graphic design students I met tended toward taking the self-publishing approach and I direct you towards analysis of *Chris*, *Dane*, and *Eddie* elsewhere to read about the highly nuanced ways they curate their sketchbooks.

Bleakley (2004:469) has 'creativity as problem solving as his fifth type. 'Aligning itself with the Protestant work ethic, creativity as problem solving is 99% 'perspiration' and 1% 'inspiration'', he writes (Bleakley, 2004:469). Again, parallels can be drawn to divergent and convergent thinking. Photography lecturer *Ashley*, told me, somewhat frustratedly, about students whose sketchbook work would consist of endless screengrabs of their Photoshop processes as they made detailed adjustments to their work during post-production. *Ashley* had a hope that the creative process would take place during the planning and taking of images, but frequently found that a major part of the students' representation of their working process was based around the technicalities of post-production editing. *Ashley* (2016:25'10") said:

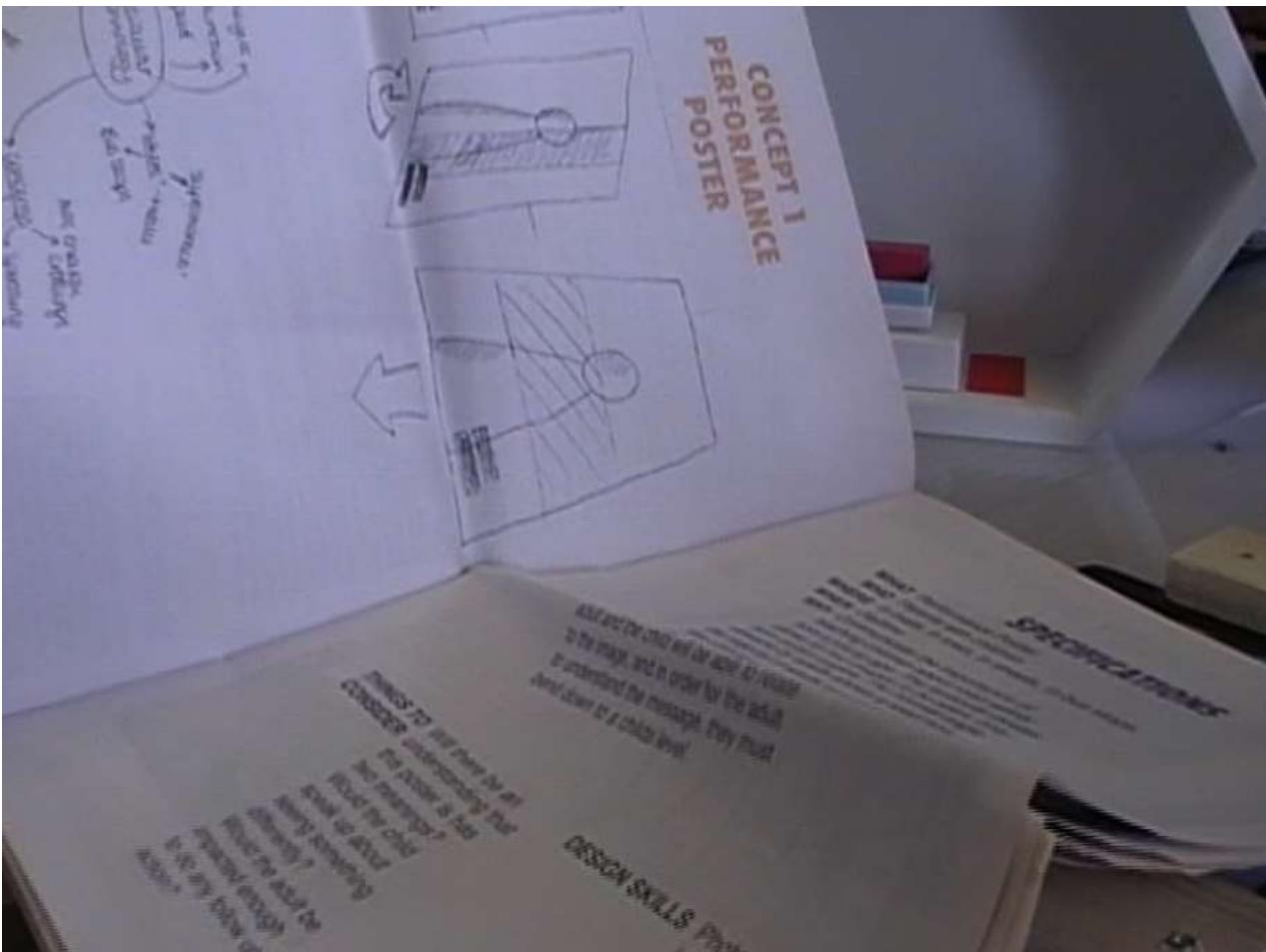


Fig. 29. Pages from *Eddie*'s sketchbook (14'44") showing the imposition of order on sketchbook layout.

"they have almost had too many screengrabs – almost every step of a 2 hour process – what I say to them now is that I don't need to see that process, I know it, what I want to see is the start and the end. I am more interested in them [showing] the rationale, the creative decisions they have been taking, rather than what buttons have been pressed."⁵⁰

From the student's perspective though, showing every stage may be important. For them it may be the explication of a working process that they are still trying to naturalise. It seems that *Ashley* was looking for evidence of the inspiration, while the students were evidencing the perspiration generating activity that they have carried out as they developed their applied use of image editing software. What was relatively banal for the lecturer was complex problem solving for the students.

⁵⁰ Weisburg (2003) carried out an archival case study, whereby 'different phases of the development of an artwork have been recorded' (Locher, 2010:132) and later reviewed, that did show the utility of seeing as many processual

images as possible. He studied Picasso's preliminary drawings for *Guernica* (1937). By looking at the 45 sketches Weisburg (2003:224) could identify the 'structure in Picasso's thinking as exemplified in the sketches'.

A Graphic Design student, *Chris*, had a different approach to how they wanted to show their problem solving: *Chris* seemed to be a perfectionist and clearly put plenty of effort into their work: "Because I want to make my work perfect, I keep going on and on about one thing" (*Chris*, 2016:52'14"). Their view of problem solving was to show that the problem had been solved, rather than showing their process of engagement with the problem. They wanted to show the end product of their work, they wanted to show that they had worked both diligently and creatively, but they did not want the perspiration marks to show. The sketchbook that they had curated was cool and refined, it was akin to a Fred Astaire dance performed with such ease that there was little outward sign of the extensive perfectionist development that underpinned the performance (Steele, 2011). In one of their sketchbooks, *Chris* had one rough sketch and lots of perfected storyboarding images for a video on a website they had constructed. The evidence of the work that had gone into the creation of the video was signified by the shining surface of the finished product – a finish that could only be achieved with, what my father would call, a lot of elbow grease. Bleakley (2004:469) explains that creativity as problem solving 'must demonstrate productivity [through] 'hard work', 'application', 'practice', 'sustained work', 'diligence', 'perseverance' and 'attentiveness'" (Howe, 1999 in Bleakley 2004:471), whether this be through the more overt approach taken by *Ashley's* students or the more covert approach taken by *Chris*.

Bleakley's (2004:467) second category is 'creativity as rhythm and cycle'. He sees the first category of 'creativity as an ordering process' as a masculine, progressive process of developing our understanding of the world around us so that we can take charge of it, while 'creativity as rhythm and cycle' is classed as feminine, 'ecologically-oriented' and 'emphasizes self-sustaining equilibrium' (*ibid*). I link this creativity to the ability to maintain, yet develop, one's artistic style, sensibility, or vision over time. Art students are asked to engage in projects or modules that have start and end points, some set out quite specific tasks and some are very open to interpretation. Sometimes students are working on one project at a time, sometimes on multiple ones simultaneously. I would consider it to be somewhat a failure if, over the course of an academic year, a student felt that they were responding to externally set stimuli and were being prodded and prompted to move in different directions without them feeling that they had a good degree of agency and understood why they were being asked to move in different directions with their work. My hope would be that they understood the need to experiment, to broaden their

experience with materials and processes, and to challenge themselves. But I would also hope that the student had a sense of them developing their oeuvre, of them building their own artistic identity. Manning's (2006:134) third proposition for research-creation asks that we 'make beyond the object'. By this she means that if art practice is seen as a 'way' (*ibid*) rather than a series of objects or outcomes that have been made, then a student's art can be seen as an ongoing, emergent, reflexive process of engagement with possibilities. Sketchbooks can play an important role in development over time as people who willingly engage in sketchbook processes tend to keep their sketchbooks and refer back to them. Rather than the development of work over time being a simple linear projection, or a series of tacks moving the work forward, it becomes a network of interrelated phenomena or a field of actual and potential work. A process of rhythm and cycle that could be applied to the development of theorisation over time is that of composting. In a Deleuzian sense, the ideas that we internalize mulch down, background processes encourage 'thought to be divvied up, composted, and recycled' (Thorne, 2014:online). As Lightnin' Hopkins (2002:01'24") sang, things get "churned in a churn". Although, in the educational practices that I engaged with for this project, I found that students tended to initiate new sketchbooks, singular or multiple, at the start of a new module, they also kept all of their old sketchbooks. *Nico* (2017:2'45") spoke of flicking back through old books and thinking about revisiting ideas from previous projects. Similarly, a lecturer, *Ashley*, said they preferred students to use paper sketchbooks, rather than electronic ones, as this facilitated the process of rediscovery and self-referentiality - the flicking through the pages to find where a new entry had to go helped the students to consolidate their thinking - "every time they take it out they are looking at it and reflecting on it" (2016:41'50"). *Ashley* thought that electronic work did not afford the same kind of chance encounter with one's previous work, but proponents of digital sketchbooks see an enhanced opportunity to tag digital artefacts allowing them to be recalled, reviewed and re-associated to other work with ease (Clayton & Weisenthal, 1991; O'Neill, 2013), avoiding the comparative fixity of work that may be secured in a traditional book.

The idea that work carried out in sketchbooks is a repository of information or a well of inspiration that can be drawn upon throughout one's career to create a sense of Bleakley's rhythm and cycle (as well as the dyadic relationship between divergent and convergent thinking) was evident in my reading around Art & Design (O'Neill, 2013; Clayton & Weisenthal, 1991) and was particularly strong in texts concerning Architecture education (Gittens, 2014, Clarke,

2014). Throughout this project I discussed and saw sketchbook work that could be aligned with repository and well metaphors. For example, a Graphic Design student, *Dane*, made two trips to New York to study the archives of the influential typographer and graphic designer Herb Lubalin. These trips gave *Dane* access to Lubalin's styles and working methods, and the notes and drawings that *Dane* made on those trips informed his own style and working methods. *Dane* (7'20") told me how Lubalin:

"would sketch out layouts for logos he was making and there would be 5 or 6 different versions, or a development of a version, and you would see his thinking process with changing height, or width, style, changing curves and you could see his process, all on one sheet".

The primary research that *Dane* carried out in New York was the product of, and a further commitment to, the significance of Lubalin's work to *Dane*'s own practice. The photographs and notes taken, and the drawings made in New York had already, and will continue to be, a source of reference for *Dane* across different academic modules and his non-academic work. He will keep returning to the sketchbook work that he made in New York. The repository and well metaphors have use, helping to convey utility concerning the nature of work held in sketchbooks, but by focusing on the static, storage function they fail to recognise the active, generative nature of actually looking at and making use of one's sketchbook collection to help form the rhythm and cycle of one's artistic work. Rather than a bank or a well, the sketchbook can be thought of as an apparatus. Apparatus 'are neither neutral probes of the natural world nor structures that deterministically impose some particular outcome' (Barad, 2003:816). Barad (2003:817) goes on to explain that 'Apparatuses are constituted through particular practices that are perpetually open to rearrangements, rearticulations, and other reworkings'. Each time a student revisits a sketchbook, be it one they are currently working on, or one from a different project, they are changed. Intellectually, aesthetically and emotionally they do not stand still. The student is also an apparatus, one that is constantly reconfiguring and recalibrating itself. Intra-actions between apparatuses 'result in the production of new phenomena' (Barad, 2003:817). Intra-actions between a student and their sketchbooks align with Manning's (2016:136) sixth proposition for research-creation that states 'what we need are not methods for curating life-lived, but techniques for life living'.

⁵¹ *Dane* (10'15") explained changing approaches to production, enabled by the accessibility of the personal computer: "there used to be a designer, draughtsman, metalworkers creating the matrixes, foundry man to cast it, compositors to assemble it, printers to print it..." "Then, in Lubalin's day - he was an advertiser, designer – so he could produce stuff on paper, it went to a camera man who photographed it and it then went to a plate maker and then

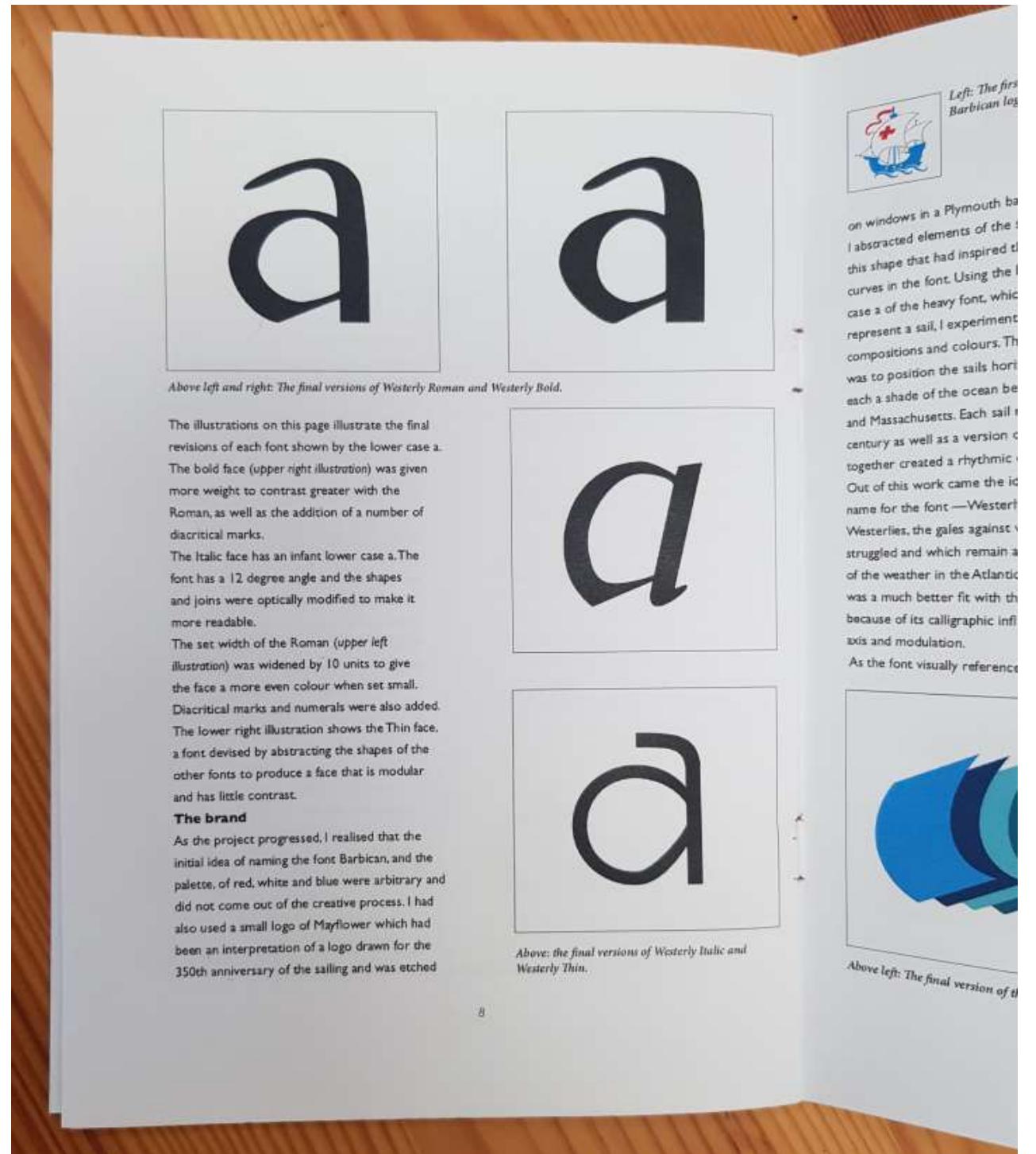


Fig. 30. An end of year show presentation sketchbook for a typeface made by *Dane* (2016)⁵¹.

to printing. Nowadays, I can make that – I can think of it, make it, produce the technicals, and then literally print it out on my home computer."

The sketchbook in use is a dynamic tool, one that helps students generate new ideas and new versions of old ideas. There may be an element of problem solving, which brings with it the idea that prior knowledge can be used to help with a current issue, but, equally, there can be ‘creativity as problem stating’, Bleakley’s (2004:471) sixth category. Problem stating is a more deductive process, whereby new knowledge may be used to reframe our prior knowledge. New knowledge adds to, and may make new connections between, elements of prior knowledge. Eastwood *et al* (2009:121) argue that ‘to be creative is to have a perception of possibility, to see potentially new options’. Bleakley’s (2004:471) problem stating tends toward the entangled, with a problem being engaged with via multiple perspectives until it has ‘maximum complexity at the edge of chaos’. Problem stating is not so much involved with an answer as with the question. Thinking about my own teaching experience with BA Graphic Design students, I can see how problem stating was an important issue for many of the students in relation to the kind of professional practice they wanted to move into and the kind of graphic designer they wanted to be. The students I am thinking of were developing their interest in ethical practices and sustainability through their work (Dougherty, 2008; Chapman & Gant, 2007; Roberts, 2006). When given a project brief, their responses questioned mainstream consumerism and advertising techniques associated with it (Curtis, 2002; Tungate, 2013). These students were interested in challenging accepted norms about the nature and purpose of graphic design; the problem stating that they were interested in was not simply ‘how do I respond to this assignment brief creatively?’, it was ‘how can I subvert this assignment brief and its assumptions in ways that will allow me to express my anger and frustration with consumerist practices while carving out an identity as an ethical practitioner?’. These students were critical thinkers, responding to project briefs that would have a relatively simple scenario as a starting point and turning them into complex contextual investigations that considered multiple aspects of personal and professional identity, theory, history and socio-political philosophy.

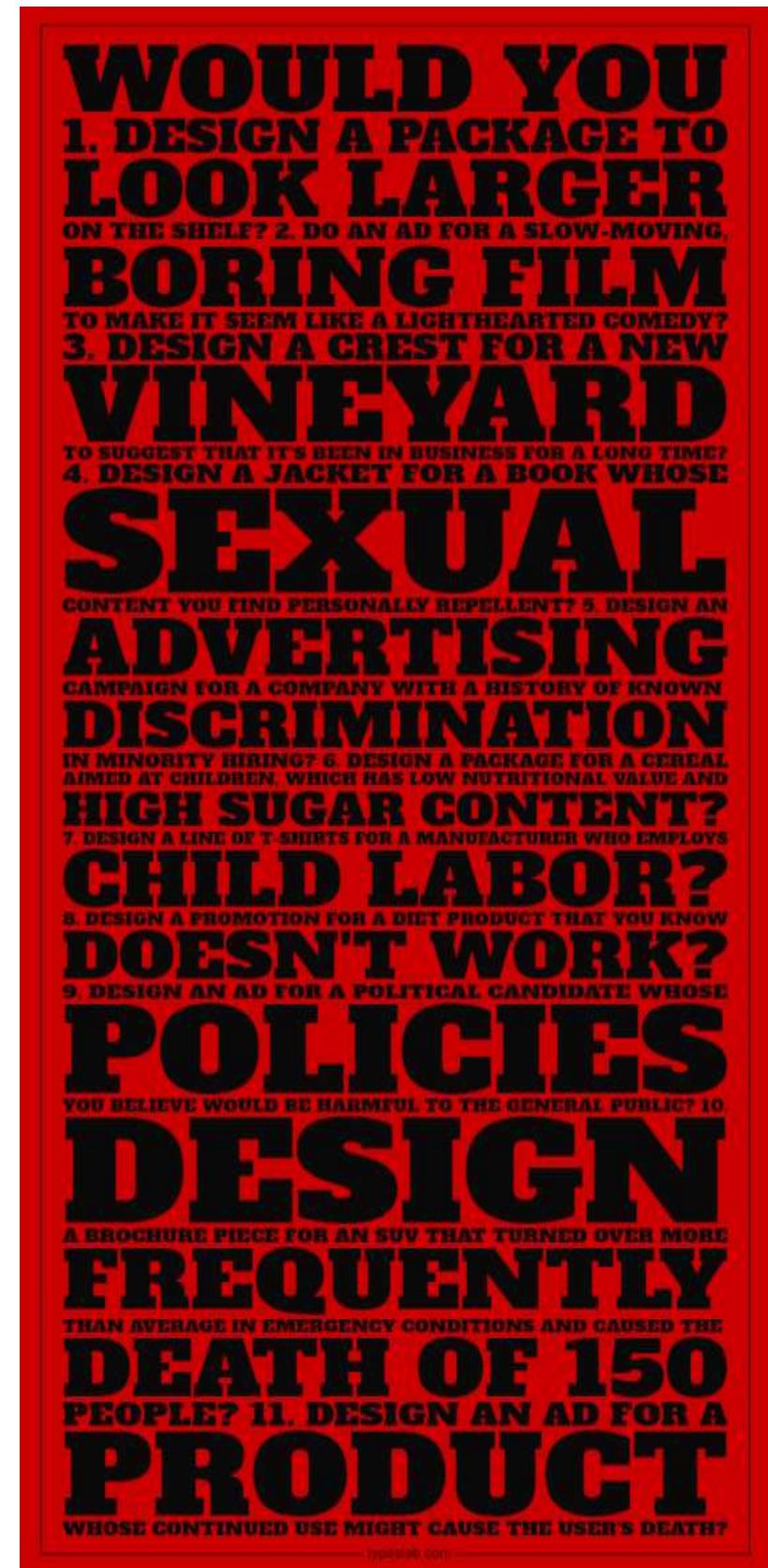


Fig. 31. *The Road to Hell*. Milton Glaser (2004) made into a poster. Simon Webster (2020)⁵².

⁵² Warde (1930:online) believes the type should be transparent, or ‘invisible’ like a crystal goblet, ‘Because no cloud must come between your eyes and the fiery heart of the liquid’ (*ibid*). But here I have experimented with a Neville Brody technique of breaking up the natural flow of the text to slow down the reading of it (Campbell, 1988), making

the reader engage with each word (at the risk of them engaging with none of it!). Perhaps, in a related fashion, ‘Foucault’s style and language [...] are not simply difficult, they are deliberately so’ (Philp, 1983:30).

While Bleakley's first and fifth categories of 'creativity as an ordering process' and 'creativity as problem solving' may be seen as forms of rationality, his fourth, 'creativity as the irrational' (Bleakley, 2004:468) demands a Romantic 'suspension of intellect and expression of the instinctive and animal side of life, rejoicing in ferment, the primitive and the raw' (Bleakley, 2004:469). Bleakley sketches out two interpretations of the irrational, one 'is seen as dangerous, courting lunacy or destruction' (*ibid*) and 'derangement' (*ibid*). The other is more aligned with our expression of, and expression through, underpinning physical laws and associated aesthetics. In relation to this category I think of Fabienne Verdier painting with a giant, suspended paintbrush as she seeks:

"to be in tune with the energies around her. In a state of resonance with the world, she attempts to ride the wave of every incidence, acting as a channel through her brush and other tools for the forces of nature, not least the power of gravity, that carries paint and ink onto the canvas" (Kidel, 2017:1'21").

In this sense, animal, instinctive, or the raw does not mean crude, haphazard or basic; it points to a connectedness with something that is not understood through a logocentric approach. A parallel can be drawn to the first of Manning's (2016:133) propositions for 'research creation', where it is suggested research-creation 'generates forms of knowledge that are extra-linguistic'. Sadler-Smith (2016:19) discusses the work of the physicist Paul Dirac, for whom it was:

more important to have beauty in one's equations than to have them fit experiment...It seems that if one is working from the point of view of getting beauty in one's equations, and if one has really sound insight, one is on a sure line of progress.

Sadler-Smith (2016:20) hopes that, over time, this kind of 'aesthetic intuition' can be reconceptualised as 'a-rational' (*ibid*), rather than irrational, suggesting that phenomena can arise through intra-actions without being fully understood or rationalised. There is a sense that Dirac's thinking is beyond, or different to, the rational, rather than being less than, or beneath the rational. I believe the way that the irrational is being conceptualised here can be equated with Barad's (2007:342) ideas on knowing:

The knower cannot be assumed to be a self-contained rational human subject. Rather, subjects (like objects) are differentially constituted through specific intra-actions. [...] Knowing is a distributed practice that includes the larger material arrangement. To the extent that humans participate in scientific or other practices of knowing, they do so as part of the larger material configuration of the world and its ongoing open-ended articulation. Knowing is not an ideational affair, or a capacity that is the exclusive birthright of the human. Knowing is a material practice, a specific engagement of the world where part of the world becomes differentially intelligible to another part of the world in its differential accountability to or for that of which it is a part. Hence, knowing is not a play of ideas within the mind of a Cartesian subject that stands outside the physical world the subject seeks to know.

What is known, what can be tapped into, what can be summoned up, or what can be created when one embraces creativity as the irrational cannot always be explained *post hoc* in a rational way, but that does not negate its utility, and therefore relevance, as a creative approach. When writing about the use of sketchbooks in architectural education, Gittens (2014:101) explains that 'When the sketchbook phenomenon is left to run it generates an opportunity [...] to explore the fantastic, the ridiculous, and the absurd; hence legitimizing the pursuance of unpredictable lines of flight' and this encourages new themes and different approaches to emerge, ones that may not otherwise have been considered by a student or legitimated within a particular institutional setting.

Bleakley's third type is 'creativity as originality and spontaneity' (Bleakley, 2004:468), which also has less emphasis on rationality. The originality derives from the creative act being 'constituted as an optimistic move into the unknown' (*ibid*). To achieve this move 'play and spontaneity are seen as essential ingredients' (*ibid*). This type of creativity is an intentional act with unknown consequences or outcomes. Manning (2016:134), in her fourth propositions for 'research-creation', asks us to 'dwell in the transversal (keep moving)', arguing that 'pure experience is on the cusp of the virtual and the actual' (*ibid*). Orr & Shreeve (2018:56) discuss the importance of students making a move into the unknown, learning to live with 'ambiguity, uncertainty, and indeterminacy'. They see this as a productive space that encourages critical engagement and the construction of knowledge. It is not a place to be feared, it is a place to be celebrated (Ulger, 2016). In an Art and Design context, Orr & Shreeve (2018:8) associate creativity with

curiosity and the willingness to take risks; the focus is on students creating artefacts, products and services which are distinctive contributions to the discipline. These are based on knowledge and learning; the ability to see things from a different angle or to utilize new or different tools and processes; to make connections in unexpected ways and places and to see possibilities where others might no

The kind of experimental play that students undertake in their sketchbook work, the play associated with creativity and spontaneity, is important. When playing, a student can experiment 'in a nonthreatening setting and, hence, [...] learn by trial-and-error without paying too high a price for errors' (Csikszentmihaly, 2014:135). The sketchbook can be seen as a personal, private and safe space (Alaluusua, 2016; O'Neill, 2013), a space where, even if it is to be surveyed by

lecturers, students are encouraged to play⁵³. Through play with their sketchbook work students can ‘develop a strong ego through the symbolic manipulation of their environment’ (Csikszentmihaly, 2014:136) and ‘be prepared for the requirements of the culture in which they live’ (*ibid*). Carrying out sketchbook work can be seen as a form of ‘rehearsal’ (Corbin, 1967:143), whereby students are involved in creating and acting out their own potential futures, exploring possibilities and creating possible identities.

Runco offers a similar view of originality that is very relevant to many of the creative processes in Art & Design education. Although Runco (2014:393) recognises that originality is associated with ‘novelty, uniqueness, or unusualness, or unconventionality’, he also knows that original ideas are often linked to pre-existing ideas or forms. For example, a student may research other artists as part of their contextual studies, or build upon their own previous work, and synthesise various aspects of the work they have studied into their own, new work. In this instance ‘they are not entirely original but merely extensions of thought’ (Runco, 2014:393). Runco’s thinking highlights a problem with the conceptualisation of creativity which divides it into ‘Big-C and little-c’ (Merrotsy, 2013:474). Big-C creativity is thought of as ‘the kind of clear-cut, genius-level creativity that is reserved for the eminent and the great’ (*ibid*), although Big-C creativity ‘takes place not just within individuals but, more accurately, through individuals that are part of a much wider societal system’ (O’Neill 2013:293). A work of creativity that is associated with Big-C creativity, especially if other works of similar merit can be produced, is likely to invest the title of creative genius on the maker or inventor. Merrotsy (*ibid*) describes little-c creativity as ‘the everyday, common, or garden-variety creativity that may be found in most people, a kind of creativity that is far more ambiguous, and far less remarkable, perhaps, than Big-C’. The problem with this model is Art & Design students are not expected to produce Big-C levels of creativity at Further Education or Higher Education levels of study, but their creative engagement is expected include and exceed the everyday ascribed to little-c. Kaufman & Beghetto (2009) define another form of creativity that lies between Big-C and little-c, which they call ‘professional expertise’ or ‘Pro-c creativity’ (2009:4). Pro-c ‘represents the developmental and effortful progression beyond little-c’ (Kaufman & Beghetto, 2009:5). While all undergraduate Art & Design students are unlikely to achieve Pro-c

status while they are on a course, they are likely to be encouraged to work toward it as part of their vocational development. For example, lecturer *Lindsay* (37’24”) told me:

“I think when parents turn up for open day and ask “where is the job in this then?” and I say there is not one defined – yet – and we will be defining one, a job, as we move through the programme and the student will be defining the job around themselves – by the time they leave they will be stepping into their own job and that is what it is about.”

Bleakley’s third type of creativity - as originality and spontaneity – recognised the importance of play and moving into the unknown. Having the capacity and willingness to move, change, summon up something new, or freely experiment through play opens up opportunities for Bleakley’s (2004:472) eighth type of creativity, ‘creativity as serendipity’. Runco (2014:410) sees the creativity associated with serendipity as ‘things that are found when the discoverer is not actively searching’, but Bleakley sees it differently. He describes how:

Synchronicities, ‘planned fortune’, fortuitous accidents and fruitful detours seem to develop against a background of tolerance of ambiguity and acceptance of the possibility of inspiration arriving ‘out of the blue’. (Bleakley, 2004:472)

Although it is possible for something creative to arrive, seemingly fully-formed, with little or no preliminary groundwork being undertaken, Bleakley’s view suggests it is more likely that serendipitous creative ideas, processes, or outcomes will occur through play and spontaneity by creating the conditions whereby creativity may occur, or where they may be captured if they appear as if from nowhere. For example, a student may make themselves open to the possibility of serendipitous outcomes appearing by actively engaging in sketchbook work on a regular basis for extended periods of time and they will be better positioned to capture those creative bursts if they have pencil and paper to hand (or an interactive screen or keyboard). Bleakley (2004:472) might call this ‘preparedness’, and an ‘openness to imaginative possibility’ (*ibid*). Creative serendipity could be seen as a by-product of other forms of creativity, perhaps as an unexpected, unplanned, or fortuitous by-product of the hard work associated with ‘creativity as problem solving’ (Bleakley, 2007:469) or ‘creativity as an ordering process’ (Bleakley, 2007:467), rather than a distinct form of creativity in its own right. If I were to bring Bleakley’s and Runco’s views together it might look like: Things that are found when the discoverer is not actively searching for those particular things. But once a thing is found, is recognised and appreciated, it can act as a stimulus for further creativity.

⁵³ Play, in this sense, could be compared to the concept of creating a ‘sandbox’ (Pallensen, 2006:39) when developing computer software or computer software usage skills. A safe space is created, where experimentation can be carried

out freely, without fear of any real harm being done, but there can still be a sense of risk and a concomitant *frisson* of excitement.



Fig. 32. A few examples of found images from Edinburgh and Plymouth, collected as inspiration for future projects. Simon Webster (2016-2019).

In the shorter term, full engagement with creative conditions of thinking and producing might be thought of as being in a ‘flow’ state (Csikszentmihalyi, 2014:136), while in the longer term it may be thought of as Bleakley’s seventh category ‘creativity as inspiration’, where one is ‘touched by the Muse’ (Graves 1961 in Bleakley, 2004:471). In this category, ‘inspiration is a product of living in imagination, cultivating metaphor rather than literalism’ (Bleakley, 2004:471-2). Although Harris (2017:185) tends toward a division between imagination and creativity, one can still inform the other, stating ‘By most accounts, imagination remains within the realm of thinking or thinking-feeling (Massumi 2013), while creativity moves us into doing’. Bleakley does not align inspiration with plucking an idea out of thin air, he places emphasis on being motivated and moved by something that we obsess about or focus on⁵⁴. To maintain focus over time it may be necessary to utilise Bleakley’s (2004:472) ninth category, ‘creativity as resistance to the ‘un creative’’, whereby ‘the mundane, literal, dull, mediocre, mechanical, trivial, habitual, predictable and routine [...] is actively denied or kept at bay’ (*ibid*). Being inspired over time, focusing on an idea over a period of time and developing a body of work around that idea is something that is actively encouraged in Art & Design education and assessment, with growing emphasis toward the end of a course of study, when students are expected to show more autonomy and a stronger sense of a personal style or aesthetic.

Bleakley’s (2004:473) final category is ‘creativity as withdrawal or absence’. Bleakley does not see this as running away, or non-engagement, he sees it as a form of discernment. It is knowing what to leave out, it is knowing when to stop, it is not overworking an idea or an image. It is, perhaps, one of the most affirmative forms of creativity – it says, I think: “it is finished; I have made it; I have separated ‘it’ from ‘me’. My creativity has brought about this creation”. The move from, or between, process and product is something that may be the marker of the end point of a creative process, or a by-product of an ongoing process (Massumi, 2002), but it may also be something enforced upon Art & Design students at times. Assessment deadlines may force students to make creative conclusions before they are fully worked up or worked through. Perhaps, students may be asked to separate themselves from their work because of the nature of an assessment process that has a particular deadline, whether the student is ready for it or not.

⁵⁴ Bob Dylan may be the master of this approach. Thomas (2017) explains how Dylan takes from Virgil, like Virgil took from Homer. Thomas (2017:203) says that taking ideas from another and making them your own is no easy task – to make his point he quotes Seutonius writing about the criticism Virgil received: ‘Why don’t they try the same thefts? If they do they’ll find out it’s easier to steal Hercules’ club from him than to steal a line from Homer’. He says of Dylan’s approach: ‘Some of Dylan’s songs may actually come to him as easily as he would have us believe in

Bleakley’s categories for creativity offer ways of seeing creativity that overlap, intersect or entangle with each other. This is not a shortcoming of the typology as ‘it is probably a healthy viewpoint that theories not be overly restrictive, lest researchers lose sight of important issues and potential connections’ (Kozbelt, Beghetto & Runco, 2010:23). Kozbelt, Beghetto & Runco (2010:20) ‘emphasize pluralism, whereby a multitude of theoretical perspectives, with different assumptions and methods, and operating at different levels of analysis, all (ideally) contribute to a more robust – if at times, contestable – understanding of human creativity’.

Immersed in the flow

Another creativity concept that helps to illuminate Art & Design practices, especially drawing, is Csikszentmihalyi’s (2014) ‘flow’. Flow ‘denotes the holistic sensation present when we act with total involvement’ (Csikszentmihalyi, 2014:136).

We experience it as a unified flowing from one moment to the next, in which we feel in control of our actions, and in which there is little distinction between self and environment; between stimulus and response; or between past, present, and future. (Csikszentmihalyi, 2014:137)

Banfield & Burgess (2013:61) summarise Csikszentmihalyi’s conceptualisation of flow as:

enjoyment that is intrinsically motivating: balance between the challenge faced and skills available to meet it, incorporating goals and feedback; and absorption so deep that activity becomes automatic, self-awareness disappears and sense of time is altered.

I see flow as relevant to this project because it is held up as an idealised way of being when engaged in Art & Design study. For example, Banfield & Burgess (2003:63) see flow as ‘a means of personal growth and identity formation so enjoyable it becomes intrinsically rewarding and pursued for its own sake’. I am interested in ways that students enter into a flow state when doing sketchbook work with more traditional media and when using new digital technologies.

Csikszentmihalyi (2014) found people entered a flow state in many fields of practice, from a state of euphoria some enter into during religious prayer to the extreme physicality, yet utter calm, that a rock-climber might experience when ascending a difficult climb. Flow is a ‘conceptually independent process’ (Csikszentmihalyi, 2014:137) from creativity, but it seems to enhance its enactment. It is a higher, or more engaged, state that Art & Design students enter into at times,

interviews, but for the most part, his process has always been as painstaking and thoughtfully creative as that of any poet. [...] Genius generally does not manifest itself spontaneously; it also takes hard work.’ (Thomas, 2017:212). Thomas goes on to explain how Dylan studied Virgil, T.S. Eliot, The Bible, Dylan Thomas, and many other sources, often taking two related lines from a source and reworking them into his own songs.

but it is not a state that is always achieved when working. How long a flow state can be maintained is unclear and, perhaps, the concept of time loses some of its meaning when one is in a flow state. Csikszentmihalyi (2014) thinks that flow can only be maintained for relatively short periods of time. Clarke (2014:51) says flow occurs in ‘privileged moments’. Csikszentmihalyi’s idealised notion of flow involves complete focus on the activity being undertaken: ‘one is very aware of one’s actions, but not of the awareness itself’ (Csikszentmihalyi, 2014:137). Although Csikszentmihalyi thinks flow can be broken by moments of self-awareness and self-criticality, these interruptions, I would argue, do not necessarily break, or stop the flow state, they merely interrupt it, as people are able to quickly and easily enter back into their flow state, picking up where they left off⁵⁵. Imagine, if you will, staring at a painting or clouds in the sky – then you blink – the stare was broken, but, post-blink, you enter back into the stare. If you reflected back on the experience of staring you would not consider it to be a succession of short occurrences interrupted by blinking, it would be remembered as a continuous event. A similar thing seems to happen with drawing – Art & Design students, who are probably not thinking about flow from psychology research perspectives, may consider themselves to be able to stay in a flow state for hours at a time, developing their work, totally immersed in the process. It is interesting to note that Banfield & Burgess (2013) found that pain, or discomfort, associated with tool use for extended periods of time was one of the factors that brought people out of their flow state, suggesting that flow can be maintained, despite moments of self-awareness that are likely to take place many times before one gets discomforted by tool use.

The various creativity concepts discussed in this chapter do offer opportunities for understanding the use of sketchbooks in Art & Design practices and they will be returned to in other chapters of this thesis, but they do not offer a full picture - we also need to look at creativity’s bedfellow – Critical Thinking.

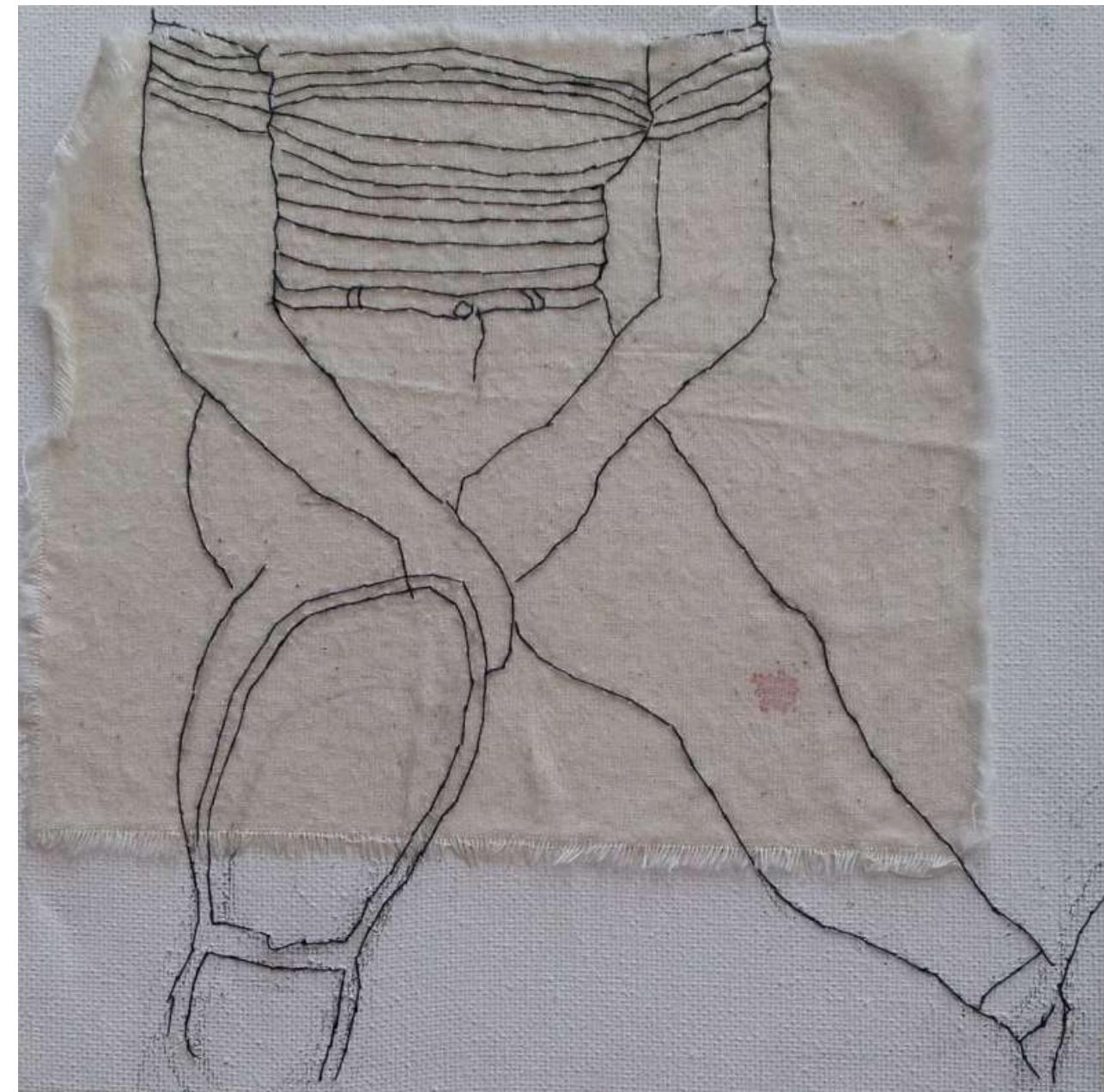


Fig. 33. *Beth*. Lola Webster (2015). An example of a time-consuming, hand-stitched drawing produced in one sitting while in a flow state.

⁵⁵ Manning (2015, 46) argues for something like a flow state and against reflective, analytical practices that examine the event’s unfolding: ‘To actually measure the time of the event, a backgridding activity is necessary. This activity “after the fact” tends to deplete the event-time of its middling, deactivating the relational movement that was

precisely event-time’s force. Backgridded, experience is reconceived in its poorest state: out of movement.’ (Manning, 2015:46)

This section is for the reader to make notes, make connections, and add their own thoughts on sketchbook and creativity related practices as a summary to the chapter



Chapter 5: Critical Thinking – using drawing, writing, and images

Is Critical Thinking critical?

Critical Thinking is deemed by many to be an important feature of further and higher education (Davies & Barnett, 2015; Dumitru *et al*, 2018). The development and use of Critical Thinking skills informs students' engagement with their courses and it is often asked to be explicitly evidenced in assignment work. Abrami *et al* (2015:275) note the analytical and reflexive nature of Critical Thinking, stating it is 'purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanations of the considerations on which that judgment is based'. Perhaps unsurprisingly, Critical Thinking tends to be seen as a solely cognitive skill and is often closely associated with the cognitive domain taxonomy defined by Bloom *et al* (1956), as expressed through learning outcomes and assessment criteria that are derived from the taxonomy. Although Critical Thinking skills are often associated with the higher levels of the cognitive domain, in the original taxonomy created by Bloom *et al* (1956:48) these levels are deemed to be at and above the 'Application' level, which is in the lower half of the taxonomy.

The deconstruction and representation of learning as a hierarchical cognitive domain was an interesting piece of research that opened up understandings of learning processes, but its adoption as the dominant paradigm for how educational practices are formulated may have caused as many problems as it has solved (Doughty, 2006)⁵⁶. The ways that the researchers and writers, following Bloom's lead, represented learning processes appeared so beguilingly easy to understand and implement they became widely adopted, but the simplicity of the representation of learning, whether it be in the cognitive⁵⁷, affective, or psychomotor domain, in hierarchical structures with each level based around a single word descriptor denies engagement with more complex notions of learning, such as the inter-relationship between the three domains, or their intra-relationship within a more holistic concept of learning. Bloom *et al* (1956:5) had concerns about how their work was representing learning, stating 'the availability of the taxonomy might tend to abort the thinking and planning of teachers with regard to curriculum, particularly if teachers merely select what they believe to be desirable objectives from the list provided in the

taxonomy'. Bloom *et al* (1956:5) were worried their taxonomy might lead to further 'fragmentation and atomization of educational purposes', something they recognised was already happening in education because of the growing interest in educational assessment being called for by behavioural psychologists in the American Psychological Association (APA) in the 1940s – in response to this, and in an attempt to shape the unfolding debate, they wanted to develop a system that did the 'least violence' (Bloom *et al*, 1956:6) to concepts of learning – but violence nonetheless. Educational practices have been transformed through separating learning into distinct domains, by focusing on stratified, measurable, behavioural objectives or learning outcomes (Hussey & Smith, 2008), and by packaging education into modules and units (Buss, 1995).

Bloom *et al* (1956:38) did not make use of the term Critical Thinking in their own taxonomy, although they did mention it once, recognising its use elsewhere and drawing a parallel with their own preferred term 'intellectual abilities and skills':

it is expected that when the student encounters a new problem or situation, he [sic] will select an appropriate technique for attacking it and will bring to bear the necessary information, both facts and principles. This has been labeled "Critical Thinking" by some, "reflective thinking" by Dewey and others, and "problem solving" by still others. In the taxonomy we have used the term "intellectual abilities and skills." The most general operational definition of these abilities and skills is that the individual can find appropriate information and techniques in his previous experience to bring to bear on new problems and situations. This requires some analysis or understanding of the new situation; it requires a background of knowledge or methods which can be readily utilized; and it also requires some facility in discerning the appropriate relations between previous experience and the new situation. (Bloom *et al*, 1956:38)

Bloom *et al* (1956:38) see intellectual abilities and skills as being able to 'do something' with the knowledge that they have, being able to 'apply the information to new situations and problems' (*ibid*). Herein lies the root of the major problem with the learning domain taxonomies. Critical Thinking is not a purely cognitive process, it is not something that can be hived off into a stand-alone domain. Critical Thinking is an embodied process, characterised by actions, by engagement with phenomena. What changes thinking into Critical Thinking is doing something with one's thinking – allowing one's thinking to have an affect, and thus effect, on the world outside of one's brain. Critical practice (Coombs, McNamara & Sade, 2019) and creative praxis (Williams, 2013) are

⁵⁶ Doughty (2006) argues that widespread adoption of the cognitive learning domain has led to an over-standardisation of approach, over-simplified views of what the curriculum can be and do, and has undermined subject specialist approaches that may not be an ideal fit with interpretations of Bloom *et al*'s work.

⁵⁷ All too often representations of the cognitive domain and explanations of its applied use only make reference to the major categories and not to the sub-categories. For Bloom *et al* (1956) the sub-categories were defined separately

for each level in the taxonomy, while Anderson *et al* (2001), in their revised taxonomy created sub-categories that were common across all the levels: Factual knowledge, conceptual knowledge, procedural knowledge; and meta-cognitive knowledge. Engagement with the sub-categories offers opportunities for depth of applied understanding in the use of cognitive domain taxonomies that is missing from much of the educational literature used in teacher education or course planning documentation.

terms that help to open up Art & Design approaches to critical action. Thinking and learning should not be separated from emotions, values and actions. Despite the cognitive domain, as interpreted by behaviourists, being recognised and measured through observable behaviours, Critical Thinking concepts became somewhat divorced from the practical and became overly associated with the mental. Because Critical Thinking tends to be associated with the higher levels of the cognitive domain, it is often unassociated with, or disassociated from, psychomotor and affective domain taxonomy skills, or more holistic views of learning processes. I see this as a weakness in the way the learning domain taxonomy model tends to be used. Art & Design study, for example, demands cognitive, affective and psychomotor skills – or head, heart and hand – working in unison, not independently. Separating learning into three taxonomies is a false trichotomy and systemically prioritising cognitive skills to the detriment of the others is something of a denial of the holistic nature of the human condition (Fink, 2013⁵⁸) and our intra-relations with phenomena.

In an Art & Design context, Critical Thinking has a close relationship with creativity. Beyer (1989, in Baker & Rudd, 2001:173) argues that although they 'may very well be different sides of the same coin they are not identical'. Bayer (*ibid*) argues:

Whereas creative thinking is divergent, Critical Thinking is convergent; whereas creative thinking tries to create something new, Critical Thinking seeks to assess worth or validity in something that exists; whereas creative thinking is carried on by violating accepted principles, Critical Thinking is carried on by applying accepted principles.

But I would not agree with this kind of polarisation; as discussed in the creativity section of this thesis, creative thinking can be convergent as well as divergent (van der Kamp *et al*, 2015). Creative thinking can also be systematic (Bleakley, 2004) and it can involve the application of accepted principles. I argue that an important factor in Critical Thinking is its potential for the creation of new knowledge – it can be a constructive process – it is used to transform given knowledge into new constructions and deconstructions⁵⁹ – and surely creating something new is creative?

Anderson *et al* (2001) developed a revised version of the cognitive domain. The revised version had two major changes that appear to make its version of the cognitive domain more

directly applicable to Art & Design as a subject area. The category descriptors were changed to verbs, placing more focus on the doing of Critical Thinking. Also, the upper levels of the taxonomy were changed, with creating replacing synthesis and with this new categorisation moving to the highest level, usurping evaluating at the top of the taxonomy (Anderson *et al*, 2001). The writers though were not primarily interested in Art & Design practices; they were not looking for opportunities to open up interpretations of their taxonomy for interpretive, subjective, holistic practices – they were interested in making a replacement for Bloom *et al*'s (1956) taxonomy that still had the transmission and assessment of knowledge at its heart, stating 'our framework is a tool to help educators clarify and communicate what they intend students to learn as a result of instruction' (Anderson *et al*, 2001:23). The somewhat limited and limiting view of learning that is promoted by learning domain taxonomies tends to make them problematic for Art & Design education, especially when they are used in simplified, generic formats that are offered to lecturers through institutional guidance that addresses and makes expectations for practices across all subject areas – I have in mind university and college guidance documents on how to write learning outcomes and assessment criteria, etc. (Gosling & Moon, 2002; Moon, 2005), that may be used across all faculties and schools within an institution, no matter what subject they are teaching. Bloom's doubts about the ways in which the cognitive domain was being used and the generalisability of the learning domain system can be summed up in two quotes: the first refers to the original text on the cognitive domain which he thought was 'one of the most widely cited yet least read books in American education' (in Anderson *et al*, 2001:xxiii); the second explained a state of affairs that has not come to pass, whereby

Ideally each major field should have its own taxonomy of objectives in its own language - more detailed, closer to the special language and thinking of its experts, reflecting its own appropriate sub-divisions and levels of education, with possible new categories, combinations of categories and omitting categories as appropriate. (Bloom *et al* in Anderson *et al*, 2001:xxvii-xxviii)

Despite Bloom *et al* (1956) seeing a parallel between Critical Thinking and their categorisation of intellectual skills and abilities, Anderson *et al* (2001) point out a distinction between Critical Thinking conceptualisations and the way that learning domain taxonomies characterise learning, offering an explanation for why Critical Thinking does not appear in the original or revised cognitive

⁵⁸ Fink (2013:35) suggests that when educators are designing programmes of study they tend to go to the cognitive domain taxonomy for guidance about what is significant. Fink replaces the cognitive domain headings with different categories in his 'Taxonomy of significant learning': 'Learning how to learn', 'Foundational knowledge', 'Application', 'Integration', 'Human dimension', 'Caring' (*ibid*).

⁵⁹ This interpretation is in line with Anderson *et al*'s (2001) rewriting of the cognitive domain that replaced synthesis with analysis and placed it at the top of their taxonomy. They describe to create as 'Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure' (Anderson *et al*, 2001:front endpaper) and 'Coming up with alternative hypotheses based on Criteria' (*ibid*), amongst other things.

domain taxonomy. Critical Thinking and problem solving rely upon combinations of actions defined by the taxonomies – they ‘cut across’ (Anderson *et al*, 2001:270) the hierarchical taxonomy stratifications, making connections between elements of them that challenge the underlying structure of the taxonomy. Because the taxonomies are underpinned by a transmission model of education, whereby the learning to be acquired by the student is framed by the instruction of the teacher and is built upon a system that presumes learning starts with factual knowledge and builds towards evaluation (Bloom *et al*, 1956) or creating (Anderson *et al*, 2001).

In the theorisations of the taxonomies there is limited recognition of experiential learning (Kolb, 1984) or learning that is not taking place under the guidance of, and through, a teacher in a classroom with predetermined ideas of what is to be learned. Critical Thinking can be⁶⁰ the starting point for a learning process, it can be the inspiration for carrying out analysis and it may lead to the production of knowledge, which may then move to evaluations that help form ongoing developments of analytical criteria. Movements can be made back and forth between places in the learning domain taxonomies model, sidestepping or conflating categories. The learning domain models created by Bloom *et al* (1956) and Anderson *et al* (2001) can be useful models for helping design educational programmes, but it must also be accepted that they are simplified, limited and limiting models of learning processes and should be treated as such⁶¹.

Despite Anderson *et al* (2001:front endpaper) having ‘create’ at the top end of their revised taxonomy, they spend little time addressing Art & Design education, or other related practices such as dance or theatre. Engagement with these types of subject area are ignored, side-stepped or othered. For example:

Stating objectives in creative writing, poetry, and art interpretation, for example, may be difficult. When required to formulate objectives, teachers in these areas may select lower-level objectives that are easy to state but do not really represent what they believe to be important for their students to learn. Alternatively, objectives that appear to call for complex student learning may not actually do so in light of how the objectives are taught and/or assessed. Correctly classifying an objective requires either knowing or inferring how the objective was taught by the teacher and learned by the student. (Anderson *et al*, 2001:22)

...and:

Expressive outcomes result from activities that have no a priori intended learning outcome except that each student will be uniquely changed in some way from exposure to the experience or activity. Such

outcomes are evocative, not prescriptive, in the sense that purpose does not precede the activity but rather uniquely grows from it. (Anderson *et al*, 2001:21)

Expressive learning is seen as something different from what is being addressed by the learning taxonomy research carried out by Anderson’s team, and Bloom *et al*’s. Knowledge of the kind of experiential learning that is related to expressive subject areas is referenced by Anderson *et al* to Eisner (1979) and is largely placed outside the remit of the taxonomy research and published guidance. They suggest:

expressive objectives may be more applicable to certain subject areas than others and to more complex forms of cognition than less complex ones. They provide a *direction* for learning but not a particular *destination*. (Anderson *et al*, 2001:21).

Good thinking

So, if the learning taxonomies do not offer a convincing way for conceptualising Critical Thinking that occurs in Art & Design education, how else can Critical Thinking be conceived and used in this subject area? Perhaps there are useful versions of Critical Thinking concepts that can be seen as an alternative to learning domain taxonomies, rather than being subsumed within them. Perkins, Jay & Tishman (1993:3) believe concepts of Critical Thinking are often too closely associated with logical thinking, translating the concept of Critical Thinking into ‘good thinking’, which is ‘flexible, insightful, productive thinking’ (*ibid*)⁶². They did not want their model to have a ‘strict allegiance with formal logic and [...] an Aristotelian “purified view of intellect” (Stocker, 1980)’ (*ibid*). Stocker argued that ‘desire, emotion, and action are proper and essential to intellect’ (Stocker, 1980:323) and they should not be written out of the story when notions of what constitutes good intellectual thinking are decided (and represented in learning outcomes and assessment criteria, etc.). Perkins, Jay & Tishman (1993:7), in their model, had seven broad dispositions that characterised the good thinker; the dispositions are:

1. To be broad and adventurous.
2. Toward sustained intellectual curiosity.
3. To clarify and seek understanding.
4. To be planful and strategic.
5. To be intellectually careful.
6. To seek and evaluate reasons.
7. To be metacognitive.

⁶⁰ But need not necessarily be – Manning (2016) talks about research-creation and how thinking and making evolve together within action.

⁶¹ Think of a model of the *Yamato*, Japan’s largest battleship from WW2. That model may well be highly detailed and instantly recognisable as the *Yamato*, with its sweeping lines and giant turrets, but you would not want to go sea in it! Models are abstractions from reality, or offer possibilities for it – but they are hollow and thin in comparison.

⁶² Connections can be made to Pye’s (2015) writing on workmanship, or craft, where he argues that tools or materials are not inherently good – it is what you do with them that produces the goodness.

The dispositions themselves, and the extended explanations of them that Perkins, Jay & Tishman offer, seem to me to be (generally) very inclusive of Art & Design practices. They offer, I believe, a useful combination of engaged intellectual rigour, combined with an openness to individual inquiry that accepts 'local knowledge positions' (Perkins, Jay & Tishman, 1993:13) that might relate to a subject area, such as Art & Design, including constructions of knowledge made by individual practitioners in the formation and defence of their work.

When developing a project, an Art & Design student is likely to be responding to a brief that offers some constraints but also freedoms to explore. In the creativity section of this thesis there is a discussion of this in relation to divergent and convergent thinking, and the phenomena is also framed by the earlier quotation from Anderson *et al* (2001:2) that says expressive objectives 'provide a *direction* for learning but not a particular *destination*'. A major form of creative process for Art & Design students relies on synthesising various forms of knowledge, making connections between things that make sense to them but that may seem tenuous or random to others. 'Good thinking' (Perkins, Jay & Tishman, 1993:1), for an individual student working on a particular project, may be something very localised and have its own sense of rhyme and reason, rather than necessarily relating to more generalised views of what constitutes normative notions of logic. Perkins, Jay & Tishman (1993:17) argue that 'learning is encultured' by living in a culture, learning from others and then internalising that culture's knowledge and beliefs. In addition, people add to a culture, both reinforcing it and changing it. They are not merely receivers of culture; they are formers too. Blumer (1969:2), through symbolic interactionism, explained how individuals operate within cultures, whereby meaning is made through social interaction, is then internally and individually interpreted, and then people 'act toward things on the basis of the meanings that the things have for them'. There are structures or cultural norms that help to form the basis of our thinking and acting, but also agency that allows for difference. Perkins, Jay and Tishman's (1993) model, although they were not explicitly considering Art & Design education, offers a framework that allows for, and encourages, localised constructions of knowledge that can be justified on its own terms, or on the terms of the localised culture (perhaps one existing within a particular college, course, or relationship between a student and a lecturer). I recommend a close review of the full text, but here are some indicative phrases that capture the interplays, or

'diffractive' (Geerts & van der Tuin, 2016:online) possibilities offered through engagement with the model:

- 'the desire to tinker with boundaries and play with new ideas; the urge to speculate, generate many options, and explore multiple interpretations'
- 'a zest for inquiry'
- 'the tendency to wonder'
- 'to focus and persist in a line of inquiry'
- 'to make analogies and comparisons'
- 'to set goals and to make and execute plans'
- 'to construct order out of disarray'⁶³
- 'The urge to be cognitively self-aware and to monitor the flow of one's thinking'
- 'the desire to be self-challenging'

(Perkins, Jay & Tishman, 1993:7-8)

Perkins, Jay & Tishman's (1993) good thinking sees the process of Critical Thinking as a generative process. It supports ongoing investigation and recognises the attitudes, dispositions and abilities needed to carry it out. Being able to explore a theme and generate a range of lines of inquiry and concomitant outcomes is central to Art & Design practices – over time, this is how a practitioner develops a personal style and bodies of work. The convergent and divergent processes involved in both Critical Thinking and creative thinking are more than analytical tools that lead to a logical conclusion, they are the respiratory systems that breathe life into and sustain working practices. *Odell's* practice offers insights into the ways that a practitioner can develop a body of work over a period of time that embodies the kinds of Critical Thinking and creativity that I have been discussing.

The following section explores *Odell's* work and working practices in relation to Perkins, Jay & Tishman's (1993) good thinking.

1. To be broad and adventurous.

Over time, *Odell* has developed an original, exploratory, considered body of work that investigates intersections between sound and drawing. When I met with *Odell* we discussed two recently made sound installations. They built upon, but also departed from, earlier work that tended to have drawings on paper as a central element. The installations consisted of edited sounds, one of sounds made by *Odell's* own voice, the other of clips of interviews *Odell* had carried out. The second piece reminded me of *The Idea of North* by Glenn Gould (1967), with its contrapuntal layers of spoken words from which certain phrases emerge and catch the listener's attention.

⁶³ And, I would argue, to construct disarray out of order.

Odell had been intellectually and artistically brave, carrying out research and producing work to exhibit that was outside the mainstream in terms of its conception, methods and final representation. The work was produced for a drawing, painting and printmaking course, but those elements were not obviously present in the sound installation. *Odell* was exploring synaesthetic connections between sound and drawing, with the recorded voice acting as the mark making tool. *Odell*'s approach exhibits some key inclinations associated with Perkins, Jay & Tishman's (1993:7) disposition to be broad and adventurous, like 'the tendency to be open minded and to look beyond what is given' and 'the desire to tinker with boundaries and play with new ideas' (*ibid*). *Odell* had produced work for their graduation show that had expanded their field of practice, that sought to expand the remit of the course that they were completing, and that took a risk by moving into new territories, leaving behind more familiar ground.

2. Toward sustained intellectual curiosity.

Synaesthesia is a phenomenon that has been researched from psychological perspectives (Hughes *et al*, 2017; Hamilton-Fletcher *et al*, 2017), biological perspectives (Tilot *et al*, 2018), and there is a growing interest in its relationship with art, particularly abstract art (Brougher & Mattis, 2005; Pieperhoff, 2009). Synaesthesia is often thought to be a 'neurological phenomenon in which one sees sounds, tastes smells, etc.' (Gordon, 2019:4). Rothen & Meier's (2010) experimental tests, looking for one form of synaesthesia, found a higher occurrence of synaesthesia in a sample of ninety-nine art students when compared to a control sample (7% rather than 2%), while an earlier survey on 358 fine art students, looking for any form of synaesthesia, found 23% of the art students had 'experienced synesthesia in a spontaneous and consistent manner' (Domino, 1989:17). Synaesthesia is of interest to many art students and its presence may be 'an outward marker of a neural capability to move between network architectures' (Mulvenna, 2007:220). As with dyslexia, having synaesthesia may have synergies with art making.

Odell was investigating how a person may hear a drawing and see sound. *Odell*'s research involved traditional analysis, interpretation and synthesis of texts, but the main thrust of the research was through artistic experimentation. Although the work could be seen through a quasi-scientific lens, it was carried out in the spirit of artistic research (Hannula, Suoranta, & Vadén, 2005). Beyond developing and completing the sound pieces, once installed in a public gallery space they become a vehicle for entering into an experience and dialogue with the audience. The installations are performance, with the audience, gallery space and artwork working together to produce

meaning. *Odell* uses the gallery installation and exhibition of their work to extent the research, mapping movements made around the space and interviewing people who experience the work. Further investigation takes place through seminar meetings and workshops with an artist collective that *Odell* is a member of.

Odell was researching synaesthesia as a phenomenon, showing 'sustained intellectual curiosity' (Perkins, Jay & Tishman, 1993:7) through the academic and experimental research carried out, but there was also research being carried out into the nature of artmaking and how to communicate to and with an audience. This involves inclinations 'to find and pose problems; the tendency to wonder, question, probe' (*ibid*). Stengers (2011:374) revels in the dual meaning of wonder as it 'means both to be surprised and to entertain questions'. Wonder allows us to 'accept being affected, troubled, surprised, but also being forced to think and question [...] knowledge, not in terms of its sad limitations, but in terms of the restricted set of practical situations in which it is positively relevant' (*ibid*). *Odell* showed the ability to 'to focus and persist in a line of inquiry' (*ibid*), especially when the line of inquiry was not arrow straight and easy to follow. *Odell* (10'54") told me their sketchbook processes allowed them to document the hesitant steps or failures as they progressed the work:

I think, obviously it is a bit of a cliché, but we talk in arts about having failures and I think it is important to document the failures, document things that got you to the final piece – and to be able to have something to look back and see that happening and to see how the project develops is all so cohesive, is not it – to see that change, that background. I think whether it is paper, whether it is online, that is why I said earlier that it is important to keep things as they are, because you see that development.

3. To clarify and seek understanding.

Odell's works can be thought of as 'poetic' (Nichols, 2002:102) documentaries that 'sacrifice the conventions of continuity editing and the sense of a very specific location in time and space that follows from it to explore associations and patterns of their choosing' (*ibid*). They offer a phenomenological view of synaesthetic experience. They do not try to offer a scientific explanation of synaesthesia, they offer an interpretive experience of a phenomenon, while being a related, but separate, phenomenon themselves. The sound pieces are about, and of, synaesthetic experience. The sound pieces try to 'apprehend' (Perkins, Jay & Tishman, 1993:7) the synaesthetic experience, and 'grasp the essence of things' (*ibid*). They are attempts to seek, clarify and communicate understandings about relationships between drawing and sound through artistic means. *Odell* demonstrates the ability to 'build complex conceptualizations, [...] exemplify ideas, to make analogies and comparisons' (*ibid*) through their work.

Since I spoke with *Odell* Gordon (2019:6) has published a text that argues that the general nature of art is synaesthetic and, even for doubters of this, 'art is like synesthesia'. Gordon (2019:6) explains:

This notion of art as synesthesia is not just one figure among others but *the figure of art*, because it is a figure for the very notion of figurability – that is, metaphoricity – that is art, namely, the notion of replacing something literal with something other (*cf.* allegory, symbolism, mimesis, etc.).

For example, when looking at Picasso's (1937) *Guernica* you can see oil painted onto a canvas and, because of the way that the oil is arranged, mimetic and symbolic representations appear – a horse, a bull, a lamp, and so on, composed to tell an allegorical tale of the bombing of the Basque town of Guernica during the Spanish Civil War. To some extent the painting transports our minds to the experience of being in Guernica during the bombing, the actual event being replaced by the painting of it. As well as the painting itself being synaesthetic, it sets off synaesthetic responses for the viewer. The pictorial elements, and the title (Mitchell, 1995), elicit, for me at least, sounds (Nordine, 2010) – the sounds of war: aeroplane engines⁶⁴, explosions, screaming and wailing. The painting also elicits a range of political, social justice, and art historical thoughts and emotions. Looking at a painting like *Guernica* is more than an act of seeing what is in front of us, it is a complete 'aesthetic engagement' (Berleant, 2013:online), intertwining mind, body, and culture. *Odell*'s sound pieces operate in similar ways, with the finished artworks standing in for and being an expression of all the research that underpins them. They are also offering meaning making opportunities for the audience that lie beyond the formal qualities of the work. The finished work allows *Odell* to translate their research into an artistic, poetic form which is

'particularly adept at opening up the possibility of alternative forms of knowledge to the straightforward transfer of information, the prosecution of a particular argument or point of view, or the presentation of reasoned propositions about problems in need of solution' (Nichols, 2002:103).

Works of art are not merely a translation of one experience into another form. In an artwork 'sound, image, and other sensory phenomena are meaning, as opposed to merely having meaning' (Gordon, 2019:167). *Odell*'s work embodies Gordon's belief that aesthetic experience is actually synaesthetic experience because it involves, or conflates, multiple senses into one, dissolving differences between what we see, hear, smell, taste, or touch – and think. The research that *Odell*

carries out in their dispersed sketchbook is a generative form of seeking understanding that does not necessarily need to find conclusive knowledge; multiple iterations of developed, but inconclusive, understandings are far more useful to an artist as they build a body of work over time.

4. To be planful and strategic.

Odell fundamentally changed their sketchbook practice while developing the sound pieces. In the past *Odell* had used paper sketchbooks but the new work demanded a new approach because *Odell* thought attaching the digital sound files they were developing to a paper sketchbook via a DVD or USB stick would be an inelegant and ineffective solution. *Odell* explained to me how a tutor suggested they try using a blog to allow them to embed the video and audio files that were being produced through the research. *Odell* (03'50") told me:

"when I started progressing my work and looking at drawing, the expanded field of drawing if you like, and sound came into it, suddenly I had these audio recordings, had this film going on and it [the blog] was finally a place that I could document my thoughts, if you like, that would commonly show in a sketchbook – my thinking – how could my thinking be projected. In my module before this one I was using sound and had a paper sketchbook and it just wasn't working for me; I think it was less successful for assessment [...] I was printing out paper and referring to online places, when actually I could just do it here"

Odell found the blog site easy to use in terms of the storage and retrieval functions, which helped support the generative function of the sketchbook. *Odell* (05'20") found that:

"once it was set up and I had the structure there I could add videos and links, thoughts and reflections, so easily – it became a very mobile thing for me, very quick to get to, log in, update... put a new post in, etc. And it was just there."

Odell's approach to their working practices via a blog that brings together the various elements of their dispersed sketchbook, is in lines with Perkins, Jay & Tishman's (1993:8) disposition to be 'planful and strategic' and the key inclination to 'approach things in a calculated and/or step wise fashion' (*ibid*).

Odell showed the key ability related to being planful and strategic 'to formulate goals and to evaluate alternative modes of approach' (Perkins, Jay & Tishman, 1993:8) as they developed their blog and use of embedded social media sites that were being used for storage (like SoundCloud and YouTube). Adopting new forms of sketchbook working can be challenging, especially when new forms of technology are being utilised, because the new forms of working offer different affordances (Gibson, 1986) and processes for taking advantage of them. *Odell* negotiated

⁶⁴ In particular, I hear the *Stuka* siren, although *Condors*, rather than *Stukas* were actually used in the bombing at Guernica (Riddle, 2017). The sound of a dive-bombing *Stuka*, with its attached siren, howling out a frightening message of their arrival (Smith, 2018), has become a common Foley sound effect (Lambert, 2017), used in games, and films like

Dunkirk (Nolan, 2017) to heighten a sense of terror - although its use in *Dunkirk* seems to have been sweetened to fold in a reference to the TIE fighters in *Star Wars* (Lucas, 1977).

obstacles concerning the personal skills needed, and the specifics of the platform that they were using, in an effective manner. After experimenting with a number of platforms *Odell* settled on Blogger as their chosen platform because it offered the functions *Odell* was looking for and was relatively easy to use. Although it is possible to select technologies that offer the affordances that one is looking for, it is possible that there are also affordances available that one had not looked for but could be taken advantage of. What surprised *Odell* was the enhanced communicative functions that the blog offered and how they produced different feelings about work held on the site compared to previous work that had been in a traditional paper sketchbook:

"Instantly I wanted to share it [...] I think sometimes with my other sketchbook, thinking back, and it might be something about myself as an artist, but previously I wanted to keep the book closed - you keep it close to your chest, don't you? - suddenly, you know, an online thing... instantly... I don't know, it is something different. [...] I have been more inclined to show people actually [...] it is not so much a closed book" (*Odell*, 25'10")

When *Odell* was a student their website was private and not open to the general public, but since completing their Degree, *Odell* has reformulated the blog for a professional, rather than academic, audience and has made it public. The blog site is now used to project a professional identity and to offer insights into *Odell's* work when setting up collaborative projects.

5. To be intellectually careful.

The blog brought the various elements of the research together into one accessible portal, although the elements were actually somewhat dispersed, with the videos being embedded from YouTube and the audio files being on SoundCloud. The blog format supported *Odell's* Critical Thinking processes by bringing the various elements of the sketchbook into proximity and by allowing different kinds of information (writing, video, audio) to be easily accessed, helping thoughts about the different formats of work to cross-pollinate. Rather than organising the blog entries in a linear, chronological stream, *Odell* arranged entries under themed tabs, more like a website than a blog. There was a tab for feedback from tutors and peers that came from tutorials and group critiques, a tab for research into other artists, a tab for artworks that were completed and a tab for reflective and analytical writing about their own work that drew upon entries in the other tabs. Because each tab held evidence of deep and sustained engagement with project development and evaluation it carried out its communicative function very well. Lecturers could see and listen to iterations of the sound piece as it was developed over time, they could read about the contextual studies that the student had carried out, and they could read the blog entries that discussed how the work, both concepts and form, had been and would be developed. *Odell* makes use of the blog format by writing a new post, rather than amending an old one, as their thinking

changes over time. *Odell* (08'30") said "it is important to see that journey, it is really important to see that history, and how your thoughts change and evolve - you wouldn't see that if you had edited it" - and neither would the lecturers.

Odell used the blog to bring together key elements of their research in an organised fashion, helping them to be intellectually careful in the construction of their critical or good thinking by having the necessary materials to hand. In relation to the disposition to be intellectually careful, Perkins, Jay & Tishman (1993:8) identify 'a hunger for mental orderliness and organization' as a key inclination, while a key ability is to be able to 'construct order out of disarray' (*ibid*). These factors were addressed by having the various tabs in the blog and were heightened by the academic context of the work carried out. *Odell* wanted to show the developmental process of their thinking to the course lecturers and, to some extent, created and/or edited their work for an audience.

6. To seek and evaluate reasons.

Perkins, Jay & Tishman (1993:8) consider the disposition to seek and evaluate reasons to be underpinned by the key inclinations toward 'the drive to pursue and demand justification' and 'the urge to discover underlying grounds and sources'. *Odell* had, I believe, three major sets of concerns. One was to explore how synesthesia can be related to drawing. Another was to explore how their research could be represented externally through a body of artworks. The last was a more internal process of becoming an artist (Cameron, 2006), entering into critically reflexive processes that develop and shape one's being over time. These concerns were evidenced in the blog site through research into psychology, philosophy, performance and installation art. I believe that there was a stronger focus on the artistic processes and outcomes, rather than the psychology of synesthesia, which is appropriate for the Art & Design subject area that *Odell* works in. To some extent, the more science-based insights into synesthesia, perhaps related to the ability to 'identify logical structure' (Perkins, Jay & Tishman, 1993:8) and to 'distinguish cause and effect' (*ibid*) were of less importance than the ability to create a theorised and resolved art installation. I believe *Odell's* work is in search of poetic truth as an artwork, allowing it to be 'the literal truth of its own logical fallacies and contradictions' (Gordon, 2019:166). Ultimately, the work stands or falls on its artistic merits rather than its scientific ones.

7. To be metacognitive.

Perkins, Jay & Tishman (1993:7) supply a number of key inclinations that lean toward the metacognitive: 'The urge to be cognitively self-aware and to monitor the flow of one's thinking; the impulse to stand back and take stock; the desire to be self-challenging'. Although these seem intrapersonal, the student is also aware that they are working within an educational context that shapes their behaviour somewhat. When one is thinking about one's thinking, one is also aware of the context within which that thinking is taking place. Kolb & Kolb (2009:304) argue a person must believe they have the ability to learn to be able to learn effectively. As stated earlier, *Odell* found that having their own notes and feedback from others available to them on their blog site, and being able to review the developmental processes they had used in their work over time, was very important for understanding how they worked and how their work might develop further. Scrutinising one's own thinking is in keeping with the previously used Abrami et al (2015:275) insight into Critical Thinking that saw it as 'purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanations of the considerations on which that judgment is based'. The thinking and making that underpins a student's artwork need to function within the construct of Art & Design art education. The student, when seeking and evaluating reasons (Perkins, Jay & Tishman, 1993), has to consider not only the customs and conventions of historical and contemporary art practices, and the internal validity of their work, but also the written and unwritten rules of the education system that they are operating within. For example, *Odell* had to consider the learning outcomes and the assessment criteria for the modules they were currently studying. They also had to consider the representation of their working processes with regard to learning cycles and design cycles (Kolb, 1984; Design Council, 2020), with their expectations of certain types of narrative that describe making, reflecting, theorising, and further experimentation, and so on. *Odell* also had to consider the more subjective expectations of their lecturers who had, to some extent, co-created the work with the student through their critical commentary over the previous months and years. Forms of strategic learning (Entwistle & Ramsden, 2015) that encompass these kinds of considerations and students' responses to them are discussed in more detail in the 'Pedagogy and the sketchbook' chapter.

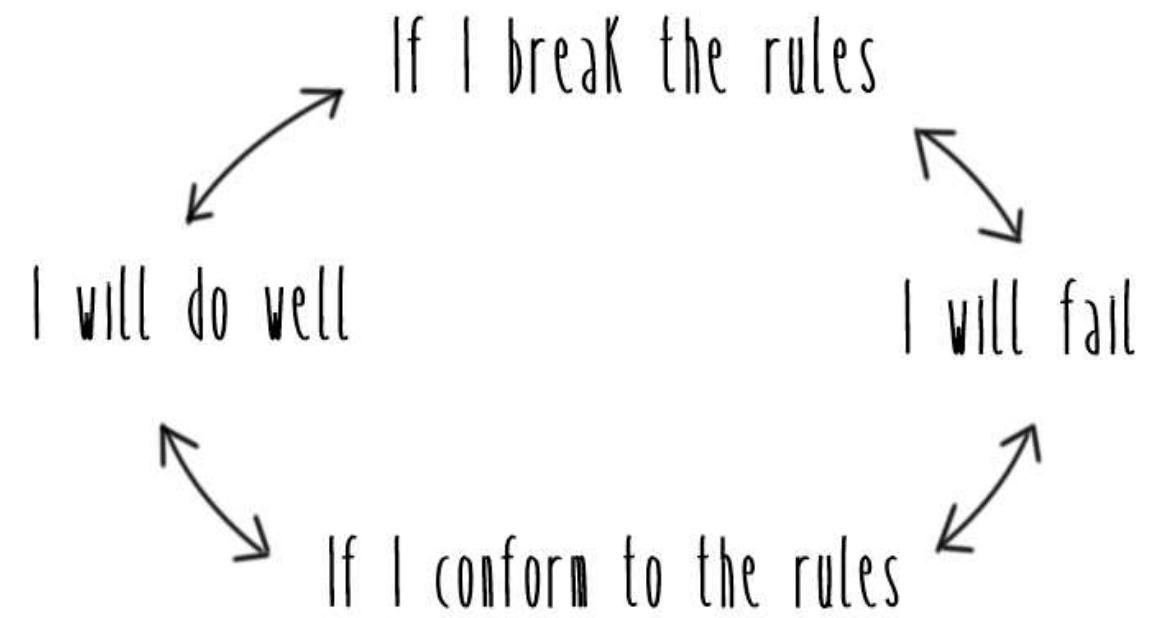


Fig. 34. An art student's metacognitive knot. Simon Webster (2020)⁶⁵.

Overall, I believe the research that *Odell* carried out effectively embodied Perkins, Jay & Tishman's (1993:7) dispositions, particularly being 'broad and adventurous', showing 'sustained intellectual curiosity', 'to clarify and seek understanding' and 'to be planful and strategic'. *Odell* had also shown a real 'desire to tinker with boundaries and play with new ideas', 'a zest for inquiry', 'the tendency to wonder', the ability to 'focus and persist in a line of inquiry' and 'to set goals and to make and execute plans' (Perkins, Jay & Tishman, 1993:7-8). While one of the finished artworks - a sound piece installed in a gallery space, for example - offers its own evidence of the Critical Thinking and making processes that have informed it, they are also, by design, largely hidden. The

⁶⁵ When discussing Laing's (1970) poetry book, *Knots*, which inspired this image, Lockton (2018:2) explains how many of Laing's poems 'involve one person reasoning about how another person thinks, or trying to unravel the complexity of, or causalities within, a situation'. He argues that the reasoning being shown involves 'a good deal of 'second-order' [or metacognitive] thinking' (*ibid*). Lockton (2018:6) draws parallels to Bateson's concept of the 'double bind', involving 'dilemmas or situations where someone feels—or experiences—being pulled or pushed (metaphorically) in two contradictory directions at once (causing stress, unhappiness, or decision paralysis) (*ibid*). Another related theory is Festinger's (1957:3) 'cognitive dissonance', Festinger sees cognitive dissonance as a

generative state, rather than a paralysing one. He argues we seek a reduction of conflict in our thoughts and will seek to change a situation, or our cognition, to resolve dissonance and achieve consonance (Festinger, 1957:2). I would agree with Festinger that dissonance is generative, seeing encounters with ambiguities and uncertainties as an important part of creative processes, but Art & Design practitioners do not always seek resolution. As Bleakley (2004:469) states 'The sciences may be characterized as seeking to reduce uncertainty through cumulative knowledge acquired by controlled experiment, where the arts explicitly set out to cultivate ambiguity'.

work is minimal and operates in a minimalist space. Its physical form consists of two active speakers on speaker stands (with the sound being sent to them via Bluetooth from outside the gallery space). Apart from the weight of context that the white space gallery brings (O'Doherty, 1986), and the seriousness of the work derived from the high-end qualities of the speakers and stands, the work's physical form does not give many clues to its origins and development – the artwork is an abstracted translation of the research – it needs to function primarily as an artwork and not as a report on the research findings. The sound element of the installation starts to open up aesthetic and contextual interpretations for the person experiencing the work, but in relation to the educational process and the formal assessment of the work, it is the blog, acting as a storage and communicative tool, that really allows a lecturer to understand the various processes that the student has gone through while making and exhibiting the work. The blog allows the lecturer to understand the body of work as a whole, seeing underpinning processes for single works and relationships between multiple works.

Perkins, Jay & Tishman's (1993) model of good thinking could serve as a replacement for the learning domain taxonomies (Bloom *et al*, 1956; Anderson *et al*, 2001) but, in this context, it is a far from perfect model in many respects and you may be wondering why I chose to use it in my analysis. I know that it has a focus on the cognitive (a fault I found with the learning domains) and that it does not embrace concepts attached to posthuman art, like the 'more than' and 'artfulness' that Manning (2015:47) discusses; nor does it refer to 'an object's thing-power, agency, and affect' (Collins, 2019:154). But, as is my bricoleurian wont, I found it, I was enchanted by it, and so I used it⁶⁶. Things, including theories and models, are there to be used, to be worked on, to be worked with. To discard them because they are not perfect seems wasteful. *Je ne regrette rien!*

Critical Thinking and logics

Although logic is far from irrelevant to Art & Design education it is not always a central concern for Art & Design practitioners and educators. There are times when a logical and systematic approach is very important. For example, when carrying out experimentation with glaze recipes that may

⁶⁶ Berry (2006:87-88) has an explanatory narrative exchange about being a bricoleur that captures the true spirit: 'I watch Monsieur Gallant collect scraps of metal, wood, tossed out chairs, and other furniture; extract assorted nails from mouldings; gather nuts, bolts and screws of all shapes and sizes from the ground around the construction sites and drive around in his pickup on garbage days to select odds and ends of 'the other person's junk'. I ask him what he is going to do with all these materials. "Buildin' a cabin on my little private island", he giggles. "But M. Gallant, I observe, "nothing matches and how do you know what you need or what it is going to look like? Do you have a plan? Do you use everything? What do you do with the leftovers?" He shrugs his shoulders, "Uh? I don't use everything, just

need to be remade at a later date it is important that careful measurements of chemicals are made and recorded, or if one is designing an object on a computer that will be 3D printed via Fusion Deposit Modeling (FDM) careful consideration needs to be given about the way that the object will be built up layer by layer and therefore what structures need to be added to the design to support overhanging sections. But, I believe, there are other important dimensions to be considered in Art & Design education that are different from ideas built upon logic. Perkins, Jay & Tishman (1993) have opened up possibilities for localised constructions of Critical Thinking by showing how specific situations may demand thinking that is good in that situation, but that may not be equally good in another. But I think that, in relation to Art & Design Critical Thinking, other approaches to logic should be explored.

Art & Design students (all of us really, but let us focus on Art & Design students) use alogical thinking. Alogical thinking can be associated with illogical thinking and may carry a negative connotation. Zhang *et al* (2009) see alogical thinking differently. While logical thinking relates to 'laws that have been grasped' (Zhang *et al*, 2009:10) by people, alogical thinking is that for which we 'haven't yet found out laws' (*ibid*). It 'has many forms, i.e. replaying thinking⁶⁷, dreaming thinking, associational thinking, random relating thinking and inspirational thinking, etc.' (*ibid*). Zhang *et al* (*ibid*) suggest the range of logical thinking has been 'nibbling' away at alogical thinking as we begin to understand it, moving ways of thinking from being seen as somehow wrong because we do not understand them, to somehow right because we think we do. An example of this can be read in the creativity section of this thesis where notions of creativity were shown, in the past, to be aligned with genius and only attainable by the (usually white, male) few, as if creativity was arrived at by some form of divine intervention or unexplainable intuitive leap. But, as theories of creativity were produced, it became characterised more as a systemised, reproducible, even expected set of skills that are attainable by all. So, when considering the thinking that Art & Design students display, it is possible, even likely, that there is a method behind their seeming madness – or that madness is their methodology (Gale, 2018) - but the pattern, or

what I need. No plan, I just get started and then depending on what I've got available decides what way I'm going to build it, what shape it will take. And the leftovers? – I just use them for the next job, ya never know what I'll use them for the next time". Daringly, as the academic, I ask, "Es tu un bricoleur?" "Mais oui – of course!" (Berry's italics).

⁶⁷ Replay thinking is the process of going over and over the same event in a reflective manner, even if the end point of the thinking seems to be the same every time. This could be in the hope of coming up with a different answer, which might seem illogical or even a sign of madness. But it could also be aligned with the notion of 'breaking through' (Gale, 2018:118) a wall by hammering away at it, or putting the "re' in research' (Gale, 2018:119).

internal logic, of their thought is not always recognised by us or understood by them. Critical Thinking, or the good thinking, that is enacted and demonstrated in a student's sketchbook in relation to a particular project that they are pursuing is sometimes hard to see because of the fragility of the nature of the research constructions that they may make (and I am not seeing this as a bad thing). Students have all of the past to pillage, all of contemporary culture to draw upon, and they are working toward a future that has not yet been formed, so has limitless possibilities. They can, and do, draw upon and synthesise a range of 'eclectic', 'collaged', 'mixed aesthetic' sources (Jencks, 1991:56) and the process by which they grab hold of and engage with some things and ignore others can only be partly understood. The relatively new effect of algorithms upon what students are exposed to is discussed in more depth in the technology section of this thesis; it tells us that technology is increasing the potential well of information that students may draw upon, but is also filtering it for them, making decisions about what they see that are based upon decision making processes that are unknown to the student. Connections between historical and contemporary practices may be made by a mainframe computer in ways that are logical for it, but alogical for the student. The algorithm-derived research sources a student might use may well be ahistorical in their relationality and a student's starting point for research ideas in these instances are likely to be outside of the institution-approved library of books or reading lists. A student's relationship to the research opportunities that surround them may have logical, carefully developed, valid and validated approaches, but we must also consider that they have valid, as-yet-not-understood alogical forms of research practices that may form the Critical Thinking that underpins their work. As I write this I am reminded of Benjamin's (1969) writing about the Klee monoprint that he owned, *Angelus Novus* (1920). What Benjamin wrote about the depicted angel, in relation to history, could be applied to the contemporary Art & Design student, trying to make sense of the past and present as they move into the future:

His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe which keeps piling wreckage and hurls it in front of his feet. The angel would like to stay, awaken the dead, and make whole what has been smashed. But a storm is blowing in from Paradise; it has got caught in his wings with such a violence that the angel can no longer close them. The storm irresistibly propels him into the future to which his back is turned, while the pile of debris before him grows skyward. This storm is what we call progress. (Benjamin, 1969:257-258)

Students, while operating in a space 'between what was and what will be' (Manning, 2015:47), are asked to be creative and to make something original⁶⁸. They are not necessarily asked to be logical,

to follow the path well-trodden. Students are asked to experiment, to be 'adventurous' (Perkins, Jay & Tishman, 1993:7), to do something they have not done before. They have to create forms of knowledge, or knowledge in forms, that are new and that, in their attempt to create something that is 'more-than' (Manning, 2015:47), students may make intuitive leaps concerning how their project develops, what exactly it is that they are making. Students may make alogical connections between things that can only start to be understood after the connection is made (what Massumi (2002) might call back-forming). These kinds of alogical formations of knowledge, steps into the unknown, are informed by intuition, a sensing of what might work, a feeling of, and for, the as yet unknown. Manning (2015:48) argues that 'Intuition never stems from what is already conceived. It introduces into experience a rift in knowing, a schism in perception'. Rationalisations for what has been proposed, or made, may be applied after the summoning up, not before. The logical is derived from the alogical; meanings are 'in-formation' (Manning, 2009:226) and are temporary, incomplete utterances. When working with the alogical students are involved in forms of 'research-creation' (Manning, 2016:133) that invites them to do things 'not intelligible within current understandings of what knowledge might look like' (*ibid*). It invites them to carry out thinking 'beyond its articulation in language' (Manning, 2016:134).

The writing so far in this chapter has (mostly) been founded on concepts of Critical Thinking that strongly aligns Critical Thinking with cognitive psychology. Abrami *et al* (2015) offer an overview of a debate that questions whether Critical Thinking is generalist or specifist in relation to different subject areas. Generalists believe that there are core Critical Thinking skills based around logical reasoning that can be applied across disciplines. Specifists believe that critical 'thinking is always tied to a subject domain' (Abrami *et al*, 2015:281) and that disciplines develop their own versions of Critical Thinking that are formulated through discourse and that students learn through 'infusion' (Tiruneh, Cock & Elen, 2018:1065) and 'immersion' (*ibid*) as they engage in their studies. I tend toward the specifist school of thought, believing that Art & Design students are engaging with their subject areas in ways that people from other disciplines may not immediately recognise or necessarily approve of, especially conflations of Critical Thinking and creativity. As stated earlier, Critical Thinking (or good thinking) and creativity share some common

⁶⁸ By 'make something original' I am tending toward more Modernist concepts of autonomous art objects, rather than a relational aesthetic reading whereby everything is original in its state of constant becoming as it is intra-acted with. Robert Morris was a key person for me in my understanding of a movement from autonomous art objects to

installation work that is constituted by the intra-action of the audience/participant. Works like *Untitled* (L-Beams) (1965) shift the significant aspect of the work from the object and to its relationship with the gallery space and the audience – the meaning of the work has been externalised (Morris, 2003).

features and, in Art & Design education, are entangled. The Critical Thinking that Art & Design students carry out, whether that thinking is through contextual studies, preparatory drawing, or working with materials, often forms what is conceived of as creativity. It would be specious to conceive Critical Thinking and creativity as distinct from each other. Bleakley's (2004:467) discussion of 'creativity as an ordering process', for example, encompasses 'movement from the simple to the complex, invoking structure, boundary, method, principles and classification' - all terms that would sit happily within Critical Thinking conceptualisations. Similarly, 'creativity as problem solving' (Bleakley, 2004:369) involves the deployment of rigorous, systematic work, involving 'the exercise, in the main, of normal and intelligible powers' (Lowes in Bleakley, 2004:470). The assiduous approach needed for this type of creativity is the same as the good thinking approach that demands 'sustained intellectual inquiry' (Perkins, Jay & Tishman, 1993:6) and intellectual care (*ibid*). Freeman (in Bellugi, 2009:702) rejects ideas of the creativity involved in art making being different to, devoid of, or less than, the Critical Thinking that may be associated with other disciplines, stating:

romanticized ideas of the artist's otherness, of art arising out of inspirational leaps taken by the innately creative, remain common currency in our general (in)comprehension of the creative process. As well as providing a somewhat misleading idea of art making, they fuel the belief that creativity is beyond analysis; that the ways of making art are instinctive rather than reflective, and that its processes should remain shrouded in secrecy. For those studying the Arts this is both problematic and reductive

Parallels can be seen between Perkins, Jay & Tishman's (1993) good thinking and the types of creativity described by Bleakley (2004). Perkins, Jay & Tishman (1993:4) conceive their dispositions as the 'inclination, sensitivity, and ability' to carry out good thinking – or, wanting to engage in good thinking, knowing when to engage, and actually being able to do it. Bleakley's (2004:463) types of creativity are 'described as discursive effects' and are understood through, and as, actions carried out within 'historical and material dialectic' (Bleakley, 2004:465). Critical Thinking or good thinking, for Art & Design students, is likely to involve making. Critical Thinking in Art & Design may be translated into critical practice (Addison, 2010) or 'creative praxis' (Crouch, 2007:107).

Addison (2010:114) sees critical practice as an 'engagement with, and agency within, wider cultural formations'. Addison's (2010) approach seems to be built upon the cultural studies movement that Hall (2018) started to develop in the 1960s, but Addison has translated it into Art & Design practices. Critical practices ask the student to think about more than making; they need to think

about the context of their making; the conditions within which making takes place; they need to take responsibility for their work, thinking about how it communicates and what it communicates. Parallels can be drawn with Crouch's (2007:107) 'creative praxis'. By adopting a form of creative praxis that engages with cultural and reflexive ethical engagement 'the concept of the creative act [can] be taken away from the supposedly autonomous individual and introduced into the social realm' (*ibid*). Praxis 'encourages the act of reflecting upon, and reconstructing the constructed world' (Crouch, 2007:111-112). Students that I spoke with during this project were engaged in socio-political thinking and their work reflected this. Yes, they cared about the aesthetics of their work, but there also tended to be other more political issues informing it as well – issues around sustainability, climate change, poverty, community, and disability were some of the areas of concern that I know students were researching and using to inform their work.

Williams (2013:250) identifies the 'creative artefact resulting from practice-led research' as a 'student's main mode of expression' (*ibid*). A student's (or students working in collaboration) theorising and making combine (as if they could ever really be apart!) to produce their creative artefacts. Williams (2012; 2013) explains and examples how a creative artefact may not meet academic expectations concerning the evidencing of the role of research and theory in their work, nor the conventions concerning referencing. An artefact may be the product of research and theorising, but exactly how it embodies that theorisation may be implicit, tangential and hard to read, rather than explicit, transparent and easy to read. For example, a photograph made by an FE Photography student like *Glenn* will not have Harvard references within it, in the way that an essay would. *Glenn* told me how their research involved analysing the work of other photographers and taking influence from them in stylistic, technical and theoretical ways. But *Glenn's* work may synthesise influences from a number of other photographers, combining their influence with some of *Glenn's* other interests and proclivities. The clues to the various influences may be there in the photographs, but they may not be easily recognised. Additionally, *Glenn* told me that analysing the work of other photographers often led to rejecting their work, rather than adopting aspects of it. A process of elimination helped *Glenn* to focus in on the approach that they did want to take. Accurately recognising how research and critical analysis has led to critical evaluation and discernment when it is (dis)embodied in the artefact would be very hard to establish when looking at the artefact. In these kinds of circumstances, the sketchbook plays a vital role in providing evidence of students' critical engagement with the process and product of their working practices.

The sketchbook can provide evidence of the decisions made about the adopting of a research approach, the range of research sources used, the reasoning behind decisions to adopt or reject certain influences, academic references, and so much more. Although the creative artefact may be the ‘main mode of expression’ (Williams, 2013:250), it is unlikely to offer enough evidence of Critical Thinking, creative praxis, or critical practice, without the testimony offered by the sketchbook.

Critical Thinking for Art & Design students involves a making of relationships between one’s own being, fragments of the past (be they material, historical, or philosophical), contemporary trends and an imagined future⁶⁹. Each student is asked to make their own path forward, progressing their making skills, their communication skills and their thinking. Each student makes their own localised construction of knowledge, one that is likely to refer to, combine and bastardise constructions of knowledge made by others⁷⁰. For example, *Kelly* told me their work, and especially how they made connections between and within different strands of their work, was influenced by reading Barad (2007) and ideas of entanglement and intra-action. One of *Kelly*’s sketchbooks related to an installation piece that she had recently completed and exhibited. Although the work was their own, *Kelly* was keen to emphasize the influence of others, both through the research reading that *Kelly* had carried out and through the collaborative work that took place with other practitioners. *Kelly* had been reading Deleuze and Guattari, Joseph Beuys, Matthew Barney and Michael Ondaaite. Ideas from these books were “very important” (*Kelly*, 15’30”) but the influence of these writers “is an osmosis rather than a carrying on of their ideas” (*ibid*). *Kelly* also referred to making that she did with a glassblower and insights into spatial awareness gained from talking to a friend who is a painter. These various influences help create a “rhizomatic exchange of information and knowledge [...] and I think the work is inhabited by those invisible, hidden processes” (*Kelly*, 23’02). Although students often attempt to offer a detailed explanation of the influences on their work through their sketchbooks, to fully understand and

represent all of the complexities concerning their creative processes is impossible. Many of the influences form part of an alogical, ever-changing narrative tapestry that even the best psychologist could not fully unpick.

Most, if not all, of the students that I spoke to were engaged in the formation of new knowledge constructions – they were working at the edge of what they knew and were aiming to make something new, something original, something that did not already exist. They were working with pre-existent ideas but were synthesising them in ways that were unique. Runco (2014) offers a view of originality that links new ideas to pre-existing ones. This ‘associative theory’ (Runco, 2014:11) shows how ideas are ‘chained together’ (*ibid*). The new idea or form is more than a simple mirroring of what already exists; by being an extension of, or development from, what came before it goes beyond what already exists, while remaining connected to it. The students at the college that I spoke with had to produce work that fell somewhere between being derivative and being so radical that it was unrecognisable as an artwork. In a Kuhnian (2012:10) sense, they were involved in a form of ‘normal science’, filling in possibilities for what an artwork (painting, graphic design or photograph) might be in contemporary culture, helping complete a mapping of alogical possibilities into logical actualities⁷¹. For me, one of the joys of working in Art & Design is watching and helping students learn to find a path through a territory that seems to consist of dichotomies and difficulties. They manage to create resolutions between art and science, objectivity and subjectivity, tradition and originality, ambiguity and surety, the alogical and the logical... and so much more, as they map out their own educational journey.

Enstrangement

Shklovsky’s (2015:162) ‘enstrangement’⁷² is a term he coined to try to explain how art has the capacity to increase ‘the duration and complexity of perception’ (*ibid*) through making ‘the world strange to us’ (Goldman, 2013:online). Art, Shklovsky believed, has the power to stop and hold us,

⁶⁹ Relations could be made here to Barad’s (2007:90) ‘ethico-onto-epistem-ology’, whereby the constituent concepts and practices are ‘not separable’ (*ibid*).

⁷⁰ Benjamin (1999) and Agamben (1994) have both written about extracting quotations from another author’s text. Agamben (1994:104) says ‘Benjamin, who for his entire life pursued the idea of writing a work made up exclusively of quotations [a feat achieved by Rawle (2005)], had understood that the authority invoked by the quotation is founded precisely on the destruction of the authority that is attributed to a certain text by its situation in the history of culture’... and ‘Alienating by force a fragment of the past from its historical context at once makes it lose its character of authentic testimony and invests it with an alienating power that constitutes its unmistakable aggressive force’ (*ibid*). In short, when you use a quote from someone else’s work you are as likely to break their work, as accurately represent

it. Dickinson (2014:408) explains that, rather than the extracted quote, what Benjamin really liked was a collection of another writer’s work, as they are ‘that which binds us to the past better than anything else in our modern world could’.

⁷¹ Kuhn’s book was mostly concerned with the progress of science, but he did offer a relational interpretation of art making: ‘some of the notorious difficulties surrounding the notion of style in the arts may vanish if paintings can be seen to be modeled on one another rather than produced in conformity to some abstracted canons of style’ (Kuhn, 2012:207)

⁷² Berlina (2015:153) uses ‘enstrangement’, with the first n in bold, to ensure it is not misread as estrangement.

to give us time to think, to really see - 'The goal of art is to create the sensation of seeing, and not merely recognizing, things' (*ibid*). Shklovsky (2015) explains how an author, Tolstoy, uses the device of estrangement to describe the practice of flogging. In places, Tolstoy describes the practice of flogging without giving it a name. The reader is drawn into an extended description of the process that positions the reader as if it were their first encounter with the concept – they are made to consider the lived experience of being flogged, rather than the shorthand technical term that signifies a set of practices. A similar, perhaps stronger, call for a process of estrangement is enacted when Hosken (1993:192) describes in graphic detail processes associated with what she called 'Female Genital Mutilation' (FGM)⁷³. Calling the practices FGM distances a reader from the exactitudes of what is involved; calling the practices Female Genital Mutilation utilises persuasive language by equating the cutting that takes place with maiming or disfigurement. Using the term in full, rather than in shorthand, confronts the speaker or reader with the full impact and implication of the phrase. The report itself also uses detailed descriptive language, personal testimony and medical terminology to help the author convince the reader of the power of their argument by confronting them with procedures that are written about in ways that are meant to shock and keep the reader focused on the brutality and manipulative elements of the practices, as argued by the writer. The reader is not encouraged to take a position of objective distance, they are held in a state of subjective estrangement, unable to move on from the shockingness of the representation of the cultural practices.

Taking the idea of estrangement from the literary⁷⁴ to the visual, and thinking not only about ways that an audience can relate to art, but also about ways that an artist (or art student) can relate to their own practice, why might the concept of estrangement be useful in understanding art making and sketchbook practices? Critical Thinking concepts tend to stress a sense of purposefulness through systematically assessing and evaluating knowledge (Paul, 1995). This can bring with it a sense of closure or finality - something has been analysed, understood, and its worth has been determined in a given context. There are elements of convergent thinking and problem solving at work, associated with both Critical Thinking and creativity, as one moves forward in a search for, or determination of, meaning. But this form of knowing, after the initial frisson of excitement brought about through the creation of knowledge, can somewhat reduce the

level of interest that the knowledge holds for the knower – the secrets have been given up and there is a sense that one should move on - or, perhaps, another way of seeing it is that the foundations have been set for building one's thinking at a higher level. But Art & Design students do not always want or need to move on or up as they go on their educational journey. In a Kuhnian (2012:10) sense of doing 'normal science' and filling in the gaps of knowledge possibilities that are created through shifts in thinking, they may want to go back to a starting point and rework an idea many times over. They may want to explore possibilities, make sideways moves, play with an idea like a cat plays with a mouse, pushing it in this direction and then that, almost letting it get away before pulling it close again. A quick, clean dispatch is not required, what is needed is extended play and practise. Iterative processes and generative thinking can help to make the most of an idea, to fully explore its possibilities, to help build a body of work, and to sustain one's practice over time. Keeping something strange, as Goldman (2013:online) says, can help to 're-see everything around and within me'.

In the shorter term, as part of a student's divergent thinking processes, it can be useful to make multiple versions of an idea to ensure that it is explored in different ways (Koranda, 2015; Runco, 2014; Bleakey, 2004, Fasko, 1999). This is an approach also championed by awarding bodies, such as UAL (2019a). Photography lecturer *Billy* (13'03") explained how, having moved from one awarding body to another, "UAL is all about process and if there is not a conclusion it doesn't matter, so it is now more about documenting, trying things and evaluating [...] and building up a body of work. It is about experimentation at the end of the day". There is an expectation that before a student moves onto convergent thinking there is an extended period of divergent thinking. Estrangement can help keep the process of divergent thinking, or ideation, going by making what we think and draw strange to us – during divergent thinking drawings are created not as logical or alogical conclusions, they are possibilities or proposals made up from references to prior ideas and to companion drawings - they are reformulations and reconstructions and are often referent to other recent drawings. While the associative theory of creativity suggests that ideas are 'chained together' (Runco, 2014:11), this does not mean that thinking is deterministic, with each idea being reliant on the former and their being an imperative that leads an idea from inception to a logical conclusion – or an artwork from idea to completed form. Rather than seeing

⁷³ Hosken's (1993) writing could be seen as an example of social science research using an artistic approach.

⁷⁴ Estrangement takes on various guises, such as 'ostranenie' which is the term Shklovsky (1993) used in the original Russian; Shklovsky is also accredited with 'defamiliarization'; parallels are drawn between estrangement and Derrida's *diffrance* (Crawford, 1984) or Mukařovský's deautomatization (Lehmann, 2015).

the development of one's thinking or making as an anchor with a long, thin chain leading from and to it, I think it is better to see it like chain mail, with interlinked elements forming a web or field of knowledge. It is through the process of experimental, provisional, ideation that much Art & Design knowledge is produced. Ideation is a generative process that is central to sketchbook work. Being able to work with one's ideas, working them up, writing them down, drawing them out (literally and metaphorically), is more valued than creating a final piece. Enstrangement allows this to happen by helping us to see things afresh as:

Things that have been experienced several times begin to be experienced in terms of recognition: a thing is in front of us, we know this, but we do not see it. This is why we cannot say anything about it. Art has different ways of deautomatizing things. (Shklovsky, 2015:163)

Similarly, in the longer term, it can also be important for artists not to put aside or move on from an original idea too quickly; they can be nurtured, cherished and reformulated over time. For example, when the minimalist painter Robert Ryman started painting white squares in the 1950s, he would have had no idea that he would still be doing it up until his death in 2019. Ryman created series of paintings that explored different materials and elements of composition, but would 'return to previous ways of doing things to explore the ramifications of a change in procedure' (Storr, 1993:36), allowing him to understand 'the reciprocal influence of old ideas on new, and new practices on old' (*ibid*). For more than 50 years Ryman was able to sustain his love of, and interest in, his muse, the white square. The enstrangement that he maintained is in keeping with Shklovsky's claim that 'art is continuous astonishment' (in Berlina, 2015:156). Picasso also exemplified the spirit of enstrangement, both in his working practices and in the art that he made. The work that he made shocked because of the way he challenged traditions of single point perspective and broke up the picture plane. He too was found continual wonder in his own engagement with art practices, whether drawing, painting, sculpture, perhaps best summed up with the statement that as a child he could draw like Raphael, but it took him many years to learn to draw like a child (Penrose, 1981).

Enstrangement can be compared to the wonder discussed by Stengers (2011) which asks us to be surprised and to question. There are also relations to Ingold's (2011:63) 'world-in-formation' whereby:

the ordinary, the mundane or the intuitive gives cause for astonishment – the kind of astonishment that comes from treasuring every moment, as if, in that moment, we were encountering the world for the first time, sensing its pulse, marvelling at its beauty, and wondering how such a world is possible.

Ingold (2011:129) goes on to discuss the world-in-becoming and how we may have to keep redefining our relationship with it in a way that resonates with the participatory installation work that *Odell* was doing, discussed earlier:

Rather than thinking of ourselves only as observers, picking our way around the objects lying about on the ground of a ready-formed world, we must imagine ourselves in the first place as participants, each immersed with the whole of our being in the currents of a world-in-formation: in the sunlight we see in, the rain we hear in and the wind we feel in. Participation is not opposed to observation but is a condition for it, just as light is a condition for seeing things, sound for hearing them, and feeling for touching them.

Odell had to question the nature of the relationships between sound and drawing, and how these could be presented to and engaged with by an audience who became co-creators. Little was pre-existent; *Odell* had to work at the edge of what they knew, and beyond, to create their art works, what Manning (2015:45) might call 'intuition'.

I believe I saw and heard evidence of enstrangement when I spoke with students about their sketchbooks. *Nico* (2'35") told me about the importance of revisiting one's sketchbook to generate more ideas, saying "you may spend 5 months to 5 years to 50 years, but I don't think you can ever really, truly say you have resolved something" and "It is all the same body of work, it is all on the same idea, but there are always different avenues to go down" (02'45"). Final year BA student *Kelly* (20'10"), talking about their current sketchbook work and how they would gain inspiration from sketchbooks made at a different college during Foundation year, said "I don't have a linear trajectory, I am excited by things [...] this book is a conflation, a synthesis, of the ideas and the processes that I have come through". *Dane* showed me a sketchbook of quite technical drawings of a letter A for a font that was being developed from lettering in an earlier sketchbook. *Dane* (21'20") said "This is a typical sketchbook – I will have dozens of these on the go", and they often referred to other earlier and concurrent sketchbooks. As *Dane* spoke about their ongoing love of typography, and how they developed different versions of letterforms, I could sense the zeal they felt, informed by a sense of ongoing enstrangement that held their interest in their specialist field of study:

"typefaces are influenced by 2 major things: political thought and the tools by which they are made. [...] you have to produce shapes that people recognise, that makes it readable – and the way we physically read is we look at the outlines of the tops and bottoms of the outlines and we see the

outline of a word we recognise, we don't mess around with each individual character – so you are restrained within tradition – people will have to recognise stuff... but then, if you kind of bring in some political thought – and our thought these days is more eclectic, we sample stuff, then this face is a sampling of typefaces from the last 400 years, there are elements all over the place from Bauhaus right through to early Humanist fonts – it is all in there. And then the black letter one – this one - (pointing to one of the drawings in a sketchbook) - is taking blackletter to a place it has never been – this is unique, giving it a 3D element and that hasn't been done. It looks traditional to ordinary people, but there are subtle differences – so I have used calligraphic serifs and bracketed serifs at the bottom – so there is ever so much fine detail in there that would give a typographer a sense of 400 years of history." (*Dane*, 27'00")

Similarly, looking at some other sketches *Dane* had made, I could see four letter As that looked very different to me, but to *Dane* they were a closely related family that shared the same DNA. *Dane* pointed to similar underlying shapes and how one letter is an abstraction of another – to him they were highly relational, connected both theoretically and aesthetically – the forms come to him like a variation of a piano theme might come to Mozart – when *Dane* works a range of form possibilities it seems they are right there in front of them, they just have to write them down. *Dane* (48'10") described how the design was unlocked once the forms and relationships between only a few letters were solved – he could then resolve the rest of the typeface "quite easily". There is a kind of mathematical playfulness going on with *Dane*'s working process that keeps them engaged and makes them highly productive. The generative force behind their work seems to involve the reconstitution of a limited number of letter forms in near endless possibilities.

It should be noted that other students spoke less of sketchbook processes that might be aligned with estrangement and more about pragmatics and clear communication of ideas for others. For example, *Nico* constructed a sketchbook that represented a problem-solving and contextualisation processes that showed them moving toward project realisation. The sketchbook was not a site of practice for *Nico*, it was a record of practices that took place elsewhere. *Nico*'s idea came to them fully formed. *Nico* (07'45") told me "I feel that when I am influenced by something, I feel that I have got to do it, I have got to get it out of my system. That is what I am going to stick with... that is what works for me". This does not mean that the work was not creative though, as Bleakley (2004:469) states when discussing creativity as problem-solving, 'Usefulness, appropriateness, relevance and application are key notions in this discourse of instrumentalism'. In *Nico*'s case the sketchbook was a pragmatic way for them to offer evidence for assessment purposes. The actual problem-solving and decision making took place as the creative outcomes of the project (a series of paintings) were made. More can be read about *Nico* and their sketchbook when drawing is

discussed. The students taking a pragmatic approach seemed to be more strategic in their sketchbook work and were more likely to see the sketchbook as a tool for communicating working processes to a lecturer in a way that they might find accessible, with evidence of required outcomes offered in a structured manner. Rather than being entangled with their sketchbook, seeking states of immersion and flow, generating ideas within and through the sketchbook, these students tended to see the sketchbook as a carefully edited text that offered a mannered, sanitised version of their working processes. This kind of approach is discussed in more detail in the pedagogy and assessment chapter.

Further thoughts on drawing in sketchbooks as Critical Thinking

As I started this research, I knew that drawing had been a central element of Art & Design education (Addison & Burgess, 2007; McManus *et al*, 2010) and had been the *raison d'être* for the sketchbook. Was this still going to be true? Would I find that drawing still had real importance for the students I was going to meet? Would I find much evidence of drawing in the dispersed sketchbook and what forms might the drawing take in the digital age? After briefly laying out the importance of drawing in Art & Design and the importance of drawing in the sketchbook, I will go on to explore drawings relationships with Critical Thinking, the generative functions of the sketchbook, and how they relate to the storage and communicative functions.

The importance of drawing in Art & Design

Ingold (2011:177) claims that 'drawing is fundamental to being human', connecting it to gesture and movement across the ground – our actions leave 'traces or trails' (*ibid*), on paper, a screen, or in the wider world. Art & Design drawing, both the act of doing it, and its products, offer a superb way to communicate; Kovats (2007) in the title of her book, goes as far as calling drawing 'the primary means of expression'. Maynard (2005:230) sees it as 'an absolute necessity for modern life', arguing the 'modern world could not exist without drawing, since all the manufactured items of that world [...] must be drawn several times before they can be made' (Maynard, 2005:xv). Betts (2011:27) quotes Farthing, who professes drawing 'doesn't just belong to one discipline, profession or subject area, like writing, it is common property'. Across subject areas from architecture to zoology drawing is used for 'research, reflection, analysis, investigation and experimentation' (Betts, 2011:27). Horton (2015:1) sees drawing as a democratised practice that has particular meaning to artists:

We all draw. It would be virtually impossible at any stage in human history to find a person who had never scratched marks on a convenient nearby surface, or doodled, or made a diagram to explain something, or sketched a map to give someone directions, or idly trailed a stick through the sand. Beyond, though not necessarily above, such activities, the process of drawing has historically been central to the practice of artists.

Dash (2007:204) sees drawing as 'the most intellectual of the visual art disciplines'. Drawing enables Art & Design students to 'conduct inquiry and conceptualise their works' (*ibid*) in a way that is in keeping with the nature of the subject area and its close associations with visual literacy and visual communication. When someone is drawing, they are 'thinking with their hands' (Shillito, Scali & Wright, 2003:3). They are thinking through using their hands to inscribe lines on a page and they are using their hands to receive sensory data back from the paper (or other surface) and drawing implement. In his book, *The Thinking Hand*, Pallasmaa (2009:13) goes further in his writing, not just seeing the hand as a tool for the mind to control or to receive feedback from, but as a 'knowing entity' that 'has its own intentionality, knowledge and skills' (Pallasmaa, 2009:21). To some extent, Matisse would agree, but he sees the hand as a subservient being that must be educated and watched over:

'If I have confidence in my hand that draws, it is because as I was training it to serve me, I never allowed it to dominate my feelings. [...] The hand is only an extension of sensibility and intelligence. The more supple it is, the more obedient. The servant must not become the mistress'. (Matisse in Arnold, 2019:5)

Perhaps individual theorisation as an ongoing process of inquiry, and any early training that someone has been through, shapes different approaches to drawing, both in terms of what it is and how to approach it. I believe that drawing is a practice partially carried out by the hand, but also by the whole body – it is intellectual, it is creative, it is critically reflexive, it is autobiographical, and it is an embodied practice that creates an 'agential cut' (Barad, 2003:815) within the mind, body, hand, implement, paper, and other exterior phenomena. While a Cartesian cut may separate mind and body, the agential cut co-joins them to create new phenomena (Barad, 2003).

The importance of drawing in sketchbooks

The traditional sketchbook was, primarily, seen as a portable aide for making and collecting drawings made away from the studio. The artist, architect, or practitioner from another field of study, would observe a scene or object and make a representational drawing of it. This record could be referred back to at a later date. These kinds of practices are well documented in writings about artists (Kirwin, 1990; Bockemühl, 2000; Marder, 2018) and architects (Graves, 2005, 2012; Holm, 2005; Bartram, El-Bizri & Gittens, 2016). Sketchbooks are used in the studio as a reference

source, but also as a problem-solving tool. They are a site of practice for creative and critical processes to be worked on and worked through. Sketchbooks are a place where drawings can be stored and then used as a reference source, allowing them to inform other drawings. Sketchbooks also allow one to visually share ideas with another. All of these functions are important in Art & Design education. For example, Pearson's' (2020:online) advice to teachers and students says:

The acquired ability to draw, record and visually communicate what you see remains a fundamental skill in art and design. Your developmental studies and experiments are an integral part of the design cycle and will inform your final outcomes. All your research and developmental work should become a valuable and growing resource for you, stimulating ideas for assignments and aiding your development as an artist.

Gale (2020:online) reminds students that '[a]lthough a sketchbook is usually an informal, free-flowing document, it is important to remember that an examiner will pick it up and 'read' it in a short length of time'. So, as they work in their sketchbooks, there are multiple levels of engagement going on. Students are developing their drawing skills, students are developing their projects through their drawing, and the students are developing a communicative narrative for the sketchbook that makes working processes accessible to a third party. Adams (2013c:4) values the affordances that drawing offers to develop a range of thinking: 'cognitive and affective, convergent and divergent: analytical; reflective; interpretive; logical, deductive; imaginative, inventive; speculative, hypothetical'.

The drawings that students showed me tended to fit in with the development of a response to a project brief or assignment. Mostly, the drawings were part of their working practices and were often used strategically (Entwistle & Ramsden, 2015) to help evidence their engagement with their work (as discussed in the pedagogy and assessment chapter). Some other drawings I saw were part of one-day, or half-day experimental workshop activities, included in the curriculum to give students experiences with different materials, skills and approaches. Only a few drawings I saw could be classed as drawing for drawing's sake, or drawing for pleasure alone, where drawing is 'a way of being and doing that is not dependent on or even necessarily aimed at a fixed product or object' (Horton, 2015:3). These drawings may exist elsewhere, held in spaces that students decided to keep private, but I saw little evidence of them, probably because of the formal, educational and institutional nature of the research project that focused on their assignment work. One student, *Dane*, used drawing extensively throughout their sketchbooks, but for the other students it was a practice that was used, and was used purposefully as part of their divergent and convergent critical and creative processes, but was not *the* defining characteristic of their

being in the world. *Dane* seemed to draw multiple times every day. He had many sketchbooks full of drawings, and, even as the intrerview unfolded, drawings were made to elucidate points or show relationships between ideas. For *Dane*, drawing enhanced their relationship with the world and their thinking about it with an intensity that was not matched by the other students.

Dane's approach to research through drawing exemplifies Manning's (2015:63) concept of 'artfulness, [or] aesthetic yield', which 'is how the complex relation between intuition and sympathy comes into contact with a worlding that itself expresses the more-than of an ecology in the making'. The typeface that graphic designer *Dane* developed is an embodiment of personal aesthetic sensibilities, research, experience, and a projection into the future that sets up conditions for somebody else to intra-act and with a proposition for action offered by *Dane*. The initial drawings of lettering above were preceded by years of study and experience with writing, drawing, letterpress, and a multitude of other influences. In particular, recently, *Dane* had been closely studying the work of Herb Lubalin, and black lettering. As *Dane* started to develop a typeface for his final major show, previous experience, influences derived through study, materials and the act of drawing started to come together to offer ways for *Dane* to channel his research into and through his work. Drawing enabled *Dane* to synthesise strands of his research, giving 'form to notions that are otherwise imaginary; the act of seeing fuels the process of reasoning.' (Johnson *et al*, 2008:2). *Dane* had found effective ways to use drawing, ways that enabled drawing processes and thinking processes to become as one.

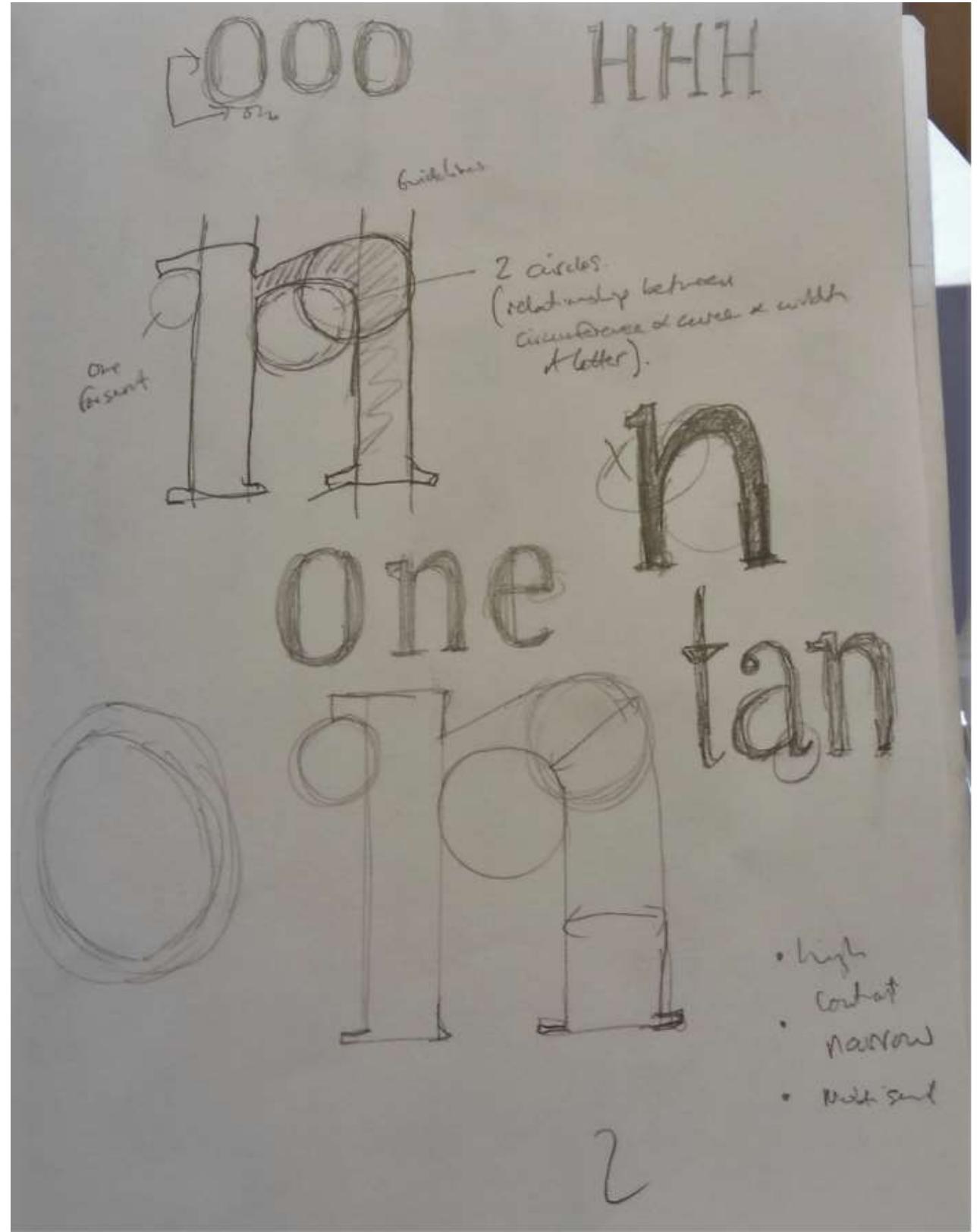


Fig. 35. Extract from one of *Dane's* sketchbooks (20'16").

Drawing with technicities

Technicities could be thought of as the ways that technical objects or systems operate in the world. Pencil and paper, or a digital drawing tablet and stylus, suggest, or 'afford' (Gibson, 1986) ways of working. Similarly, prescribed processes, traditions, classifications and techniques suggest ways of working. These ways of working can be thought of as technologies of production that exert power and influence over the ways that practices are enacted (Foucault, 1982). Fabretti (2011) suggests technicity should be understood as a form of instrumentality. The instrumentality Fabretti (2011:5) discusses is one that has allowed humans to "exteriorize" their memory into technological objects, which in turn are nothing but memory exteriorized'. Ideas are formed into technologies and the technologies are used to further form ideas and themselves. Although technologies are not fixed, and are open to development in response to changing conditions, they do carry a sense of power and permanence, they are used to organise, to rally around, to direct – the organisation of their form suggests a distillation and refinement that has a sense of rightness. Because they have coherent form there is a sense that they work, they will do work for us. Technicities suggest a 'complex tending-toward' (Manning, 2013:35), an impulsion to follow a trajectory, but they also allow for improvisation developed through technique (Manning, 2013). 'Technique and technicity co-exist' (Manning, 2013:32), informing each other as co-constitutive practices. Manning's (2013) technique and technicity offer productive readings when used with Foucault's (1982) wider technology conceptualisations:

'As a context, we must understand that there are four major types of these "technologies," each a matrix of practical reason: (1) technologies of production, which permit us to produce, transform, or manipulate things; (2) technologies of sign systems, which permit us to use signs, meanings, symbols, or signification; (3) technologies of power, which determine the conduct of individuals and submit them to certain ends or domination, an objectivizing of the subject; (4) technologies of the self, which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform I themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality.' (Foucault, 1982:online)

What arises from these intra-actions, I believe, are understandings of how practices develop within a 'meshwork' (Ingold, 2007; 2010). The meshwork is made up of lines of movement as we journey through life – some elements of the meshwork are made up of our own lines, some are those of other things that we intra-act with. Ingold compares some structured lines to those of the spider's web. The web is made up of 'the lines along which it lives, and conduct its perception and action in the world' (Ingold, 2010:12), they 'lay down the conditions of possibility' (*ibid*) for the paths usually taken. *Dane's* use of, or intra-action with, the technologies of the sketchbook and the pencil (and at other times the drawing tablet and the computer) shape the way they work. The

movements that *Dane* makes, the choices, the tendencies, the possibilities available, are made all the easier by the relationship that *Dane* has with the tools they use. The technicity and the tools and the *Dane's* techniques come together to provide routes through and extensions of the meshwork.

Ingold also writes of lines left as trails, created from 'wayfaring' (2007:81) as we move into new territories, forging new paths (or, for a spider, creating new webs), as we intra-act with the world-in-becoming. I am reminded of the desire lines that people create in urban landscapes, ignoring the paths that are laid out for them and instead creating their own paths, creating routes that reflect their own chosen journeys, rather than ones prescribed for them. The desire lines (Dorato & Lobosco, 2017) are a record of freedom of movement, but they are informed by reactions to the surrounding territory – the lines move around things, they maintain trajectories, they cross boundaries – they are the product of structural and agentic intra-actions. De Landa (2000:39) offers a conceptualisation of meshworks that has multiple layers of mesh with 'an interconnection of diverse but overlapping elements' that allow them to 'interlock' (*ibid*). In relation to Deleuze's (1987:63) 'superpositions', the layering of the meshworks could be thought of as superimpositions, with layers of mesh stacked upon each other. De Landa (2000) sees a biological ecosystem as an example of an interlocked meshwork, with animals and plants of different species reliant upon each other, with their different layers of mesh connected in so many ways. Returning to a student, like *Dane*, as they use a technology (be it pencil, pen, mouse or stylus), they intra-act with the technicities of the technology of production and they use/develop their technique through engagement with the technology, trying to enforce will upon it, while also learning empathy with its tendencies and limitations. This, in the ecosystem of an educational setting, will take place within technologies of sign systems and technologies of power that intra-act with technologies of the self (Foucault, 1982). While the student draws, their actions are responses to assignment briefs, the direction their project is heading in, deadlines, tutor expectations, the work of peers, lighting, heating, art theory, technologies, and a myriad of other factors. Drawing is a form of becoming, an emergent practice that synthesises materials, theories, cultures, agencies and intra-actions into marks on a ground, collapsing possibilities into actualities as it proceeds; leaving a trail as it moves forward.

I want to offer an example of technique and technicities coming together to co-constitute practices. *Nico*, a painter, had an annotated photocopy of a couple of pencil sketches toward the

front of their sketchbook. These were the only drawings that they had created themselves and included in the sketchbook as evidence for the associated project. The other visual imagery in their sketchbook were paintings they had made, photographs they had taken, and images of other artists work they had collected as part of their contextual research. The two landscape sketches showed views from *Nico*'s studio window (a studio away from the college). Just to be clear, I want to establish the nature of these images in the sketchbook. They had been drawn in a different, private, sketchbook (what *Nico* (08'40") called their "doodle book") and had then been photocopied. The photocopy was then glued into the sketchbook that *Nico* showed to me. Then annotations were added to the drawings to help clarify a working process that would lead to a series of sixteen triptychs of landscape paintings. These two drawings were actually made toward the end of the project, after the paintings were completed. They were added to the sketchbook, and placed strategically, to help offer a narrative that that they thought was in alignment with what the course assessment processes wanted (this kind of strategic back-forming (Massumi, 2002) is discussed in more detail in the pedagogy section).

I would argue that *Nico*'s two sketches in various ways met all three of Graves' (2005) types of drawing. These drawings had the appearance of being 'referential' (Graves, 2005:236) sketches. They were abstracted, reductive, interpretations of the view from *Nico*'s studio window. They appeared to refer to a primary experience *Nico* had had in the past, at the start of the project (although they were really a sketch of an experience *Nico* had had in the past, but at the end of the project, although they referred to a, and many, experiences that *Nico* had had in the past before the project started, at the start of the project, and throughout the project). Graves' (2005:236) 'referential' sketch has parallels with Adams (2014:3) 'drawing as perception', that:

assists the ordering of sensations, feelings, ideas and thoughts. The drawing is done primarily for the need, pleasure, interest or benefit of the person doing the drawing. It might enable them to develop observation and interpretative skills to investigate and understand the world. (*ibid*)

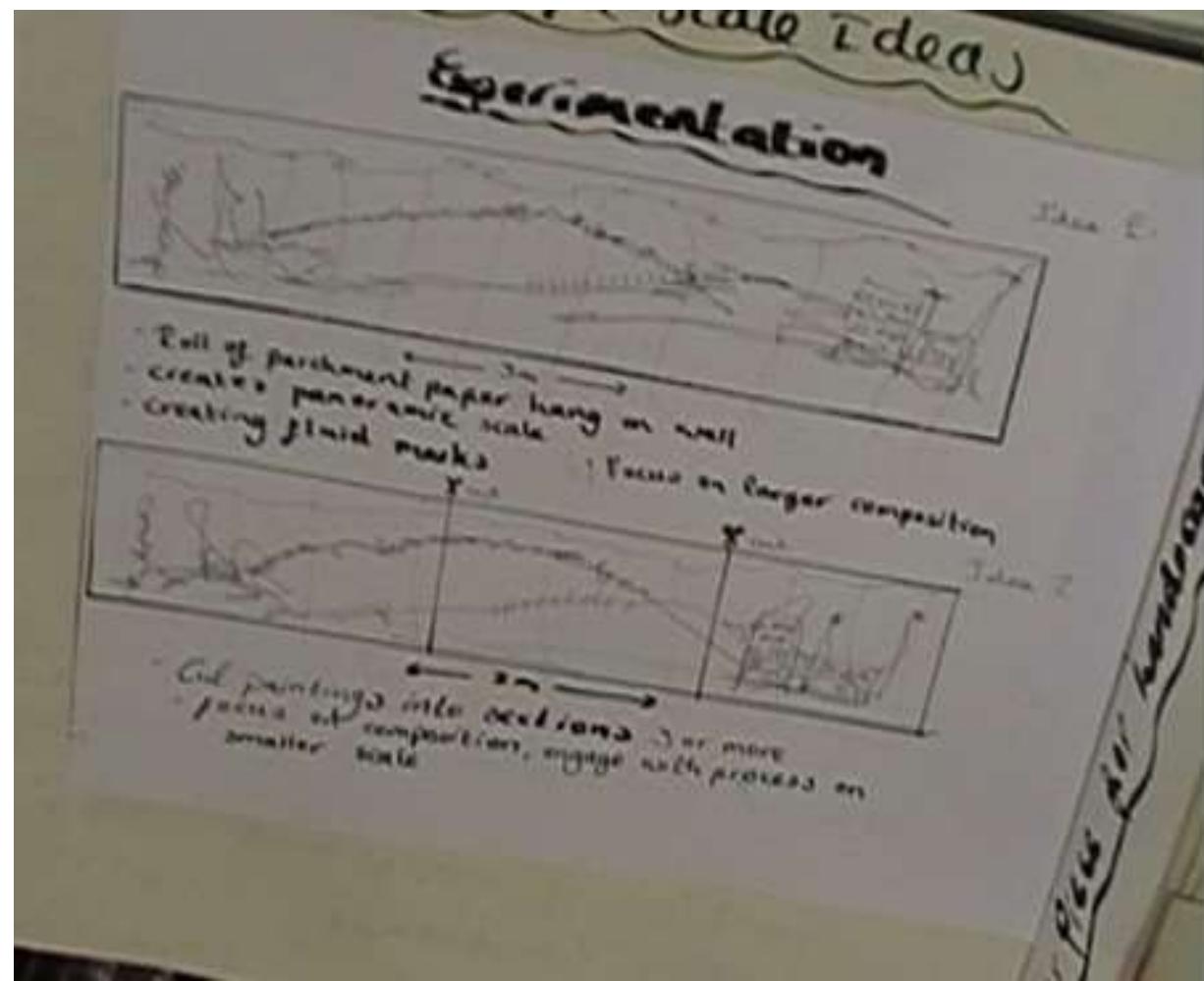


Fig. 36. Photocopied and annotated landscape sketches of views from *Nico*'s studio window (21'54").

Referential sketch	<p>'a shorthand reference that is generally fragmentary in nature, and yet has the power to develop into a more fully elaborated composition when remembered and combined with other themes' (Graves, 2005:236).</p> <p>'It goes without saying that what the artist or architect chooses to draw, using his sketchbook as a record of observation, reveals the examination of his artistic conscience' (Graves, 2005:237)</p>
Preparatory drawing	<p>'This type of drawing documents the process of inquiry, examining questions raised by a given intention in a manner that provides the basis for later, more definitive work.' (Graves, 2005:237)</p> <p>Preparatory studies 'produce variations on themes and are clearly exercises toward more concrete architectural ends. As such they are generally developed in series, a process that is not wholly linear but that involves the re-examination of given questions' (Graves, 2005:237)</p>
Final study	<p>'This is the drawing that becomes final and quantifiable in terms of its proportion, dimension detail—indeed in its complete compositional configuration.' (Graves, 2005:240)</p> <p>'The drawing becomes an instrument to answer questions rather than to pose them.' (Graves, 2005:240)</p>

Table 2. Graves' (2005) three types of architectural drawings⁷⁵

Representation of a thing in the world through drawing involves abstraction from the thing into an image of the thing. Abstraction, in this sense, means a translation into another language; a changing of form, while still communicating essential features. Entwistle & Knighton (2013:10) see this form of abstraction as 'editing out detail to emphasize'. What is considered essential is context specific. For example, *Nico's* drawing of the scene from their window could have emphasised clouds, people, the light, colour, the mood of the scene, *Nico's* mood, or any/many other things. Although the sketches appeared to be abstracted representations of the view from the studio window, this was only a vehicle that carried the real nature of the work. *Nico* (44'40") told me that one of their major concerns was experimentation with mark making. Perception is not neutral, we perceive what we focus on, we see what we want to see - we not only construct

meanings for what we perceive, we select what is perceived (Simons & Chabris, 1999; Adrienko & Adrienko, 2006). McCullough (1996:37) develops this line of thinking, stating 'abstraction means that vision is not just sight [...] the difference is that visual abstraction is active, imaginative, adaptable – and above all else, *generative*'. Hockney (in Entwistle & Knighton, 2013:10) said 'we always see with memory', bringing our previous experience to bear on what and how we see. Drawing, according to Adams (2013b:2) 'links the inner world of memory and imagination with the outer world of lived experience and objects'. As we draw what is exterior to us, we also bring to bear our inner selves. Holm (2005:26) believes 'the value of drawing lies in the merger of the observed and the imagined. One not complete without, and is equally dependant upon, the other'. This is in line with Arnheim (1997:153), who celebrates ways that the mind and the senses work together, in harmony: 'The thought elements in perception and the perceptual elements in thought are complementary. They make human cognition a unitary process'. So, the relationship between drawing and perception is not a simple translation into another language, it is an interpretation, a (re)vision, a (re)presentation in a new context that carries and communicates new meanings through its form and authorial intent. The authorial intent with *Nico's* images was not to deceive, but to help tell a story – the two sketches played the role of the preliminary, referential sketch.

Nico's images, in their role as 'referential' sketches (Graves, 2005:236) could also be related to Adams' (2014:2) category of 'drawing as invention', that:

assists the creative manipulation and development of thought. This is where you cannot think the thought until it is made visible and accessible, capable of change and manipulation. Ideas are at an embryonic stage, unformed or only partly formed at the beginning of the process of drawing. Ideas take shape when the drawer experiences 'reflexive oscillation' between impulse, ideas and mark, receiving feedback from the marks appearing on the page, which prompt further thought and mark-making (Witkin, 1974). Usually the drawing is one of a series, where ideas are explored, repeated, refined, practised, worked over, discarded, combined, where alternatives are sought and alternative possibilities explored. (*ibid*)

'Visual thinking is greatly facilitated by representational procedures such as drawing' (Tovey, Porter & Newman, 2002:139) and drawing is facilitated by visual thinking. These two statements suggest that the act of thinking may be preceded by drawing, or that the act of drawing may be preceded by thinking. Thoughts may be expressed and communicated through drawings, and drawing may prompt thoughts. Thinking about drawing in these ways separates drawing and

⁷⁵ Although *Nico's* drawings were not architectural in intent (which is Graves specialism), they are of a style that is commensurate with architectural site context sketches and Graves' (2005) model has utility in explaining the complex nature of the images and their role in the sketchbook

thinking into two distinct practices - for example, a drawing may be an attempt to 'reproduce the designer's mental image' (Tovey, Porter & Newman, 2002:137) on the page, as if drawing is like downloading a thought and cleaning the slate of the mind, readying the mind for more design development. The image on the page can then become a prompt for further thinking. Although there is some merit to thinking about the relationships between drawing and thinking as a think-draw-think-draw-think process, I do not feel it properly captures the co-joined process of mind, body and materials working together, in process. Yes, drawing can be procedural and utilitarian, but it can be so much more. Drawing combines creativity and Critical Thinking in a creative praxis or critical practice. The act of drawing is a nexus. As the point of a pencil scribes a path across a page it is connecting theory and practice, the virtual and the actual, the thought and the made – the past and the future join in an emergent present. Ingold (2011:178) writes:

...we realise that whatever theorists and historians of art may have to say about it, the practice of drawing has little or nothing to do with the projection of images and everything to do with wayfaring – with breaking a path through a terrain and leaving a trace, at once in the imagination and on the ground, in a manner very similar to what happens as one walks along in a world of earth and sky.

Drawing offers a sense of openness and opportunity. There may well be a sense of direction in mind, but with action there are possibilities. The inventive process, in the way that Adams (2014) describes it, is a generative process. Drawing does not just replicate what is in the mind, and drawing does not just offer the mind visual data to reflect upon – drawing creates, it is 'more than' (Manning, 2015:47) its constitutive parts. The act of drawing is a way of being in the world. Manning (2015:47) explains that 'to act is to activate as much as to actualize'. In its most basic form, activation can take place when doodling. Doodling is an example of drawing promoting thought, whereby the act of doodling can act as a catalyst for thought, without it necessarily having a direct link to the thinking that it facilitates - and when thinking about *Nico*'s drawings, they did tell me that this project had some origins in their 'doodle book' (*Nico*, 08'40") but did not originate as these sketches. *Nico* had actually been experimenting with painting, directing into their doodle book and on larger sheets of paper (a few of which were folded and put into the sketchbook that was shown to me (and to the lecturers). When carrying out more complex forms of drawing, perhaps series of them for a project, or over a number of projects, drawing can be seen as a, even the, major form of research practice that Art & Design practitioners carry out (Kovats, 2007). In this instance, *Nico* carried out a series of paintings, which became the preparatory work and the final work. There were no drawings made until after the paintings were completed, but *Nico* still felt the need to add drawings later that represented 'drawing as invention' (Adams,

2014:2). *Nico* had decided to translate an actual inventive painting process, into a simulation of that process. The drawings hint at the experimentation that will take place (although they have actually already taken place); they have collapsed and 'back-formed' (Massumi, 2002:7) the actuality of more than sixteen painting experiments into two drawings. The sketches sum up, rather than preface, the invention that took place, but they do communicate some of the nature of the invention.

The two sketches also act as 'preparatory drawings' (Graves, 2005:237), showing *Nico*'s ideas for how the paintings would progress in their transformation from a view from *Nico*'s studio window to a triptych on the studio wall during the end of year show. The higher sketch proposes one large landscape image being made of the view. The lower sketch of the two (suggesting after, in procedural terms – a further developmental stage), has the addition of 2 vertical lines, superimposed over the sketch below. These two vertical lines had two relational purposes. They showed where a large piece of parchment paper, which would carry the painting of the whole scene, would be cut to transform the painting from one large image into three smaller ones. They also alluded to the divisions in the view from the studio that were created by the window frame through which *Nico* took in the scene. Graves' (2005:237) 'preparatory drawings' have parallels with Adams' (2014:3) 'Drawing as action' categorisation, that:

helps to put ideas into effect. These drawings form a bridge between the realm of the imagination and implementation. Drawing for design can be the conceptual sketch or it can be a detailed specification. It is only at this late stage that technical drawing needs to kick in, when the drawer has to understand how to construct the environment or how to manufacture the product, and perhaps convey that information to someone else – here, accurate measurement and clarity of presentation are important. The intention is not just to focus on the content of ideas and proposals, but also to put them to the test and see how to put them into effect – plans, patterns and templates, for example.' (*ibid*)

Adams (2014:3) conceptualisation of 'drawing as action' can be equated with ideas of convergent thinking (Cropley, 2006b) and the problem-solving aspects of creativity (Brophy, 1998) (discussed in the creativity chapter). The focus of intent has shifted from inception to realisation, from the rough sketch to the working drawings. The vertical lines add a technical element to the drawing, as do the addition of the annotations. Because *Nico*'s drawings are actually for the lecturer, as part of the narrative of the project, rather than for *Nico* themselves as part of their actual creative process, the drawings have a strong communicative function.

Nico's drawings, because they have been made after the event, and because they are the only drawings that appear to make a visual plan for the paintings, could also be considered as Graves' (2005:237) 'final study'. Although the evidence of detail concerning the final resolution of the project is limited (through both image and text), the drawings were made with full knowledge of the project that had preceded their construction. These were not speculative drawings made at the start of a project, they were highly informed drawings that captured the essence of what *Nico* wanted to communicate. Placing the drawings in the sketchbook, so that they communicated a sense of the project direction to lecturers, fits with and Adams' (2014:2) category of 'drawing as communication'.

Drawing as communication is that which assists the process of making ideas, thoughts and feelings available to others. Here, the intention is to communicate sensations, feelings or ideas to someone else. It is likely that certain codes or conventions will be used so that the viewer will be helped to understand what is being communicated. It might be for an unknown audience. It might be to support group interaction, discussion or other learning activity. The key thing is that the viewer needs to understand the codes or conventions that are being used. (*ibid*)

The communicative function of drawing sees drawing as a language. Although the communication might seem didactic at first, flowing in one direction from the image to the audience, it also offers a prompt for feedback from another person. For a language to work effectively it helps if all parties using it have, or can develop, shared conventions⁷⁶ for the meanings of the symbolisms used (Pinker, 2007). *Nico's* use of annotations next to the drawings helps them communicate salient points to the lecturer. Without the text the meanings of the sketched drawings may not have been so easy to read – although the lecturer would have been aware of what *Nico* was doing with their project through tutorials and through seeing their work as it developed. Perhaps accommodations were being made for assessment practices that would include people, like moderators or external examiners who would be less familiar with *Nico's* work. I suspect assessment practices have a strong influence on the whole educative process, sometimes with, and sometimes without, students being aware of how much assessment shapes their practices (Davies, 2000; Entwistle & Ramsden, 2015).

Drawing in-the-now

Through her reading of Spinoza, Ravven (2003:9) reports on a view of the mind and body as 'overlapping and integrative rather than modular', whereby drawing as a practice, mind and body work together to create images. Drawing can be conceived of as a unified or unifying process, an enactment of an agential cut that brings together the mind, the body, materials and understandings of a 'world-in-formation' (Ingold, 2011:28). Manning might see drawing, both process and what is produced, as 'coming-into-formation' (2015:49) or constantly being 'in-formation' (Manning, 2013:20). Manning believes 'becoming is not pure continuity' (*ibid*); 'a body does not evolve according to a past becoming present becoming future' (*ibid*) - things (choices, processes, objects) are not predetermined, there are continual options available for action in-the-now, or *hic et nunc* (here and now), although that term has a sense of permanence and stillness that Barad (2007) and Van Der Tuin (2014) would probably not approve of. But, as one is enacting agency through drawing, constantly making decisions about how a line might progress in-the-now, there is also a connection back to what has gone before. The drawing builds upon itself, it builds upon the conditions of its becoming. Each drawing is affected by its own technicity, by the internal logic, or alogic, that shapes it. There are also histories and traditions of drawing that act as technicities, influencing how we enact our agency. If the moment of drawing, as the medium is transferred onto the ground, has a sense of freedom that is expressed as 'improvisation' (Manning, 2013:35), then it must also be taken into account that the freedom to improvise is informed by a range of technicities and enacted through techniques. Structure and agency come together to form in-the-now as-the-now. By as-the-now I mean the confluence of all things that are relational to the act of making the mark in the moment of its making and the exclusion of everything else.

⁷⁶ I would argue though, the effect of a drawing can be enacted without the audience necessarily understanding *all* the codes and conventions used. McCloud (2014), quite brilliantly, explains the codes and conventions of comics, showing, for example, how meanings about time are encoded into comics: through drawings within a panel read from left to right; with the addition of text that stands in for sound, adding an extra temporal element that denotes a length of time; through the use of panels within a page, that 'acts as a general indicator that time or space is being divided' (McCloud, 2014:99); through the shapes of individual panels and how they relate to panel shapes that precede and proceed them; through linear and non-linear motion represented through series of panels; through the nuanced use of guttering between panels; or the dissolving of time through the removal of panel borders. McCloud lays out the

codes and conventions used in comics in an explicit fashion, but without having read his book, readers from a young age can still engage with comics without understanding all the conventions. Tacit forms of knowledge (Polyani, 2009), developed over time and translated into new situations, can be deployed. Many of the skills used are transferred from earlier learning situations, like the habit of reading from left to right in Western culture, or the recognition of objects through drawn representation conventions like the use of outlines. So, when drawing, or when looking at someone else's drawing, there is a tendency to use cultural conventions to give meaning to a drawing, or read meaning in a drawing, but all the meanings may not be realised. Technical drawings are more likely to have explicit conventions, while more idiosyncratic, individual drawings may rely more on tacit knowledge and be more open to interpretation.

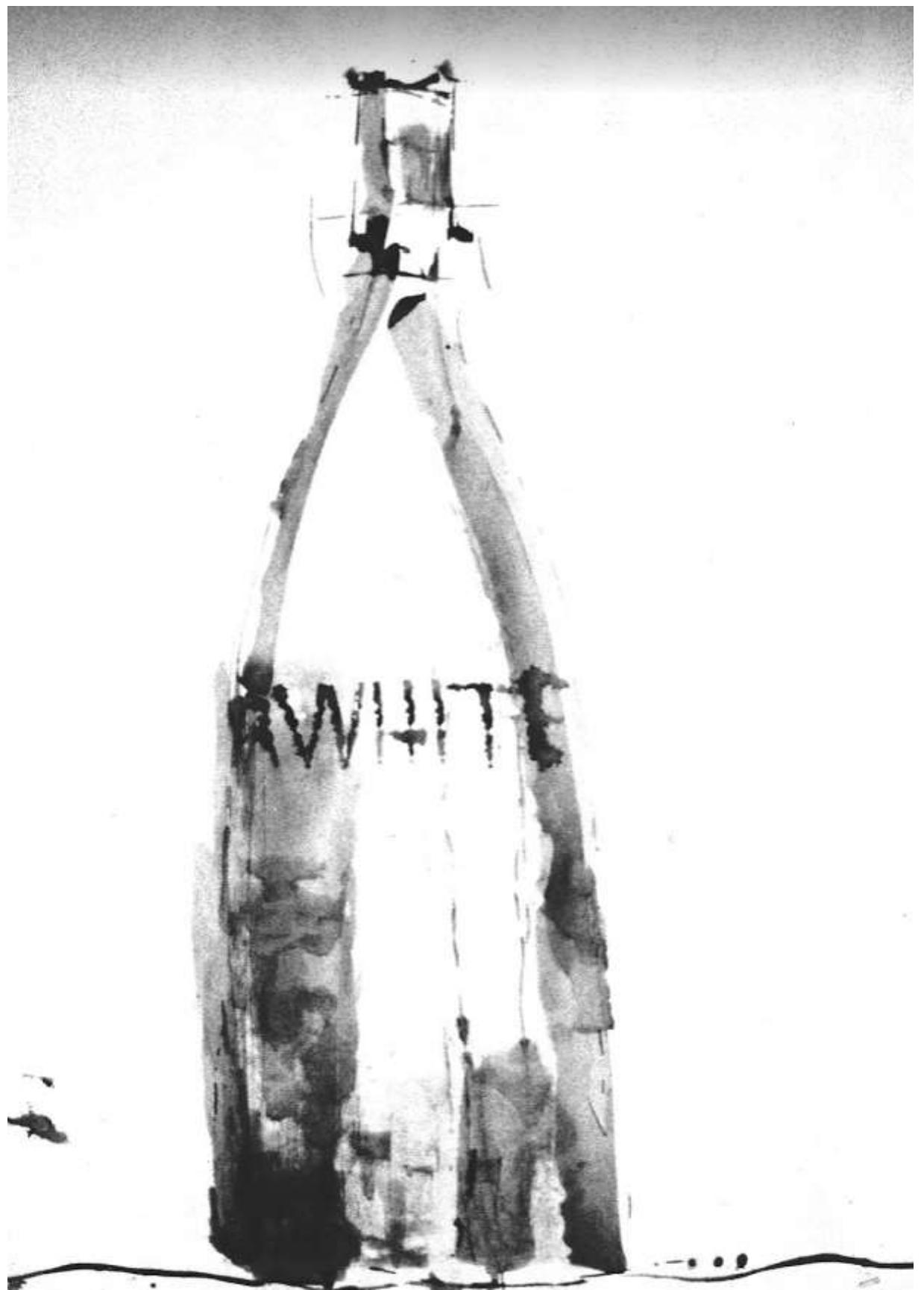


Fig. 37. *Lemonade: Nothing is still in a still life*. Simon Webster (1997).

I would link drawing as-the-now to 'flow' (Csikszentmihalyi, 2014:136), where the person drawing acts with 'total involvement' (*ibid*) and the 'the merging of action and awareness is made possible or a loose leaf, has limited dimensions suggested by the paper size; it asks the interlocutor to work by a centring of attention on a limited stimulus field' (Csikszentmihalyi, 2014:139). The sketchbook can be used as a tool for limiting the stimulus field; for example, a traditional paper sketchbook, on or within the page. A pencil or pen, for example, in combination with the tooth of the paper and the variable forces applied by the person, creates heuristic, haptic feedback that concentrates attention on the emergent line. The physical act of drawing (or throwing a pot, or knitting) creates a sensory field that can reinforce and sustain the sense of flow. A related, but different affect can be felt through engagement with digital technologies. The screens of computers, tablets or smart phones do not offer the same kind of differentiated haptic experience as a pencil on paper (although some drawing tablets are starting to come close), but the visual stimuli and unfolding narrative that can be entered into via digital technologies are things that seem to set up the same characteristics of flow, like loss of a sense of time, loss of self-awareness and a balance between skills and levels of challenge that Csikszentmihalyi (2014) identified as conditions of the flow state.

Thoughts on drawings of chickens and eggs

Dillon (1998:101) explains 'Bounded Rationality, also known as Limited Rationality', as the constraints that shape the actions that people take. The central tenet is that 'humans have limits which they cannot exceed' (*ibid*). This generalised view of human decision-making is, I would argue, not in keeping with ways that Art & Design students think and act. I believe the students that I have met during this research project, and many of the others that I have met over my years of teaching, are more in alignment with Manning's (2015:50) view that we can 'think the more-than', rather than the bounded or the limited. Manning (2015:51) goes on:

Instead of immediately turning to form for its resolution, it can ask how the techniques of relation become a conduit for a relational movement that exceeds the very form-taking art so often strives toward. Instead of stalling at the object, it can explore how the forces of the not-yet co-compose with the milieu of which they are an incipient mode.

In short, and accepting much of Manning's nuance is stripped away, thinking and making strive to reach beyond form to make more complex meanings in, and of, the world.

Drawing can have logical progression, drawing can be an adjunct to ordered thinking, but it can also go beyond that. First, I will offer some argument for drawing aligning with order and logic, then I will suggest ways that it can go beyond. O'Neill (2013:296) says of observational drawing in

a sketchbook. 'In effect, it is a gathering of empirical data about some aspect of the world rendered visually'. Berger (in McManus *et al*, 2010:18) allows for more autonomy: 'drawing... forces the artist to look at the object in front of him, to dissect it in his mind's eye and put it together again'. But there is still an expectation here that drawing is a representation of an external thing and therefore proceeds it. There can be a suggestion that drawing follows thinking: 'Sketching has been regarded as a primary means of externalization for creative processes in the early stages of design' (Yamamoto *et al*, 2006:1). Adams (2014:1) offers an interpretation of drawing that allows drawing and thinking to intra-act, in the moment:

Artists and designers draw to help them grasp hold of an idea and give it some kind of form in order to work on it. They draw to organise thoughts, to explore a hypothesis, to consider alternatives and shape up possibilities. Drawing allows them to experiment, to develop, refine, test out and modify their thinking, to solve problems and visualise possible outcomes.

Graves (2005:235-236) suggests intra-action that goes beyond problem solving: 'Good drawing, by virtue of this intrinsic reciprocity between mind and act, goes beyond simple information, allowing one to fully participate in its significance, its life.' Gunn (2009:23) offers some explanation for ways that drawing may precede, rather than proceed thinking based on words: 'Drawing has the potential to generate and allow ideas to emerge'. Adams (2014:1-2) recognises this potential to generate by equating drawing with language: 'Just like words and numbers, drawing makes thought visible, accessible and capable of manipulation'. Thinking through drawing, rather than thinking through words, might mean, at times, thinking without words. Drawing, as part of visual language, can illustrate the language of words, but it can also be a language in its own right, forming its own structures, conventions, and dialects. Adams (2014:2) says:

'Drawing embodies personal expression, cultural understanding and creative responses to our world. It is about experience, ideas and making: making sense, making meaning, making things and making things happen.'

Making through drawing is a critically reflexive practice, whereby the mind and the emerging marks on the paper can intra-act. Thinking through drawing needs the mark on the page to fuel the thinking process, the marks on the page are a thinking process. Manning (2006:134) suggests we should 'consider that making is a thinking in its own right' and this places an emphasis on doing,

on an act of engagement that prioritises bodily intra-actions with materials as a way of developing work. Riley (2009:online) explains her confrontation with meaning making:

'For me, drawing is an inquiry, a way of finding out – the first thing that I discover is that I do not know. This is alarming even to the point of momentary panic. Only experience reassures me that this encounter with my own ignorance – with the unknown – is my chosen and particular task, and provided I can make the required effort the rewards may reach the unimaginable.'

Mark making, especially at the start of a drawing, when one is confronted with so much white space, can be daunting. Discussing our relationships with an object, Manning (2015:46) says 'We know it not in its fullness, in its ultimate form, but as an edging into experience'. If this describes the way we know something, like a chair upon which we are about to sit, then it must be an even better description for the way that we know something that we are in the process of creating. As one starts to draw, receiving feedback from the lines that appear on the page, confronting oneself with the possibilities for extension that the lines offer, forms emerge and are responded to. A process is worked through, even if that process can only really be understood after the drawing is completed (and probably, even then, only partially). There may be a simple line of trajectory from initial idea to completed drawing, but it is just as likely that during the process of drawing many influences, entanglements, of diffractions of thought will come into play. Richardson (2005) suggests writing is a method of inquiry, whereby one may not really know one's own thoughts until they have been worked out and worked through via a process of writing. Similarly, drawing enables us to work through processes of thinking.

Photographic images and the sketchbook

Clayton & Weisenthal (1991:116) argued that, although 'drawing is a highly sophisticated and successful way of recording ideas' and the practice should be 'preserved and reinforced', other forms of media, like photographs, audio and video 'add something to the collection of experiences and the formation of associations necessary to creativity' (*ibid*). The photographic images that I saw in students' sketchbooks during this project could be classified⁷⁷ under two headings: Photographic images created by a student, and photographic images appropriated by a student.

The thoughts that follow are indicative, rather than exhaustive, explorations of the use of

⁷⁷ As happened so often during my writing, I used a word – like classification – and then had to go and do some research into its etymology, meanings, usages and so on. In this instance I came across an interesting article by Garnett *et al* (2020) that offers a tale of arguments within the field of Biology about whether there already are, are not, or should be, an overarching set of principles regarding the classification of species. In my naivety I assumed that Linnæi (1753) had sorted this out. Although some think arguments about species classification are finalised, others claim that agreement on a classificatory system is temporary and provisional, awaiting replacement by a better system, as and

when it is proposed and accepted. This is in alignment both with the scientific method and with a 'spat' or 'stoush' (*ibid*). Another example methodological infighting! Writing while having access to the internet is both useful and distracting. I think it has an enormous impact on how sketchbooks (and this thesis) are being put together. There are so many more opportunities for folding in eclectic forms of knowledge – and for making a web of connections between them.

photographic images in student sketchbooks. The photographic images the students showed me were digital and/or printed. Sometimes, I found, the images that students took were kept on their device, thus using their camera, smartphone, or tablet as part of their dispersed sketchbook. The device, because of its onboard storage and screen, could help carry out the storage and retrieval, as well as the communicative, functions of the sketchbook. I also found examples of students storing their images in the cloud, or transferring them to hard drives, so that they could be accessed from there when needed. Students also transferred images into traditional paper sketchbooks and self-published sketchbooks.

Although only some of the photographic images in the sketchbooks that were shown to me were explicitly discussed in detail during the intrerviews carried out during this research project, and many nuanced meanings will have been unexplored at that time, I have been able to think about those images, and review video footage, since and want to offer some insights into the purposeful use of photographic images within the sketchbooks.

Photographic images created by a student

Photography has become 'ubiquitous' (Wells, 2015:xiii). Some of the students I spoke with were on photography courses and, therefore, taking photographs was central to their practice, but I found taking photographic images to be common practice whatever subject area was being studied. All the students I spoke to had a smart phone with a good quality camera and editing software built into it. Some also had a DSLR or mirrorless camera that they carried with them habitually. All the students had access to a wide range of cameras that they could book out from the college resources store. All the students I spoke with took photographs regularly and recognised the photographic image as being important to their sketchbook practices.

Photographs can be used as documentary evidence of engagement with primary research processes. In this role they still carry a degree of 'authority' (Wells, 2015:18). Many of the students I spoke with took 'descriptive photographs' (Barrett, 1986:41) of where they had been, what they saw, and what they have done. Taking photographs, often via their smartphone, allowed students to evidence trips to galleries, attendance at artist talks, attendance at conferences, or images of completed artefacts. Whereas, traditionally, a paper sketchbook, notebook or journal would have been the place for an artist (or architect, or botanist, and so on) to make a drawn record of phenomena that they encountered (Blaney Brown, 2012; Gittens, 2014), the camera, in

whatever guise, now often fulfills that function instead (Edwards,2008). For example, photography student *Harper's* project was based around making a travel brochure for a collection of North Cornwall villages. When *Harper* visited a town for reconnaissance, identifying possible locations for later, more formal, images that they would take, or when noting details about a hotel name or street name *Harper* would use their camera, rather than draw or write. *Harper* (06'35") said: 'when I go out for the day I solely photograph and I remember things in my head'. At the end of the day *Harper* would then transfer their photographs onto a hard drive and select some of those images to print and put in their paper sketchbook. Some of these images informed ideas about what images might be used in the final brochure, the others acted as an *aide memoire* and informed *Harper's* written notes about the village that would later become the text of the travel brochure that was being created via the online self-publishing site Blurb. Painting, Drawing and Printmaking student *Morgan* included photographs of completed experimentation with materials and processes in their sketchbook. The experiments were produced in workshop events carried out as a part of the course, but they were organised by the lecturers as part of the curriculum delivery and were not a planned part of *Morgan's* own project. The images were of two types. Some showed a wider view of a printing or painting experiment, including some contextualising background that made you aware of the studio setting where the image was taken. The others were close-ups, showing significant details of a particular experiment. The images were printouts from a networked photocopier; therefore, they had different (I would say inferior) qualities to an image printed on photographic paper. The images were originally printed and included in the sketchbook for a functional, rather than aesthetic purpose. *Morgan* told me that they had included documentation of their engagement with the workshops as they thought this would be important evidence for module assessments, but the photographs of the workshops had become important over time. *Morgan* (14'30") told me the workshops were "a beneficial experience" and "looking back on it, it does influence me". *Morgan's* recent work tended toward the neat and the exact, while the workshops *Morgan* has documented were, comparatively, loose and free. *Morgan* (15'12") told me that their personal style had taken a very "graphic" turn and the presence of the workshop documentation in their sketchbook reminded them of other skills they had which they did not want to "lose touch with" (*ibid*). The photographs offered a visual cue to *Morgan* that encouraged them to reflect on their working practices, they acted as a kind of check and balance.

Photographs are used as a secondary research text-gathering and storing tool. In my days as an art college student it was common for me to photocopy a chapter from a book, or article from a magazine, and then add it to my research file. Over time, I compiled many A4 ring binders full of articles and chapters, each read, annotated, and held in their own plastic pocket. During this project I found that students collected PDFs of articles where they were able, or bookmarked web pages, but when this was not possible they would use their phone to photograph pages of a book or to make a record of a magazine article that they did not have easy re-access to via PDF or bookmark. Collecting secondary research materials in this way prioritises immediacy over quality, as the photographs of articles do not have the same qualities as the source from where it was photographed. It is easy to make a quick record of some pages, and this may appear convenient at first, but reading a photograph of a book page on a phone is not easy. I did see evidence of photographs of pages from a book on a student's iPhone, which would mean the photographs were available on all their devices - importantly, those with larger screens. Optical Character Recognition (OCR) software is becoming increasing good at converting photographs of text into editable text and thus giving it a wide range of functionality (e.g. ability to word search). Through this conversion process the student would have made a new document that is not a photograph⁷⁸.

Photographs are used as evidence of creative practice processes. Students make photographic images of their working practices as they proceed with a project, capturing what they determine to be important stages of development. As discussed in the creativity chapter, HE Photography lecturer, *Ashley* worries that some of their students included too many images of procedural steps in their sketchbooks, rather than offering insights into the rationale behind the development of the work and critical commentary about decisions made concerning the development of work – the students may be prioritising description over analysis. *Ashley* sees the images as 'descriptive photographs' (Barrett, 1986:41), but I think they may be 'explanatory photographs' (*ibid*). I would argue that documenting one's working processes through photographic images offers an excellent vehicle for carrying critical analysis, showing the particular steps, or decision making, that a student has taken, steps which for them may be new. The photographs act as a self-created 'how-to' guide, helping them to clarify their process and mark the way in case they want to journey

⁷⁸ Although what is, and what is not, a photograph can be highly contested. Photography seems to be an expanding field of practices (Paglen, 2014a) that is encompassing image making of many different types. Paglen (2014b:online) adopts the term 'seeing machine' in place of camera and this opens up many more possibilities for inclusion of images

along that route again. Photographic images can offer a bypass around what might otherwise be extended written description. Sequenced images, or an image with a couple of short annotated comments can also help make the communicative function of the sketchbook more accessible to a third party. For example, *Morgan* (16'10") made their own paints from pigments and had a two-page set of twenty-four photographs that explained their process of making paint from bluebells they had collected.

Photographs are used as a reference point and stimulus for further making. Once taken, photographs can be stored and retrieved. They can hold important information that can be used at a later time to inform further work. *Kelly* had been making patterned surfaces through a variety of traditional printing techniques, using printing inks and presses at the college. These patterns were then cut into stone-like shapes. The shapes were then individually photographed, and this meant they could be used multiple times and in variety of combinations. The individual photographs can be resized, rotated, flipped, and so on. The relationships between the individual photographs can be played with endlessly. *Kelly* was able to carry out extensive experimentations at home through using Photoshop. Some of the compositions were printed off and put into the sketchbook used for assessment. Other compositions were printed off and then cut up, offering further opportunities to make new compositions for the sketchbook (*Kelly*, 37'15"). Over time *Kelly* continued to add to their collection of photographs of patterned shapes, creating a visual library of images that they could use to generate more work. This approach helped to bring a sense of coherence and continuity in the work; it was constantly developing, but new images were incorporated into the visual language that had been developed.

Photographs of creative conclusions, or artefacts, are used for promotional purposes. Several of the students I spoke with had completed a promotional sketchbook for a project that was primarily targeted at potential employers or clients, rather than lecturers. These versions of the sketchbook had less emphasis on creative processes and more on creative conclusions. These images tended to be made with an extra level of concern regarding the lighting and framing when the image was taken. More work was carried out in post-production too, with effort put into editing the image to

and data produced by these machines to be equated with photographs (he discusses QR code readers, facial recognition cameras amongst others).

'Our experience of the world is filtered through preconceptions and expectations that are products of media culture. As John Divola notes in *Continuity* (1997), the images we see offer a representational ground on which we base our sense of reality, "the millions of such images seen in a lifetime form the internal visual index of what we accept to be real." In a world saturated with reproductions, representations, and imitations, it becomes very difficult to conceptualize a 'pure reality' to which we can contrast the myriad of simulated realities we create out of image environment we're imprisoned in. Simulations have transformed modernity's conception of what is real, in our behavior, our bodies, our buildings, our procedures, and our environment. The arrow between the real and the image has been reversed: now 'reality' is an effect of images, rather than images springing from something prior to and deeper.'

(Leicaphilia, 2019:online)



Fig. 38. *The Websters, Ascension Island. Dudley Aitkin (1965)*⁷⁹.

⁷⁹ A rare image with my father in front of the camera, rather than behind it. I have a collection of photographs and some film from a year we spent on Ascension Island. I was 2 when we arrived and 3 when we left. My memories are largely formed from the photographs and films and not from the actual experience.

give it the desired aesthetic. Barrett (1986:42) might classify these as ‘aesthetically evaluative photographs’, with an emphasis on producing ‘aesthetic delight’ (*ibid*) and an enhanced reception of the student’s work that goes beyond a simple description of it. For example, *Eddie* produces images relating to their graphic design work that tell the viewer as much about *Eddie’s* professionalism and skills as a graphic designer, as they do about the client work itself. The client work *Eddie* produces acts as a prop in the images, as the real subject is *Eddie’s* sensibilities, expressed through their clean, minimalistic, contemporary aesthetic.

Photographs are used for social media purposes. Photographing one’s daily life, or an edited and enhanced version of it, and sharing it with the world has become normalised. As posting to social media sites has become ever more popular it has become common for students to share their Art & Design work. As part of their dispersed sketchbook, I found students wanted to show me work they had on their social media platforms, like Instagram and Facebook. Their work on these sites makes extensive use of photographs, and sometimes, moving images, to showcase work in a finished state, or to garner feedback from others on work in progress. The images seemed to aim for ‘authenticity and authority’ (Borges-Rey, 2015:online). When the work shown was in progress the images aimed for ‘distinctive aesthetics that make amateur imagery more authentic’ (*ibid*). The images may show the students hands at work, they may be taken on a desk that has other distracting ephemera, they may look like the brightness, contrast or saturation would benefit from adjustment. The lack of professionalism shows the immediacy of the image and asks for allowances to be made in the reception of the work – it carries with it the authority of being real, or a direct representation of what is taking place. Images of completed work sought authority by looking like professional work – they were carefully composed, well-lit, possibly with filters applied that added an extra aesthetic. Images like these try to gain their sense of authenticity and authority by looking professional – they are acting like an interpretation of a real photograph that a real photographer would take, so to speak. The images are attempts at ‘meticulous reduplication of the real, preferably through another, reproductive medium’ (Baudrillard, 1976:online). Whether acting with the genuineness of the amateur or the expertise of the professional, the use of social media is an engagement with the ‘hyper-real’ (Baudrillard, 1976:online).

Photographic images appropriated by a student

Appropriated photographic images are used as documentary evidence of engagement with primary research practices. Students collect photographic images that relate to where they have been and what they saw. Using the sketchbook like a scrapbook, students collect postcards, exhibition catalogues, information sheets, adverts for exhibitions and trade shows, and so on and locate them in their sketchbooks. These images (often accompanied by printed words) act as memorabilia and, through the process of collection and installation in a student’s sketchbook, make a shift from the impersonal to the personal, from the public to the private. The student takes ownership of the images and they attest to the student’s collected experiences, rather than to the artist or exhibition of which they originally spoke. Lucas (2016:191), comparing sketchbook practices to those of museums, explains how ‘collecting is a form of conquest and collected artefacts are material signs of victory over their former owners and places of origin’. The students have been abroad and have returned home with their spoils. For example, *Nico* (26’00”) has a collection of exhibition catalogues and flyers, all based around photographic images, held in a plastic pocket inserted into their sketchbook. They act as a signifier of their engagement with their research, they are evidence of their success.

Appropriated photographic images are used to inform and contextualise student work. The students I spoke to seemed to refer to the work of other practitioners primarily via images of their work. When a student wanted to compare their work to other contemporary or historical work they used a photographic image of that work to show the influence or inspiration, rather than using writing about it as their primary analytical tool. Yes, the practitioners name may be mentioned and some biographical and/or analytical writing may be provided, but the visual connections appear to be the strongest ties that bind. In the Digital Technologies chapter, I explore the influence of algorithms embedded within social media platforms and search engines that feed suggestions to students. A site like Pinterest, or carrying out searches via Google Images, will provide a huge amount of visual data that will enable students to select images that resonate with their interests, perhaps pre-reflectively (Greenberg, 1981), through the use of latent tacit knowledge (Polyani, 2009), or perhaps with more explicit intentionality – what Schindler might call a ‘manifest form of knowledge’ (2015:online). In effect, students often seem to collect and select images of work that is related to keyword searches they have made. Analytical and evaluative decisions about the images are then made to see how the image creates, fits in with, builds upon, or is in conflict with (thus leading to rejection of the image), the student’s developing

project ideas. Once a visual connection with an image is made then the student may go on to learn more about the practitioner and their work. This is not the only way that students learn about other artists, but in relation to photographic image appropriation it does seem to be significant. The students locate the position of their own work through a series of triangulations that refer aspects of their work to that of others. In this way the images are used to inform, justify, rationalise, or 'back-form' (Massumi, 2002:8) a student's work.

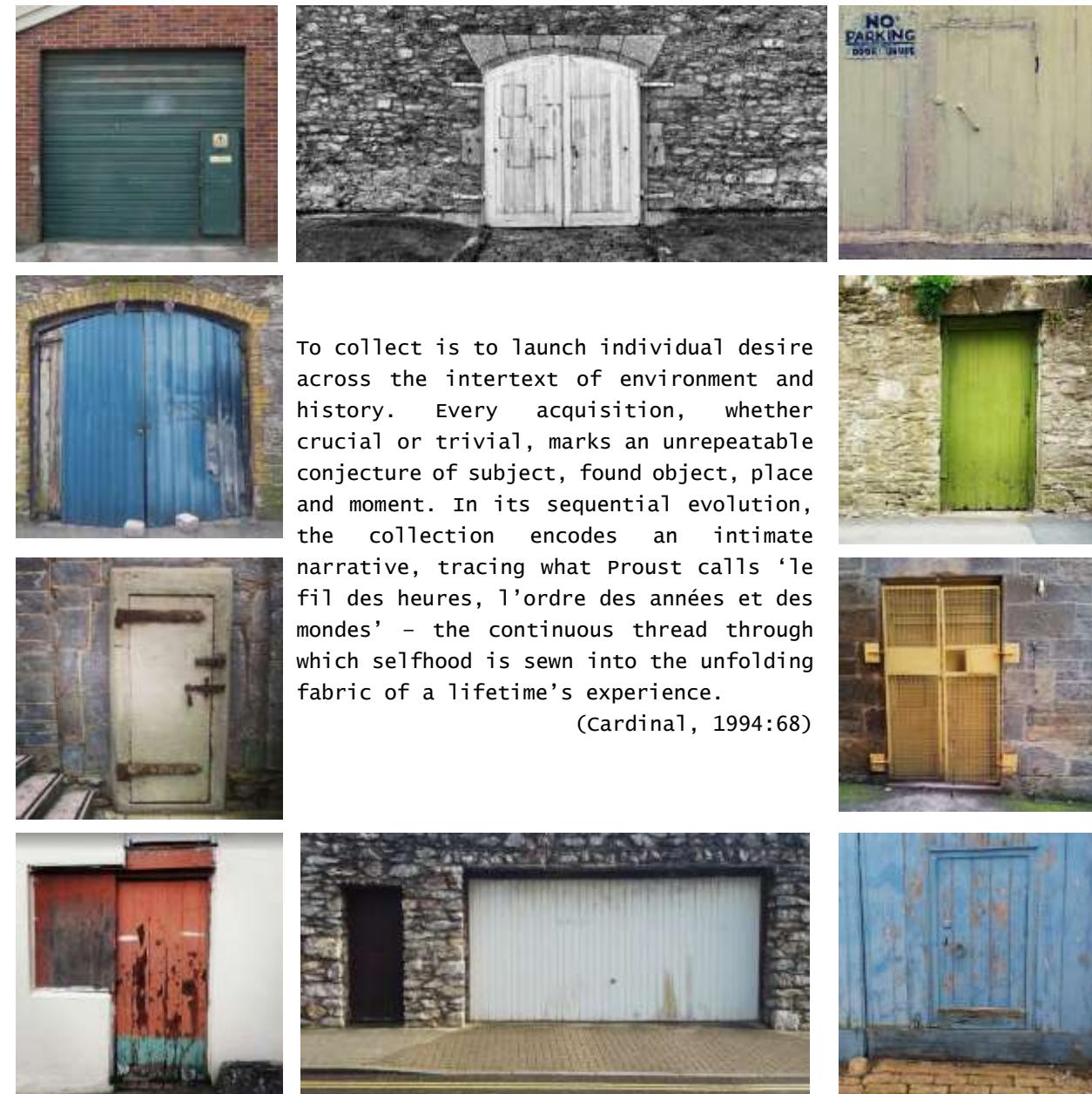


Fig.39. Some (of many) door images stored in the cloud. Simon Webster (2015-2020).

Writing and the sketchbook

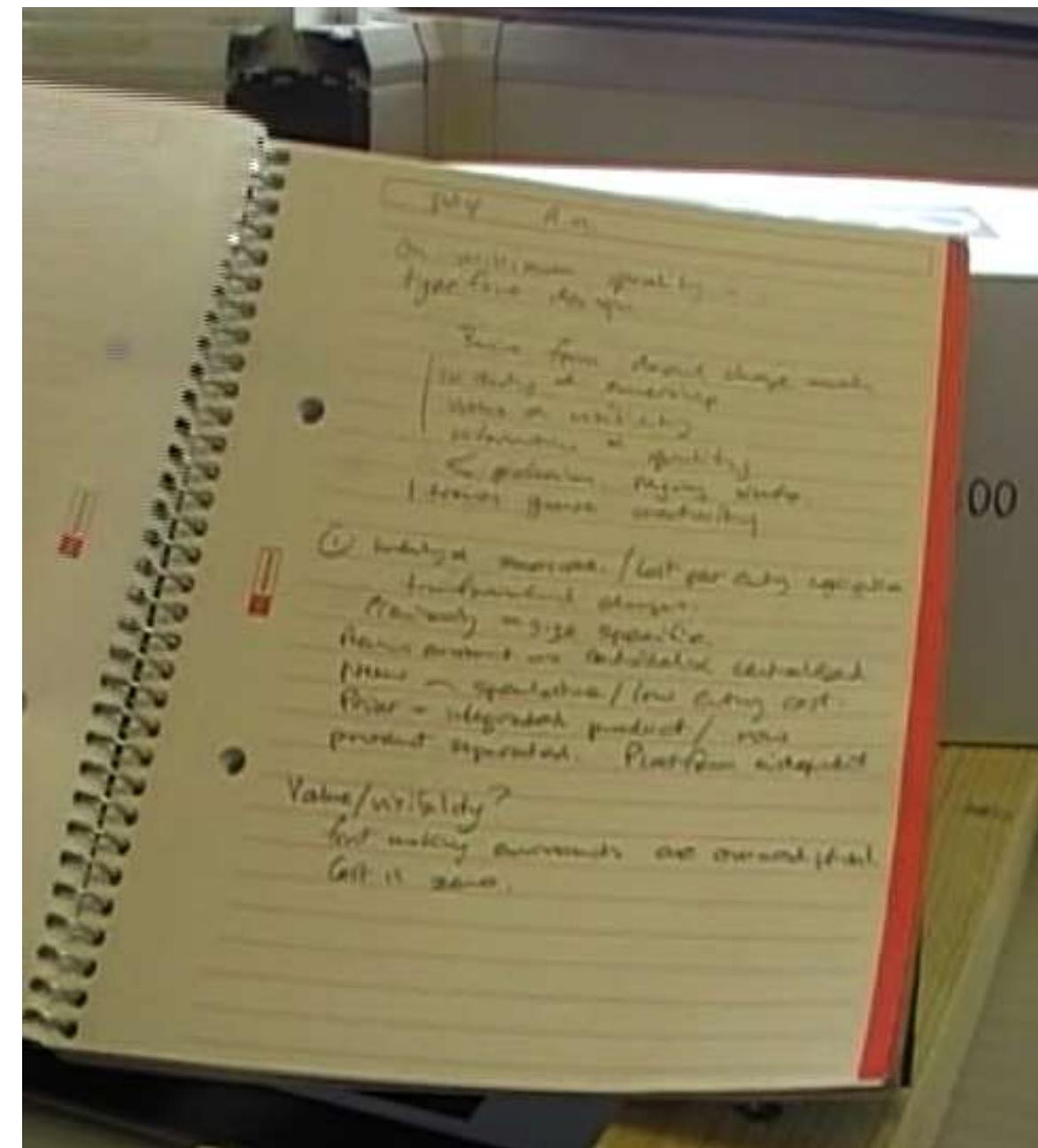


Fig. 40. Dane (18'08") explained that a significant amount of his font and lettering development is theoretical and is carried out through hand-written notes rather than drawing.

Writing played a significant role in all the sketchbooks I saw, to a greater or lesser extent. For example, elements of the dispersed sketchbook that were carried out via blogs or websites still made use of images, but tended to have a high proportion of text compared to paper sketchbooks. As with the use of photographic images, some of the writing was produced by the students and some of it was appropriated. With text there is an extra dimension, that of the imposed text. To include assignment or project briefs, which the students I spoke to

were often encouraged to include at the start of their sketchbooks, under the heading of appropriated text may misrepresent their hierarchical mode (Heron, 1999). The students at the college where this study took place did not write the assignment or project briefs, which are set for them, albeit in a well-meaning manner and which are usually written in a way that offers plenty of scope for interpretation and a personal response⁸⁰. I will discuss the influence of the assignment or project brief first, before moving on to discuss the writing in their sketchbooks, over which the students have more autonomy concerning the selection or creation of what include.

It is important to consider the nature of the assignment or project brief⁸¹ because of the influence they have. The brief is an expression of institutional power, and it expresses that power through module aims, learning outcomes, assessment criteria, a title and procedural instructions, the brief itself, instructions on what must be submitted for assessment (at the college where this study took place these are called deliverables), and a reading list. The student does have considerable agency concerning how they choose to respond to the brief, but the brief will shape, limit, or influence what they do. Researching assignment briefs in detail would warrant further study at a later date in a different project and has not formed a central part of this study, but the theoretical approaches taken in other parts of this thesis do suggest further diffractive readings may be useful. For example, a Foucauldian reading of the relationship between the individual and the institution may draw parallels between the student and the art college with the way that Foucault (1982) views the relationship between a parishioner and the Christian church. Foucault (1982:online) says of the Christian church and its expectations:

Truth obligations to believe this or that were and are still very numerous. The duty to accept a set of obligations, to hold certain books as permanent truth, to accept authoritarian decisions in matters of truth, not only to believe certain things but to show that one believes, and to accept institutional authority are all characteristic of Christianity.

Christianity requires another form of truth obligation different from faith. Each person has the duty to know who he is, that is, to try to know what is happening inside him, to acknowledge faults, to recognize temptations, to locate desires, and everyone is obliged to disclose these things to either to God or to others in the community and hence to bear public or private witness against oneself.

Another way of considering the level and nature of the influence of the assignment brief on the student could be through consideration of agency. Campbell (2009:407) explores two kinds of agency and how they relate to power structures, like an institution and its documentation:

The two are referred to as type 1 and type 2 or the power of agency as compared with agentic power, the essential contrast being that the first refers to an actor's ability to initiate and maintain a program of action while the second refers to an actor's ability to act independently of the constraining power of social structure.

Campbell (2009:407) says these two kinds of agency are 'quite different', but they do intra-act as a form of 'agentic assemblage' (Bennett, 2010:121) of structurings and agencies, because 'insofar as anything "acts" at all, it has already entered an agentic assemblage' (*ibid*). In the future, it would be interesting to research how these conceptualisations of agency are enacted within student's responses to assignment briefs. Barad (2007:178) sees agency (and power) differently, with it not being something held, but something enacted, something brought into being through intra-action, rather than something pre-existent⁸²:

Crucially, agency is a matter of intra-acting; it is an enactment, not something that someone or something has. It cannot be designated as an attribute of subjects or objects (as they do not preexist as such). It is not an attribute whatsoever. Agency is "doing" or "being" in its intra-activity. It is the enactment of iterative changes to particular practices – iterative reconfigurations of topological manifolds of spacetime-matter relations – through the dynamics of intra-activity.

Blumer (in Low, 2008:332) does not see power relations or agency as predetermined either, but does claim that social structures set up the conditions within which power and agency are enacted:

The organisation of a human society is the framework inside of which social action takes place and is not the determinant of that action. ...Structural features such as "culture," "societal systems," "social stratification," or "social roles," set conditions for ...action but do not determine ...action.

However the relationship between the student, the assignment or project brief, and the institution may be viewed, and the examples above are only a few of the ways of doing this, then, I would argue the significance of the brief must be recognised as a constitutive, or influential element.

⁸⁰ Also, through quality assurance and quality improvement processes (Gravells, 2016), students will be able to offer the lecturers their opinions on assignment briefs and other issues. This kind of feedback is likely to inform future iterations of an assignment with the next cohort though, rather than the present one.

⁸¹ Assignment briefs tend to direct students toward more particular set tasks (in short, for example, make ten identical cups with handles), while project briefs tend to be more open and ask the student to engage in longer, more open-ended work.

⁸² Nikolić (2018:online) discusses agency, power and relations, comparing concepts of apparatus and assemblage: 'Through apparatus and assemblage, two genealogies of new materialisms – Baradian and Deleuzeo-Guattarian – meet together and apart. [...] Apparatus and assemblage are sometimes understood as referring to material arrangements, but in performative ontologies of new materialism they are material-discursive dynamics, modalities of groupings of agencies, of composition of power, which generate different histories, states of affairs and future possibilities.'

MacLeod (2000) explores the functions that written text plays in practice-based PhD submissions. Although the academic levels are higher in MacLeod's research, the underlying nature of the programmes have similarities regarding the creative and critical approaches researched for this thesis, allowing MacLeod's concepts to be applied to the students work in my study. MacLeod (2000:2) describes the function of the written text in 'positioning the art practice'. Clearly, the imposed text of the assignment or project brief plays an important role here. It provides the performative framework within which the student must show how they have operated – for example, through the meeting of learning outcomes and assessment criteria, perhaps implicitly through the nature of the work that they have carried out, or explicitly through a written project evaluation. For example, *Nico* (59'06") had the relevant assignment brief at the front of their sketchbook. It had been annotated, with key phrases they had identified underlined. *Nico* (60'20") told me that once they had made their interpretation of what the brief was asking of them and they started work toward the module they would not refer back to most of the brief very often, apart from the list of deliverables, which they regularly reviewed to ensure they "hand in everything" that is asked of them. *Eddie* (33'25") paid close attention to all the details of the assignment brief as part of their strategic approach (Entwistle & Ramsden, 2015) toward gaining high grades:

"It sounds stupid, but looking at the obvious – if they give you a learning outcome, you are not going to get a good mark unless you meet the learning outcome and the learning outcomes are there because they are relevant. I think a lot of people don't make sketchbooks unless they have to or don't put in any research or development because they have an outcome and that is fine but the whole point is that, and I think maybe the reason I have got good marks is that, right at the beginning I have looked at the learning outcomes and have had a blank sketchbook and have put in what I need to hit this and this and this – I need 5 pages of development, whether I just put it in for the sake of it, I need to show them that I was working on that and was putting in that time"

MacLeod & Holdridge (2004:157) recognised that with Fine Art Doctoral level, practice-led arts research qualifications what was asked for in the final submission had a real influence on the nature and extent of the writing that was carried out:

Within the culture of Fine Art, some institutions insist on a substantive written thesis, couched in academic language and based upon a comprehensive literature trawl. Others require a much less conventionally academic approach. It is still the case however, that some artist/researchers resist the provision of a written text. They argue that their language is visual, and that to make work and submit a written thesis is equivalent to a double doctorate.

Comments by *Nico* and *Eddie* suggest that the institutional demands have a similar effect at undergraduate and further education levels as well. Beyond any institutional demands that frame approaches to the nature of the writing that takes place in sketchbook work, like the inclusion of

project proposals, annotated bibliographies, end of project evaluations and so on, how else do the students use writing to 'position' (MacLeod, 2002:2) their art practice?

MacLeod (2000:2) explains that at Doctoral level the 'positioning may be historical, cultural, contemporaneous or a combination of these' (McLeod, 2000:1). This is in alignment with the approaches encouraged and taken by the students I spoke with. The student places their work at the centre of their studies, organising research into other artists, movements and techniques, both historical and contemporary, that are relevant to their own work, rather than necessarily following an art history constructed by and about others. This conceptual and pedagogical shift happened at the college where this research was carried out around 2003 when Art History was removed from the curriculum and was replaced with Contextual Studies. The impact upon the dispersed sketchbooks that I saw, and have recognised through my teaching and support work over the years, has been a higher quality engagement from the students; an allowance, encouragement, or expectation (depending on the course/module leader) for the students to write in the first person; students making more references to contemporary practices rather than historical ones (because the old Art History curriculum that took the students on a structured journey from cave painting through to postmodernism has gone); and students are making their own connections between, and insights into, the positioning of their work in relation to other work, with less simple mimicking in the construction of their own work. *Kelly*, for example, made journal style entries in their sketchbooks that brought together Matthew Barney, Joseph Beuys, Karen Barad, Gilles Deleuze & Felix Guattari, Michael Ondaatje's *The English Patient*, notions of craft, installation work and participatory sculpture. The positioning of their art practice was both networked and singular.

The complexities of the positioning of a student's work may not be transparently read from the outcome or artefacts that are created, so the sketchbook plays an important role in communicating a student's positioning to third parties. Whether it be during a formative tutorial or summative assessment procedures, the written text in a sketchbook that positions the student's practice gives the work a 'precise provenance' (MacLeod, 2000:2) and allows for 'an informed and appropriate reading' (*ibid*) of it. Students might start to position their work through a project proposal, perhaps referring back to previous projects and influences; they may include written research in their sketchbooks that relates to the divergent stages of their research, showing knowledge of practitioners working in ways that are relevant to their own work; more positioning

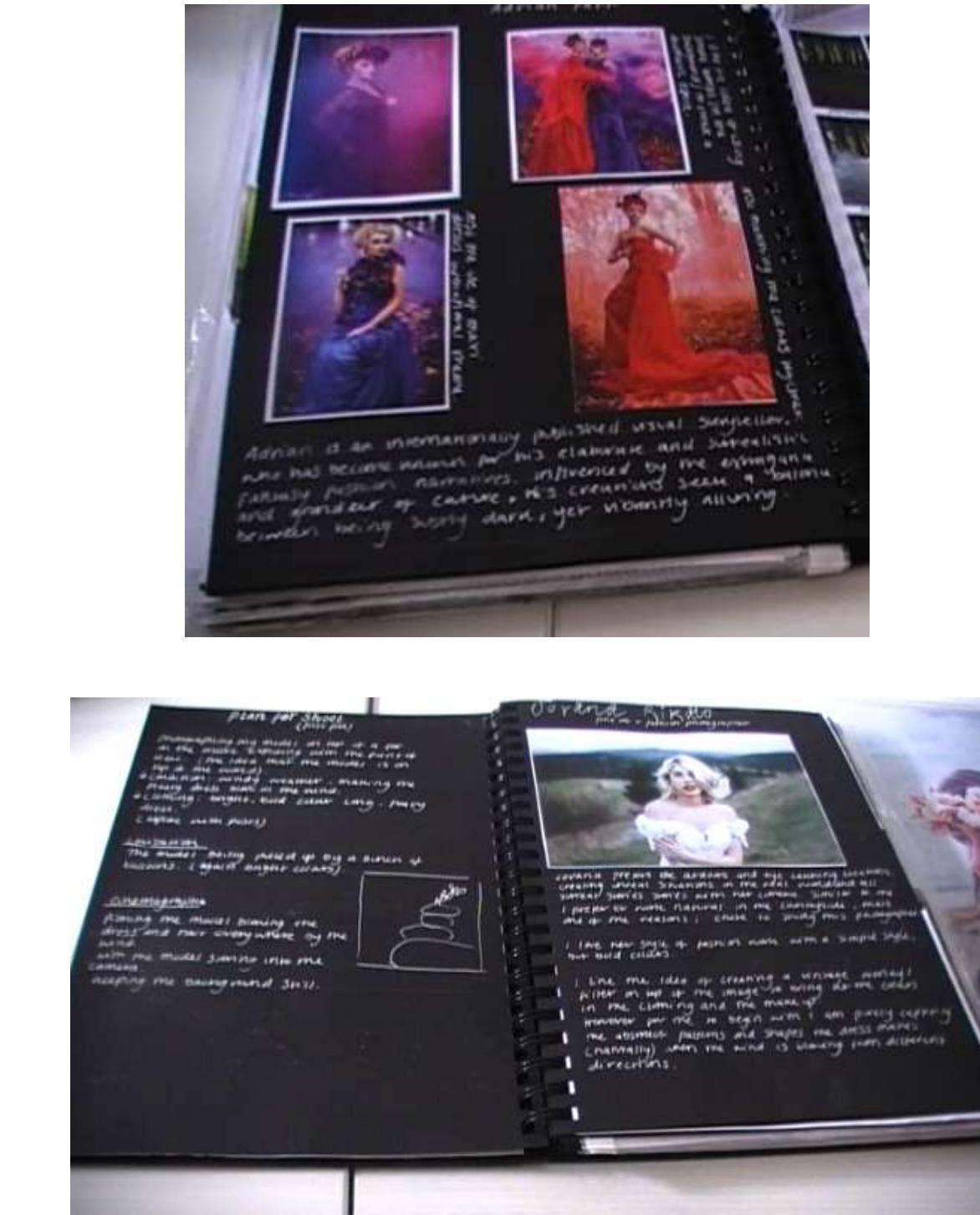
may occur as a student refines their work, synthesising ideas from referenced sources, analysing images, or using evaluative frameworks to judge the development of their own work (Barrett, 2012; Rose, 2016); written notes from crits, informed by peer feedback, offer useful positioning (as attested to by *Odell* (06'20") and *Nico* (28'45")); they may include research into exhibitions, gallery outlets or shops, which add to their understanding of the context of professional practices and their future employment; and a student also positions their work through in-text references and a reference list (Agamben, 1994; Stevens, 2006).

The written text in a student's sketchbook that they had produced themselves often appeared in conjunction with images. For example, appropriated images may have an artist's name and the name of the artwork noted. Pages in sketchbooks are often given headings that help navigation through the sketchbook. An image of an artwork may be supplied with a biography or analysis. A student's own work may have explanatory text applied, or there may be a key that refers to a graphic showing a drawn process. Written text in a student's sketchbook that has been appropriated may also be annotated, may be embedded within a student's own writing, or may be included in the sketchbook as a less contextualised artefact (perhaps stapled to a page, or held within a plastic pocket – or held on a hard drive, or in the cloud). Appropriated texts are, most importantly, evidence of reading and reading can be a great enabler for Art & Design students, just as it is for students of other subjects⁸³.

Whatever form it takes, Orr & Shreeve (2018:152) note the 'centrality of words in a visual medium'. They frame what the student has to do (the imposed text) and form a significant part of the sketchbook work that is carried out during a module and that is submitted for assessment. Written text, often in conjunction with images, helps to position a student's practice as they start on a project, as they develop it, and as they reflect on it:

It [...] looks back from a position – having travelled – or looks towards the movement of the work away from a position that has acted as a point of departure. The writing acts. It enables the work, and it enables a changed subjectivity for the artist/researcher, who changes during the project. In each example the positioning of writing as a transformative project is very important.' (Macdonald, 2009:94)

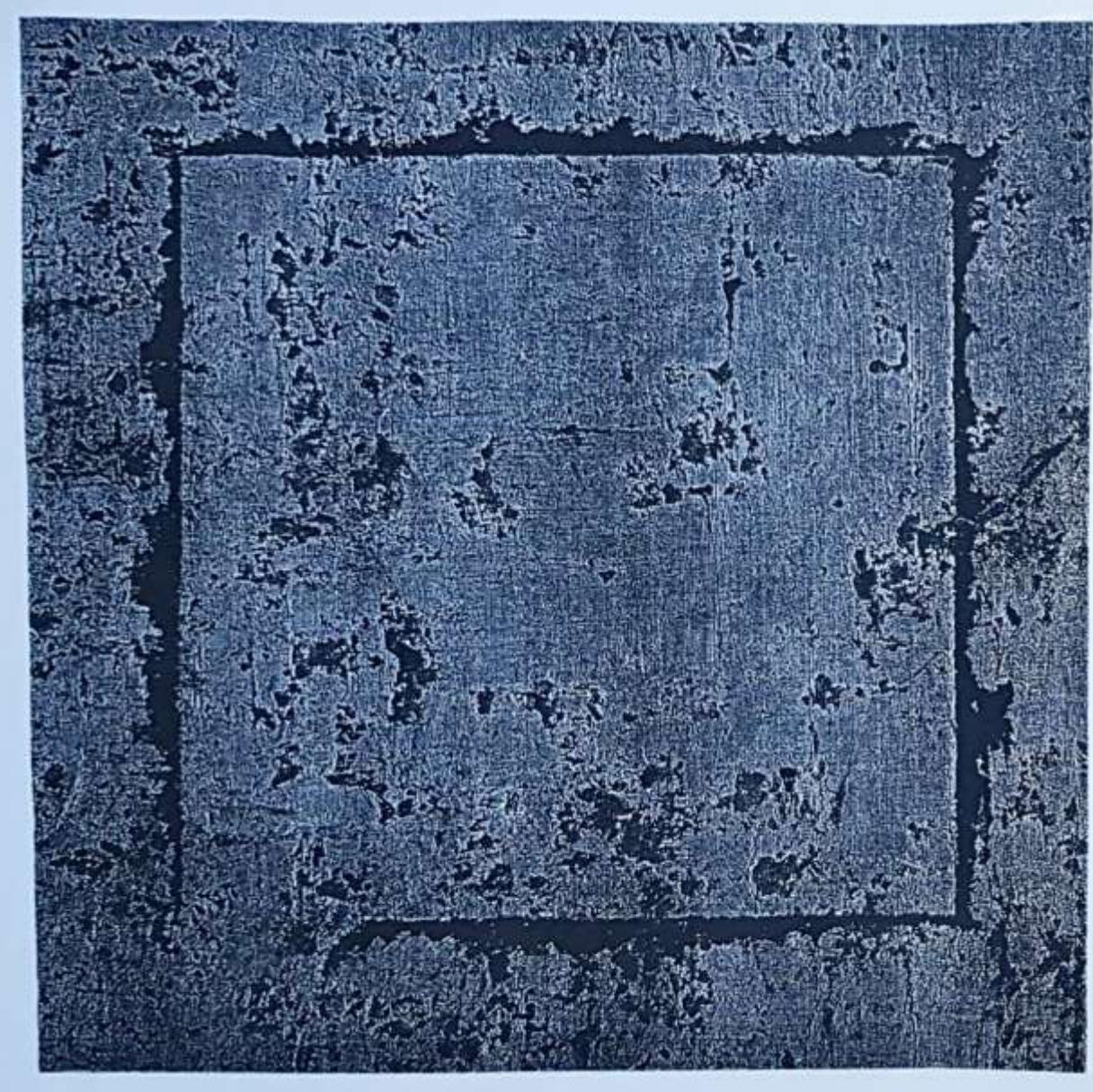
Writing in sketchbooks is an important practice, but it does not often seem to be a standalone form of practice. It works with, or is 'counterpart to' (Griffin, 2002:2), drawing, and use of photographic imagery to inform a student's critical and creative practices.



Figs. 41 & 42. Sketchbook extracts, showing interplay between text and image. *Jordan* (2017).

⁸³ Orr & Shreeve (2018:150) note that 'theory and practice are under tension' in Art & Design education. 'The tension is caused in many instances by those students who have a conflicted relationship with text, who might be dyslexic, for example, or have never grasped the requirements for essay writing and find it challenging. Some studio based

academics also find the theoretical components alien to their concept of practice and would rather students concentrated on studio activities in university' (*ibid*).



SUGGESTION OF FORM
INCOMPLETE
ROUGH
mASKING
ADUM^BRATE

Fig. 43. Sketchbook extract, showing interplay between words and image. Simon Webster (1999).

This section is for the reader to make notes, make connections, and add their own thoughts on sketchbook and Critical Thinking related practices as a summary to the chapter

**knowledge
construction**

**practice-led
research**

**illogical
alogical
logical**

critical thinking

**learning
domain
taxonomies**

enstrangement

images

drawing

good thinking

**convergent
divergent**

writing

as-the-now

in-the-now

Chapter 6: Pedagogy, assessment and the sketchbook

Although I did not collect data from direct observations of lecturers interacting with students during this project, pedagogy was discussed during the intrerviews that were carried out, with both lecturers and students. I do have my own experiences of pedagogical practices to draw upon as well, both as a lecturer, and as a teacher educator. I think that it is important for me to write a little about pedagogical practices as they are an important aspect of thinking about the nature of the teaching and learning that takes place and how sketchbooks play an active role in the lecturers' plans and in the execution of their daily work. 'The concept of pedagogy encompasses relationships, conversations, learning environments [including the sketchbook], rules, norms and culture within the wider social context' (Thomson *et al*, 2012:10) of a formal educational setting and the community it serves. The pedagogical practices shape, and are shaped by, the culture within which the sketchbooks operate. They shape what is taught and where it is taught. After a contextualising introduction, this chapter, which focuses on pedagogical practices associated with the sketchbook, will fall into five sections. It explores formative feedback processes as lecturers engage with their students' work. Then summative assessment practices are evaluated to see what expectations lecturers have concerning the role of the sketchbook in the overall grading regime. The chapter will review how sketchbook practices on a course are introduced to students and how they develop as students progress through a course. There will be some discussion of critical analysis sessions, or crits, as they are commonly known, and the role they play in formative and summative assessments, as well as in promoting course cultures regarding sketchbook practices. Finally, there will be discussion of threats to pedagogical practices that are being associated with the rise of new technologies.

The Art & Design courses that I engaged with for this project, and those that I have taught on, utilise 'pedagogy processes [that] consciously encourage production and active reception, and in so doing, they oppose a mere passive consumption' (Kirschenmann, 2001:18). The courses are classed as taught, nevertheless the focus is on the learning more than the teaching. Although the courses are practical, they 'are not restricted to questions of material and technique, but are expanded and opened to questions of content, interpretation and criticism' (Kirschenmann, 2001:18). The educative process:

...aspire to the position in which students construct their own maps and networks of meaning, testing them against principles and descriptions by others. Particular skills and elements of knowledge might play significant parts in the construction of this personal understanding, and will need to be mastered by the learner, but these will be means and not ends in themselves. (Jackson, 1998:23)

Atkinson (2005:23) wrote of an older, more traditional model of art education that followed the transmission model of education, whereby traditional practices were, literally, copied via 'imitations or pastiches of past movements'. Atkinson (2005) identified this approach as 'stable' (*ibid*) and easily assessed against pre-defined criteria, but not very creative. Using a Foucauldian critique, Atkinson (2005:24) fears the learners, and the teachers, became 'formed, disciplined, and regulated as pedagogised subjects', living out a predefined set of actions. In this model, it could be argued, 'people are trapped in history, and history is trapped in them' (Baldwin, 1998:119). My experience (as a student, as a lecturer, as a teacher educator, and as a researcher) of the lecturer's role in art education casts lecturers as a facilitator (Heron, 1999) of student processes, rather than a transmitter of traditional content and values (although this is hard to escape as lecturers and students are, to some extent, constituted by the culture they are part of). The lecturer as facilitator aims to support the students' moves toward autonomy (Heron, 1999). This may involve hierarchical control at times (like getting course validations completed, arranging room allocations, etc. (see the Studio Teaching Project table) - but even these processes should be informed by the student voice (Czerniawski & Kidd, 2011), collected as part of quality assurance and quality improvement processes). When they can escape their administrative duties, the lecturers that I work with spend most of their time operating in co-operative modes of practice, helping students move toward autonomy.

This project was carried out in a specialist art college, with a strong tradition of studio-based education. The studio 'has long been recognised as the key focus for art and design education – the place where work is generated, reviewed, displayed and stored' (Duggan, 2004:71). It is the 'central component of the curriculum in the areas of architecture, art and design' (Zehner *et al*, 2010:1). The theory of 'practice architectures' (Kemmis *et al*, 2014:31) offers a way of understanding the relationships between the site of the studio and the teaching and learning that goes on there. Kemmis *et al* (*ibid*) explain:

A practice is a form of socially established cooperative human activity in which characteristic arrangements of actions and activities (doings) are comprehensible in terms of arrangements of relevant ideas in characteristic discourses (sayings), and when people and objects involved are

1. Positive studio environment	Creating a positive studio environment, culture, and atmosphere is central to successful studios and the generation of effective and positive outcomes and experiences for students. This includes the development of a collaborative community within which ideas are developed, tested, applied, discussed and refined.	6. Effective level of collaboration amongst students	Collaborative activities such as group work on projects, peer critiques, discussion and skill sharing are essential to effective outcomes in studio.
2. Quality staff	Staff quality (academic and technical) is integral to the success of studios. Elements of staff quality include: an appropriate balance of professional experience and teaching experience; an ability to integrate professional practice and studio teaching; the ability of staff to cooperate effectively in the teaching process with colleagues; and an ability to successfully facilitate student learning through studio projects (and intervene where necessary).	7. Quality projects	The development and implementation of quality projects is key to successful studios. Quality projects include those aimed at conceptual, technical and communication skills development, and are those that integrate the multidisciplinary nature of professional practice within a broader context of contemporary social and global issues.
3. Reasonable class and group size	Studio groups of 12 to 20 depending on the nature of the activity, allow for greater interaction amongst staff and students, and between students, and help to create a positive studio environment that is conducive to experimentation and risk-taking.	8. Connection with industry and profession	Connection with the external clients and industry experts significantly enhances studio practice and student learning and engagement. This connection is strengthened by the ability of academics to successfully integrate their professional practice experience studio teaching and to set curricula and projects with prominent work integrated elements.
4. Student engagement and commitment	Students' capabilities, effort and commitment are key factors in the success of a studio. Student engagement relies heavily on the quality of projects and staff in terms of enhancing students' passion, <i>rigour</i> , initiative, motivation and intuition; engagement, tenacity and commitment; resourcefulness, self-reliance and independence; problem solving, lateral thinking and flexibility; communication, team work and self-reflection; and ethical conduct and respect.	9. Variety of outcomes	Good curricula material will lead to the best outcomes in studio when theory and practice are integrated, and when an appropriate balance of product, process and person dimensions is incorporated. This balance necessitates multi-learning modes for studio processes, and outcomes of studio projects that are exploratory, 'open-ended' and dependent upon the maintenance of a range of activities.
5. High level of interaction	An effective and high level of interaction between staff and students, and between students, is necessary to achieve effective learning outcomes and experiences in studio. Interaction may take the form of one-to-one, group critiques and workshop, seminars and tutorials and time with academic and technical staff as well as access to studio facilities outside normal class times.	10. Provision of adequate studio space and facilities	Quality studio spaces and facilities clearly contribute to effective outcomes in studio. The availability of dedicated spaces for individual and group work is especially valuable. Good studio practice relies on access to good working space, facilities and other resources (including flexible premises appropriate to disciplines, projects and level of study; access to appropriately equipped workshops; and ICT hardware and software appropriate to discipline and industry standards).

Table 3. Table of 'Strategies for Effective Studio Practice' compiled from the Studio Teaching Project (2015). Creative Commons Attribution-Noncommercial-ShareAlike 205 Australia Licence.

distributed in characteristic arrangements of relationships (relatings), and when this complex of sayings, doings and relatings 'hangs together' in a distinctive project.⁸⁴

Practice architectures are built up by the 'cultural-discursive, material-economic and social-political arrangements that pertain there' (Kemmis et al, 2014:35). If a house becomes a home by 'habitual action' (Taylor, 2016:146) carried out there, then a studio becomes a learning environment through the educational practices that have taken place there in the past and present. Sayings, doings and relatings enacted in the past and present 'leave behind distinctive traces' (*ibid*) that shape traditions and the practices that continually reform them in the present. Horton and Freire's (1990:3) explained how 'we make the road by walking' and the implication of this is that a road is left behind, a road that others can travel along. Similarly, Ingold (2007:75) suggests that the movement or becoming embodied in 'wayfaring' can lead to the comparative fixity and structure of 'mapping' or a 'route-plan'. Enacted agency reacts to and causes structuring – they intra-act (Barad, 2008). So, a practice architecture consists of the structure of the site and the habituated practices that take place within them. Of course, habits are tendencies, they are not fixed - they can be convenient patterns of behaviour, they can be idiosyncrasies whose original rationale has been lost in the depths of time, or they can descend into a pathological disorder.

So, what makes studio-based education distinctive and what are the lecturer's roles? Orr & Shreeve (2018:3) sum it up by stating 'studio education is not delivered. Studio education is forged.' Taylor (in Crowther, 2013:19) looks to the organising of the site within which the education is forged, part of the 'material-economic resources' that Kemmis et al (2014:226) discuss:

The physical space of the studio is characterised by a lack of formality; no front of the classroom, movable furniture, desks for drawing and drafting, spaces for model making, computers, projection screens, and space for presenting drawings and models during crits. The aim is to support a flexible pedagogy through flexible physical infrastructure.

The studio space is a pedagogic device. It is a simulacrum of the professional spaces used by artists, designers, or architects. Perhaps it could be thought of as the dressing up box that enables role play! It provides the subject specialist tools and helps mirror the practices that are linked with various professions. It is an attempt to create the conditions associated with 'situated learning' (Lave & Wenger, 1991). Hanks (in Lave & Wenger, 1991:14) explains that:

⁸⁴ Kemmis et al (2014:93) equate their sayings, relatings, and doings with the cognitive, affective, and psychomotor learning domains, addressing them through a 'social constructivist stance'.

Rather than defining [learning] as the acquisition of propositional knowledge, Lave and Wenger situate learning in certain forms of social coparticipation. Rather than asking what kinds of cognitive processes and conceptual structures are involved, they ask what kinds of social engagements provide the proper context for learning to take place.

Lave & Wenger (1991) imagined their situated learning taking place outside of formal educational cultures and within the wider community (the worked examples they gave referred to midwives, tailors, quartermasters, meat cutters, and alcoholics). The studio-based education used in an art college is an attempt to replicate what takes place outside the college, in the wider community, related to a subject specialism. The college studio is a hybrid, combining (or struggling with) the demands of a subject specialism and the demands of formal education, but there remains a clear intent to focus on the context and process of learning in ways that Lave & Wenger would recognise. This view is supported by Morkel (2011:139):

The studio is a physical place that facilitates pedagogy that supports community-centred instruction. It utilizes the theories of apprenticeship, social constructivism, socio-cultural theory of learning, collaborative learning, situated learning in communities of practice and enculturation.

As I move into discussion of assessment practices and crits I will be showing how these strategies come together to create the studio-based learning that is a key characteristic of the college where this research project was carried out. It can be seen from Table 3 that the lecturer's roles in facilitating studio practices include setting up course structures, helping to create the conditions within which students can flourish, and actively managing the interactions between staff and students. There are elements of orchestration, conducting, and improvisation going on, and it is in the improvised exchanges between lecturers and students, in their call and response (Fratia, 2002), that the sketchbook proves itself such a useful instrument. Of all the things mentioned in the table, the one that students most valued was the lecturers' 'ability to successfully facilitate student learning through studio projects (and intervene where necessary)' (Studio Teaching Project, 2015:online).

Formative feedback

The Assessment for Learning (AfL) (Black & Wiliam, 2006) research, and the guidance that was derived from it, framed interactions between lecturers and students as an assessment driven enterprise. All discussions with students about their work are framed as formative

assessments⁸⁵. The lecturer is constantly collecting information about student learning and uses that information to inform future interventions in the educative process. Students too are asked to involve themselves in a meta-learning processes, using self-surveillance (Vaz & Bruno, 2003) to set themselves targets to work toward as they strive for improvement. I was raised as a Roman Catholic and can recognise a formation of the self being based on failure and guilt. Afl stresses the importance of assessment data being used *for* learning, rather than the assessment of learning that it was seen as a missed opportunity (hence the italicised lowercase *f*, that denotes its significance and difference). But, because so much emphasis is placed on improvement there is a danger that perceived failure and guilt will also be engendered. In their review of types of self-surveillance, Vaz & Bruno (2003:273) state:

Self-surveillance is usually understood as the attention one pays to one's behavior when facing the actuality or virtuality of an immediate or mediated observation by others whose opinion he or she deems as relevant – usually, observers of the same or superior social position. But we propose to open the concept to include individuals' attention to their actions and thoughts when constituting themselves as subjects of their conduct.

The lecturer is the 'biggest single influence on the atmosphere' (Dineen & Collins, 2005:46) in the studio. If lecturers do not create a 'positive learning environment' (Studio Teaching Project, 2015:online) then there is a danger that both they, and the students, will constitute themselves as disciplinary bodies, rather than exploratory ones. The metaphor of a group of explorers investigating new lands together is a better one to adopt, I would suggest, than that of the prison guard and prisoner, or accounts manager and clerk. I am reminded of the 'good thinking' schema laid out by Perkins, Jay & Tishman (1993:7), that asked students to be 'broad and adventurous' and to have 'sustained intellectual curiosity'. Setting up a learning environment where lecturers and students seek to understand each other can, and should be, at the heart of studio education, with the student project central to the endeavour, rather than formal assessment processes.

Bellugi (2016:23) identifies a number of models for describing the relationships that lecturers take on with their students during their teaching in the studio (see Table 4 on next page). Any of the relational models can be played out, depending on the skill level, or quality (Studio Teaching Project, 2015), of the lecturer and what effect they are trying to elicit. Some lecturers may have a

style that tends toward one or more of the models. Heron (1999) would class all of the models under the broader heading of facilitation, as all teaching, in his view, is facilitation.

In the studio, lecturers are more likely to talk with students, rather than at them. They are involved in meaning making with students. Sometimes this takes place through one-to-one conversations as the lecturer works their way around the studio, sometimes it is in more formal seminars and crits. In my experience of teaching, and during the intrerviews carried out during this research project, I found the sketchbook to be an excellent intermediary or apparatus to aid processes of understanding between student and lecturer as a way forward is sought. The sketchbook as apparatus sets 'the material conditions of possibility and impossibility of mattering; they enact what matters and what is excluded from mattering' (Barad, 2007:148). They show what has mattered for the student and they offer a forum through which new ideas can be discussed. In a positive learning environment the lecturer and student come together, with the sketchbook offering a diffractive lens through which to explore the student's project. Stender Peterson (2014:40) explains how each encounter offers possibilities for meaning making (it should be noted that she is discussing the use of sock puppets in interviews with children, rather than sketchbooks used in formative assessment discussions):

artefacts and materiality must be understood as performative agents in their intra-activities with each other and with humans. Everything is mutually entangled in non-hierarchical relations and we can never know beforehand which agencies will emerge from the intra-actions. Agencies are not something someone or something has prior to the intra-action.

When asked about what had been most effective in their education, *Frankie* (02'45"), an FE photography student, told me "I got, a lot of personal input one-to-one time with the lecturers, whenever you wanted it". *Frankie* (14'17") reiterated this later, when asked how often they had formative discussions with their lecturers - "lots – with all of the lecturers – I had a lot of one-on-one time – well, everyone did". Graphic design lecturer *Indiana* (15'45") supported these views of the importance and the frequency of formative tutorials:

"by having quite a lot of formative tutorials, through the process we almost see things being made and changed and happening more at that point than at final hand in and that, perhaps, is more useful for the student – otherwise you are just looking back at a lot of decisions that are made already"

to-one meetings with students about their work to be called formatives – as in "I will meet you for a formative later today".

⁸⁵ Since the Afl focus gained attention, and became a feature of teacher training programmes and staff development sessions, at the college where this research took place it has become a common practice to refer to tutorials or one-

Lecturer role	Description
	<p>Working with the student during a project is more important than assessing them at the end, because the process is more important than the product. I asked <i>Morgan</i> (48'30"), a final year BA Painting, Drawing and Printmaking student, if the lecturers were prescriptive about what should be in their sketchbooks:</p> <p>"No, it is really free actually – they don't give a quota on how many artists you need, or how many art pieces you need – they are just, like, really helpful and, [discussing] where you need to go with your own work – so not about the book, where <i>you</i> need to go as an artist</p>
	<p>This comment, suggesting an atelier or critical friend approach being taken by the lecturer (Bellugi, 2016), reveals the way that the sketchbook is seen as an aid to educational processes and not merely as a product produced for assessment purposes. <i>Nico</i> (03'57"), also on the Painting, Drawing and Printmaking course, discussed their lecturer's view of how the sketchbook should be used, suggesting the student should be the reflective practitioner, while the lecturer sets up the process, taking on a 'liminal servant' role (Bellugi, 2016:25):</p> <p>"I think he sees it almost as a written diary, so, even though it is not dated every day, it is more of a, sort of, a body that evolves of itself, so that everything you are doing every day is documented - it might not be in order, but it is all there so you have it to go back to. I think he, sort of, feels that a studio book should progress naturally, it sort of grows with you and so I tend to, sort of, have it around – I might not necessarily do it every day but there will always be – you always go back and go "oh, that is what you did – put that in there". So, I think it is, for him, almost a project in itself."</p>
	<p>In the field notes I made shortly after the intrerview I asked myself if the lecturer saw the project as a development of the self for the student, as well as a development of their work, which I believe to be the case. But an additional question arises from <i>Nico</i>'s quote: in what way is it a 'project in itself'? Is <i>Nico</i> suggesting that the sketchbook can, or should, become a fetishised object in its own right? And, or, is the lecturer's concept of what a sketchbook can be, how it is used as a pedagogical apparatus, a project that he is running as part of his teaching practice? There is evidence that the particular use of the sketchbook on this course is an informal action research project (McKernan, 2008).</p>
	<p>There is a distinct rationale behind the use of the sketchbook on the Painting, Drawing and Printmaking course that is worthy of further consideration. I carried out an intrerview with a lecturer, <i>Lindsay</i>, to gain perspectives on their practices. The Painting, Drawing and Printmaking course has made a deliberate attempt to revision the use of sketchbooks. They wanted to use the potential of the sketchbook to transform the ways that students engaged with the course, making it clear that it was a central element that should be engaged with in meaningful ways. To help students understand that they were being asked to enter into a deep, potentially new, relationship</p>

Table 4. Lecturer roles derived from Bellugi (2016). Table removed due to copyright restrictions

with their sketchbooks, they were renamed. The sketchbook became the studio book. The renaming served two major purposes. First, it placed an emphasis on the studio and the expectation that the students would have their studio book with them, close to hand, when they were working. Second, it estranged (Shklovsky, 2015) the concept of the sketchbook, making students challenge their preconceptions of what a sketchbook was and what it might be used for. To paraphrase Austin (1962), the renaming allowed the words to perform the work of reconceptualisation:

"I think it[the renaming] is quite important because it sets in train in the student's mind a thought about what it is that they are doing when they are keeping supporting work and records and so forth and that the word sketchbook appeared to be less useful because if you take in some idea – although you might have a sketchbook which indeed contains sketches – and the concept of a studio book, for us, was that it would contain sketches and drawings but it would be a book that, if you like, lived in their studio spaces, lived in the studio and became a vessel that contained technical notes, artist research, and so on and so forth. And, indeed, the studio book is not necessarily one book and it can be a series of books which maybe split those things down into individual components". (*Lindsay*, 2'50")

"There is an underlying assumption that there is a studio culture, that the student – a full-time student – would take up their personal space; that the studio book would live in the space – and this is all broad-brush, there are many different practices, there is an underlying generality about that – and it would be something that became so important to them that it would almost be the worst thing you could lose – it became something that you may be carried around with you, it became an artefact that you carried around with you – it became a continuous source of, a vessel for ideas and notes (*Lindsay*, 4'10")

I asked *Lindsay* about the process of course accreditation and what the external examiners had made of the studio book. *Lindsay* (25'40") said:

"I think at first it was questioned, interestingly, by the validating panel and I think it was a good opportunity to talk about the studio book as a concept in the programme as we are delivering a particular set of things here in quite a unique way and so the new term of studio book seemed to encapsulate a certain kind of radicalism of practice, if you like. [...] we were not going to call them sketchbooks anymore, they were going to be studio books – you might also have a sketchbook, but this is something... there is a quality of thinking here that we are trying to promulgate in the students and with the studio book we could talk about that. At the next validation it will come up, I am sure, and we will have to start to think about how well this is working, particularly when we are taking on more people straight from A level, for instance, who have got a particular approach to it – and how well it is really understood by students."

Earlier in the interview *Lindsay* had talked about separating the studio book from a more generic understanding of the sketchbook and there being an attempt to relaunch the concept with a particular focus on Critical Thinking processes, rather than it being seen as a repository for evidence that would be useful for summative assessments. As well as ensuring there was a focus on Critical Thinking, there were also ideas about how Critical Thinking might be carried out in more engaging ways:

"there is a sort of, that traditional idea you might think about idea development, there is you know, a mind map – a seed of an idea starts to go through wider research, starts to get narrowed down, some process testing and materials and so forth, and then the object starts being resolved and there is a general sense that, sort of, that is what happens. But, in many circumstances we are talking to students about not project managing their lives and not having a defined outcome and working towards it - [...] setting up points of doubt almost; places where things can go wrong and you can make - do - something about that. The studio work would contain that interrogation of the project - when it started to fail and when it started to go right - when it became a book one was in dialogue with." (*Lindsay*, 06'00")

"so we talked to the students as well about the way staff face the books in different ways - in some ways it helps to think about it like that. We were talking about the studio book being something that was shared – we say we are looking not at the book, we are looking at you and the book from one side – we are looking at your process, your negotiation with that book from the side – so we are not looking at the book, philosophically speaking, we are not necessarily looking at the book – because they expect us to read it, to read every last notation in the back, and so forth [but] it is not do-able – what we are looking at, sort of, is what is your relationship to this material and that is more important in many ways than some stuff that you might say in it because it is, indeed, your book to do what you want with – so we, actually, are looking at the investment and quality of the reflection and dialogue that is going on between the student and the supporting work in the studio book" (*Lindsay*, 06'50")

Lindsay's vision was echoed by *Odell* (10'54"):

"The studio book should show or reflect your thinking, your ideas, and I think there is something about a confidence in your work when you actually put something down in a book, with writing, that lets you move on. I think, obviously it is a bit of a cliché, but we talk in arts about having failures and I think it is important to document the failures, document things that got you to the final piece – and to be able to have something to look back and see that happening and to see how the project develops is all so cohesive, is not it – to see that change, that background.

The studio book concept asks the student to engage in a relationship with their sketchbook in a way that is like journaling, with more emphasis on writing (although not to the exclusion of visual imagery). This, it is hoped, will help students be more articulate about their work and will help them to discuss the thinking behind, the research being carried out, and the direction of, their work. In passing, I would note that the students I spoke with (*Nico*, 57'00", for example) expressed a preference for face-to-face discussion, rather than asynchronous feedback via an online platform. Ultimately, the lecturers want to engage with the student, with the person behind the physical representation of the work, but the studio book processes and evidence can really help with this. Any fetishising of the sketchbook as an object seems to be a by-product of engagement with Critical Thinking processes, rather than an intentional outcome from the lecturers – but the staff do want the students to be highly engaged with their working processes and their reflexive analysis of them. The aesthetic look of the studio book is not as important as the content and the process.

The studio book is designed to tell the story of a student's studies, whether it be their Critical Thinking, creativity, or meeting of procedural requirements:

"It is that document that we would refer to, certainly in tutorials [...] it is a way of staff being able to update themselves as to what has just happened in a student's practice, who they might not have seen for a week or so. [...] they are able to relate a story." (*Lindsay*, 14'30")

The extent that a sketchbook can reveal the full story of the artist is discussed by Alaluusua (2016) and others (Clarke, 2014; Gittens, 2014). There is a sense that the privacy of an artist's sketchbook allows them the freedom to be authentic and open with themselves. In an educational setting this becomes more problematic, because the private may become (relatively) public, and self-censorship may limit the degree of authenticity or freedom that a student is willing to show, or even engage with at all. Despite this, I found that the sketchbook was an integral part of the educative process, with staff and students highly invested in sketchbook practices. Having set up the context for studio teaching and pedagogical practices that go on there, it is time to look at some of the interactions in more detail. In line with Afl, I have classed the interactions under the heading of formative and summative assessments. This is for the convenience of staying in line with college and sector paradigms, rather than any strict theoretical or ideological belief in Afl.

Lecturers have a 'dual curricula' (Bellugi, 2016:26) when they carry out studio teaching. They have the overall intent of the course and the module to consider, but they also develop an 'individualised curriculum for each student' (Bellugi, 2016:27). When carrying out formative assessment meetings, tutorials, or 'formatives', lecturers are interested in the ways that a student's research is progressing and they try to attune themselves to the nature of each student's project. In some form or another, the course or module leader will have set an assignment or project brief for the whole class, and, at the college where this research was carried out, the individual students are likely to have been asked to make an early project proposal or statement of intent for the way that they are going to respond to the brief. The proposal can be updated as a project progresses, but it should offer a sense of direction that can then be discussed with the lecturer. Lecturer *Lindsay* (33'30"), discussing HE student projects, likened the early proposal to finding a "direction of travel through the fog". Dineen & Collins (2005:46) call projects like these 'heuristic [as the] task may or may not have an identifiable goal, the route-map does not exist'. *Lindsay* (24'25") sees one of the lecturer's roles as helping the students to "appreciate the ambiguities and complexities of Art & Design practice", appreciating, rather than avoiding or trying to reconcile "conflicting perspectives" (*ibid*). Students are encouraged by the lecturers to engage

in divergent thinking, before deciding on a final project outcome. The divergent thinking processes may involve a range of research practices, like experimentation with materials and processes, carrying out a visual survey of practices by other artists that are related to the student's interests, reading and note-making, or primary research visits to collect data. These research practices are recorded in the sketchbook. The lecturer can play an important role at this early stage in helping shape the student's unfolding project.

On Art & Design courses underpinned by a constructivist approach to knowledge formation, the lecturer stops 'being the authority on concepts' (Prater, 2001:45) and 'becomes a facilitator of exploration and a provider of experiences that help students form meaning for the concepts and ideas they choose to pursue' (Prater, 2001:45). Dineen & Collins (2005) also position the student as an explorer:

The explorer must find his/her own way through territory which is at least partially uncharted, using existing knowledge and experience and also, crucially, creative intuition. There is a sense of direction, but, at least at first, no certainty of the steps or knowledge needed to arrive.

But the lecturer has experience and can guide the student as they set out on their journey; they can provide a route map, suggest waypoints, etc. Itten (1970:7) uses the metaphor of the carriage, with the lecturer as carriage driver, taking the student passengers up a mountain, but when the students get to the end of the road, he writes, they must 'leave the carriage and walk afoot!'. This is the move to autonomy (Heron, 1999). The sketchbook should be the map the student creates of the territory that they traverse. It should be their travelogue. If the lecturer is not careful, they can easily take charge of the student's expedition, or direct the student down a path that has already been walked by the lecturer. A skilled lecturer will use questioning to draw out possibilities for processes and knowledge construction from the student. Gregory (2009:210) uses the metaphor of the lecturer as 'midwife', assisting the student in the 'process of birth' (Gregory, 2009:211) of their project. Gregory (2009) warns of becoming a parent of the project, supplying it with their DNA. Careful decisions have to be made about what are appropriate levels of advice and guidance for students as they move toward autonomy. Heron (1999, 2001) suggests a range of intervention types that lecturers can draw upon as they support the student's move to autonomy. There are likely to be times when the lecturer has to be 'prescriptive' (*ibid*), telling the student what they have to do, but, in most circumstances, there should be opportunities to help the student take responsibility for their own project development.

So, the lecturer and the student meet, discussing the progress that the student has made, and the direction that their project is heading in. They talk and they refer to the sketchbook work. Most of the students I spoke with during this project had the assignment brief and their project proposal in the early pages of their sketchbook - perhaps stapled to the inside cover of a paper sketchbook or as the first entry in a blog-style sketchbook being made for a project. Over time, updated versions of proposals are added to the blog, or stapled over the earlier version. In the proceeding pages, most of the students then had evidence of divergent thinking and evidence of a survey of related work – a range of possible directions of travel, and/or a range of possible creative outcomes, represented by the work of artists who worked in a similar field, evidence of related techniques being used, etc. This evidence I saw tended to be visual, with the sketchbook working as a scrapbook. The lecturer has the images to look at and they supplement the project proposal and the student's spoken narrative. What needs to be determined is the relevance and the signification of the evidence provided. Each piece of evidence has its individual signification for the project direction and combinations of the evidence should create diffractive patterns. At the early stages of a project there are quite open opportunities for meaning making. Nothing is fixed yet; the project is being summoned into existence within the spaces between the accumulated evidence in the sketchbook. There is a process of 'assemblage' (Atkinson, 2018:4). The lecturer uses questioning and their experience to try to determine how the project might unfold – not to summon up the finished work, but to try to see where the student might be heading, what direction they need to go in, what other things they may need to collect on their journey.

Atkinson (2018:4) writes about reconceptualising the 'pedagogies of encounter' that take place between lecturers, students and art. On a macro level this reconceptualising:

'involves the evolution of learning and the emergence of a new world for the learner or teacher. It redefines the field of experience in a learning context' (Atkinson, 2018:6).

Developing his concept, Atkinson (2018:6) sees the reconfiguration of pedagogical practices as 'a firm challenge to see beyond current vistas of practice and formulate new ones, to invent new futures of learning (and teaching) not as yet imaginable'. I would argue that this is what happens on a micro level as well. Each time a lecturer has an encounter with a student and discusses their developing project there is a need to see beyond what has currently taken place, to form a vision of the future, and to engage with the not-as-yet-imaginable, or the 'virtual' (Deleuze, 2006:114) that is yet to become the 'actual' (*ibid*). With every project the student is creating something new, something that has not existed before. Every student project is, to some extent, a journey into the

unknown, a new formulation of knowledge, a new form of communication. Every tutorial with a student is an encounter that contributes to the formulation. Atkinson (2018:8) refers to the steps forward into new spaces as 'local curations of learning' that are 'little leaps into the not-known' (*ibid*) which 'open up potential for further action and ways of thinking' (*ibid*).

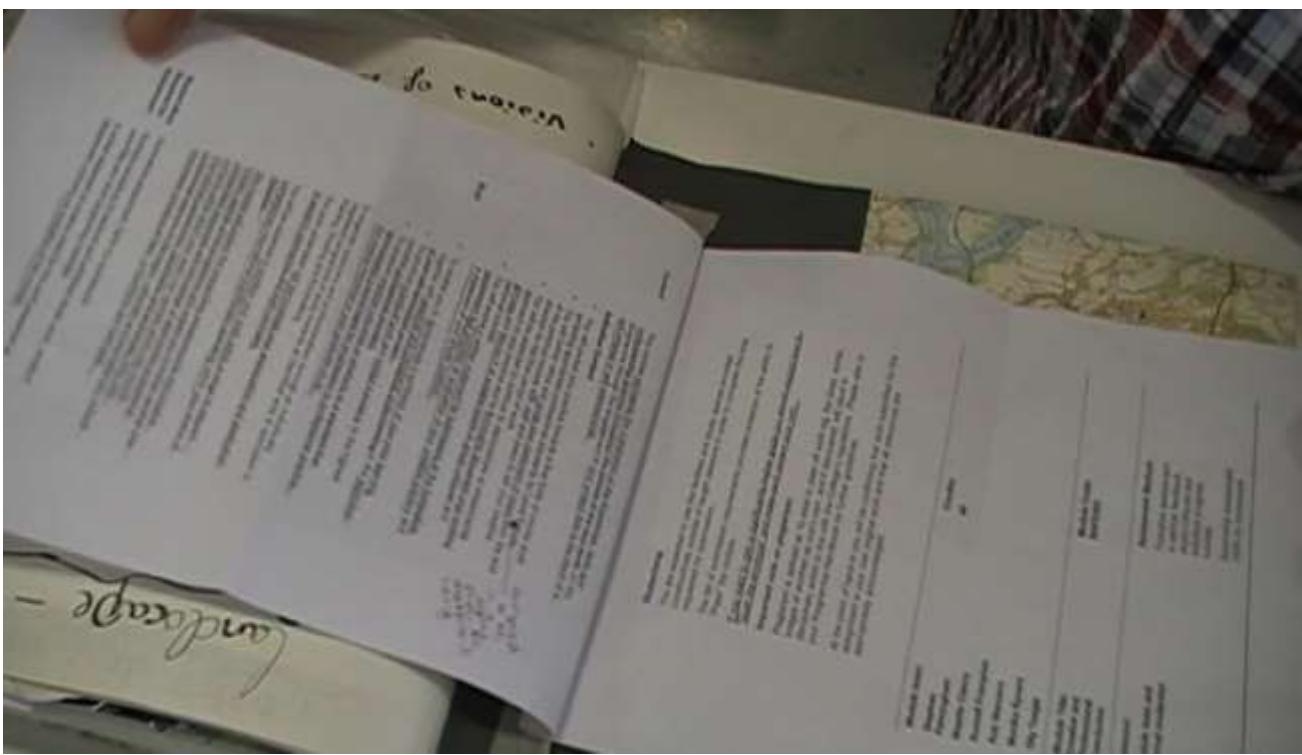


Fig. 44. Example of an assignment brief at the start of a sketchbook. *Nico* (2017).

In the middle of a project, when Critical Thinking and creative experimentation are at their most generative, discussion with a lecturer can help to encourage, affirm, consolidate, as well as challenge and stretch the student. For example, Graphic Design student, *Eddie* (31'00"), said "the one-on-ones were really good because you get really refined feedback". BA Painting, Drawing and Printmaking student *Kerry* was making interdisciplinary installations that brought together drawing, glassblowing, process art and audience participation. *Kerry* found interactions with lectures to be very generative, especially when they could see and hear about the lines of inquiry *Kerry* was following through their sketchbook work. *Kerry* (08'19") told me the tutorials were:

"a time for exchanging ideas about new philosophers, and I am really interested in theoretical physics and I don't know much about it! [...] People that are reading, people that are involved in academic fields – writing – that is where I find my main excitement and influence from the tutors here"

Kerry was seeing the studio environment as a place where staff and students were all researchers, cross-pollinating each other with ideas, with possibilities for directions of travel, and with the motivational factors that come from being part of a community of practice (Lave & Wenger, 1991).

Kerry was not looking for direct help with the realisation of the installations they were developing, *Kerry* had a disposition toward 'sustained intellectual curiosity' (Perkins, Jay & Tishman, 1993:6) and was looking for support with this. *Kelly* said:

"I really tend to talk about ideas, and processes a little bit – every so often I will call on people if I am desperately needing extra process, but more, for me, the quality of discourse is really exciting and it really invigorates my work – it takes me into a new field each time. The intellectual meeting and stretching of practice is what I have got – what has really been valuable here "(07'32")

"midway, when I have actually got some material – it [the sketchbook] talks about collaboration, the importance of collaboration, the way that the work is imbued with conversation and the kind of, I suppose referring to Deleuze and Guattari, the rhizomatic exchange of information and knowledge, which happens through the creative process when you collaborate – the ways that people exchange skill is important for me and I think the work is inhabited by those invisible, hidden processes" (23'10")

Kelly's sketchbook has extensive text, journaling or notations based around reading carried out during the project. These journal style entries show the lecturers the spheres of interest that *Kelly* has – they help make the private public, allowing the lecturers to respond in sympathetic or congruous ways. The conversations that are generated through review of sketchbook practices may be a relatively simple recognition of something (an image, a piece of writing) in the sketchbook that prompts a question or observation, but the review of the sketchbook is just as likely to create insights through relational readings of the things in the sketchbook – how do sections, pages, pictures, drawings relate to each other, what connections are triggered. The sketchbook does not just communicate what the student intends, it offers diffractive readings by the lecturer, or through the lecturer and student working together.

Later in a project, as the student starts to transition from divergent thinking toward a convergent conclusion (remembering that the two processes can run concurrently), the lecturer's interventions during a formative tutorial are more likely to focus on helping the student to consider the realisation of their work, and how it will operate with its future site and potential audience. In the sketchbook they might be looking for ways that the creative conclusions will be refined, how the student's evaluative skills are being deployed through editing their work, and how the finished work will be transformed from the virtual to the actual. From my intrerview evidence, in many instances, the lecturers will have comparatively little evidence to

review about these things during the course of the module, compared to the amount of sketchbook work carried out at the early and middle stages of the project. The work that needs to take place to produce the project outcome – whether it be a set of photographs, a painting, or an installation, etc. - does take place, but I found that the students were working more directly with their chosen materials toward the end of a project. They were carrying out less written theorisation, less collection of secondary research materials, and were more involved in primary research creation. Lecturers, rather than looking for evidence in sketchbooks, would be looking at partly finished work in progress. Rather than looking in the sketchbook at photographs and text relating to creative processes, they were more likely to be looking at the process in action and at recent photographs that had not yet been fully transformed from the student's more private, personal collection into their more public sketchbook.

I found during this project, and in my own teaching experience, that many students would complete their making processes and then go back to their sketchbooks to complete the documentation of their processes. While earlier in the project the sketchbook had been a highly generative space, at the end the focus shifted to the storage function of the sketchbook. The communicative function of the sketchbook changed; from being a tool for communicating live, on-going practices, allowing the lecturer to engage with formative assessment practices, it became a tool for communicating the completed process, designed to help the lecturer make summative assessment judgments. There was a process of embalming (Mayer, 2012) the project taking place. This is discussed below in the section on summative assessment and the sketchbook.

Of course, these few examples of how the sketchbook operates in a tutorial are only partial insights into the full role of the lecturer in a studio environment. There are many more kinds of interventions that lecturers make. The main focus of this project is on the sketchbook, but future research may focus on detailed study of pedagogic interactions in the studio to further develop understanding of the interactions that go on between lecturers and students as projects are developed.

Summative assessment and the sketchbook

Summative assessment is backward looking, it considers what learning has taken place, it is the assessment of learning, rather than assessment *for* learning (Black & Wiliam, 2006). It uses data to inform decisions about the awarding of credits and certification (Rowntree, 1987). The

sketchbook, as corroboration of the work that has taken place, is a valuable body of evidence. Students take care when preparing this body – the reasonings for it can be compared to those of embalming. Mayer (2012) explains how the processes of embalming support other associated social practices. Embalming allows a ‘temporary preservation and sanitation of the deceased body’ (Mayer, 2012:6). In relation to a student preparing sketchbook work for a summative assessment, this can be compared to selections made about what work will be presented and how it can be cleaned up. What evidence sources will the student select, what might be held back from the public gaze. There can be a degree of self-censorship based on considerations of privacy and quality of the work. Some students might have things that are too personal or that are illicit. They may have work that they are embarrassed by, or that they think might bring them public humiliation.

Embalming ‘restores a favorable body image by removing the adverse effects of disease, trauma, or postmortem changes’ (Mayer, 2012:6). Students that I spoke with during this project, especially ones who prepared an edited version of their sketchbook work via Adobe InDesign, Microsoft Publisher, or an online publisher like Issuu, Blurb, or Newspaper Club, were highly committed to editing their sketchbook work. They were compiling publications that supplied a clear structured narrative, showing how the student had thoroughly addressed all the module learning outcomes and had done so within the structures of a design cycle ((Kolb, 1984; Design Council, 2020). They had carefully selected elements of their dispersed sketchbook, like project proposals, blog entries, sketches, photographs of working processes and mock-ups, reference lists, etc., and had brought them together into one document.

These self-published sketchbooks went through a process of beautification. By the time the students who adopted this approach got to their final year BA studies they were incredibly adept and nuanced in their approach. Using *Eddie*, a final year BA Graphic Design student as an example will exemplify a number of strategies associated with creation of a ‘favorable body image’ (Mayer, 2012:6), or beautification. I spoke with *Eddie* at their stand in the final year show at the art college. This show is an assessment point, but once that process is complete the show is open to the public, including potential employers or clients. *Eddie* had prepared their self-published sketchbook with lecturers and external assessors as the primary audience, but they also had wider audiences in mind as well. *Eddie* had selected a newspaper format for their self-published sketchbook. The format carried a semiotic meaning, saying “I am here to be read – I am in a format that you

understand”. Newspapers carry with them the expectation that they are edited and made accessible – they tell a number of stories and these stories are delineated by headings, guttering, and a number of other publishing devices related to the relationships between words and images (Errea, 2018). *Eddie* thought using the newspaper format showed professional skills from their subject specialist area and would engage with a wide audience: “I thought it would help my cause more if people were inclined to stay and look (*Eddie*, 10'30”). *Eddie* wanted to communicate a professional identity that showed they were ethical and driven by issues (Roberts, 2006; Dougherty, 2008) – in this case disability issues – they were willing to sacrifice some student identity that would be fully represented by then having a wide range of early experimentation, instead focusing on polished professional skills that cast them as someone who was creative, skilled and who could design and deliver a project with visual impact and a strong message. *Eddie* (24'25”) told me:

“with design stuff it is about being very professional, especially in the 3rd year, to be commercial-ready [...] I think a sketchbook that has loads of stuff you can't understand and is very personal to the designer – I don't know if that is necessarily what people in the industry want to see – they know that goes on, they do that as well – it is like you need to be in the same position as if you were going to see a client – you wouldn't do that with loads of jargon they are not going to understand and don't want to see – you naturally edit it down”.

Eddie wanted to show work that strongly supported the creative conclusion but was aware there was an expectation of early experimentation with alternative ideas being carried out. *Eddie* showed a couple of divergent early experiments through three images, but ensured the ones selected were still in keeping with the actual project that they carried out. When the sketchbook was used in a crit or presentation *Eddie* (32'30”) could add a detailed spoken narrative that emphasised the early experimentation that took place, but when the sketchbook was operating in the show it offered a more tailored view of the professional identity that *Eddie* wanted to project. *Eddie* could be considered to have a ‘be perfect’ driver (Kahler, 1975:280) that encourages them to be correct in all they do, be exacting, neat, and not want to lose control. The reality of *Eddie*'s process was somewhat different from the image they wanted to portray. *Eddie* (05'48”) told me their initial idea development had been “really tedious and really hard”. Various ideas were tried out before the final project started to crystallise: “I was literally mind-mapping and going over things for months. I started with basic ideas - standard primary research, secondary research, surveying people, talking to people” (*Eddie*, 06'40”). The behind-the-scenes sketchbook work that was produced, but that was not publicly shown, was “necessary, [...] but I don't need to share it with people” (*Eddie*, 28'30”).

The layout of the newspaper, the ways that the publication as a whole unfolded from front to back, reinforced the idea of the project having a linear direction, or a clear sense of purpose as it moved from inception to conclusion. The newspaper template was downloaded and blank pages were inserted. *Eddie* put in temporary headings for the pages that represented the stages of the projected design that they wanted to represent as being the structure that underpinned their project. *Eddie* then reviewed their image banks as they thought about the processes they actually went through and the one that they wanted to represent. They would “look at the images and then write the comments, rather than write the comments and find something to justify what I had said”. *Eddie* could be classed as a visual learner (Fleming, 1995). Some pages of the sketchbook are dominated by images, with the narrative being carried by drawings or photos, with the relationship between the stages of the process being reinforced by directional arrows that lead the reader through the narrative (*Eddie*, 18'50”). *Eddie* showed confidence in their ability to use visual communication techniques, making their work easy and quick to access. Because *Eddie* was compiling the sketchbook from a variety of materials that were collected and generated during the project, rather than showing the body of work in its original or authentic state they were able to beautify it. Original sketches on paper were kept in a loose-leaf folder and were photographed or scanned, then they were cropped, had their white balance made consistent with other images in a set, had their contrast and saturation standardised, and were resized to fit on the page in a preferred manner. In these ways, hand drawn sketches could be made to operate congruently with digital graphic design work *Eddie* had made, photographs they had taken, and images they had appropriated from the internet.

When constructing the sketchbook *Eddie* had to consider another aspect of the beautification element of embalming. The body of work needed to retain more than the resemblance of the actual project work, it had to capture some of the spirit or character of it too. The work was neat and precise, but not so neat that it appeared sterile. *Eddie* brought a sense of life to the publication, and its representation of the research process, by including photographs of hand-drawn storyboarding, and of notes and lists. The photographic nature of the images, and the ways that they were laid out on the page within a grid system with other images, gave them a graphic design sensibility that was in keeping with the document as a whole, while what was shown

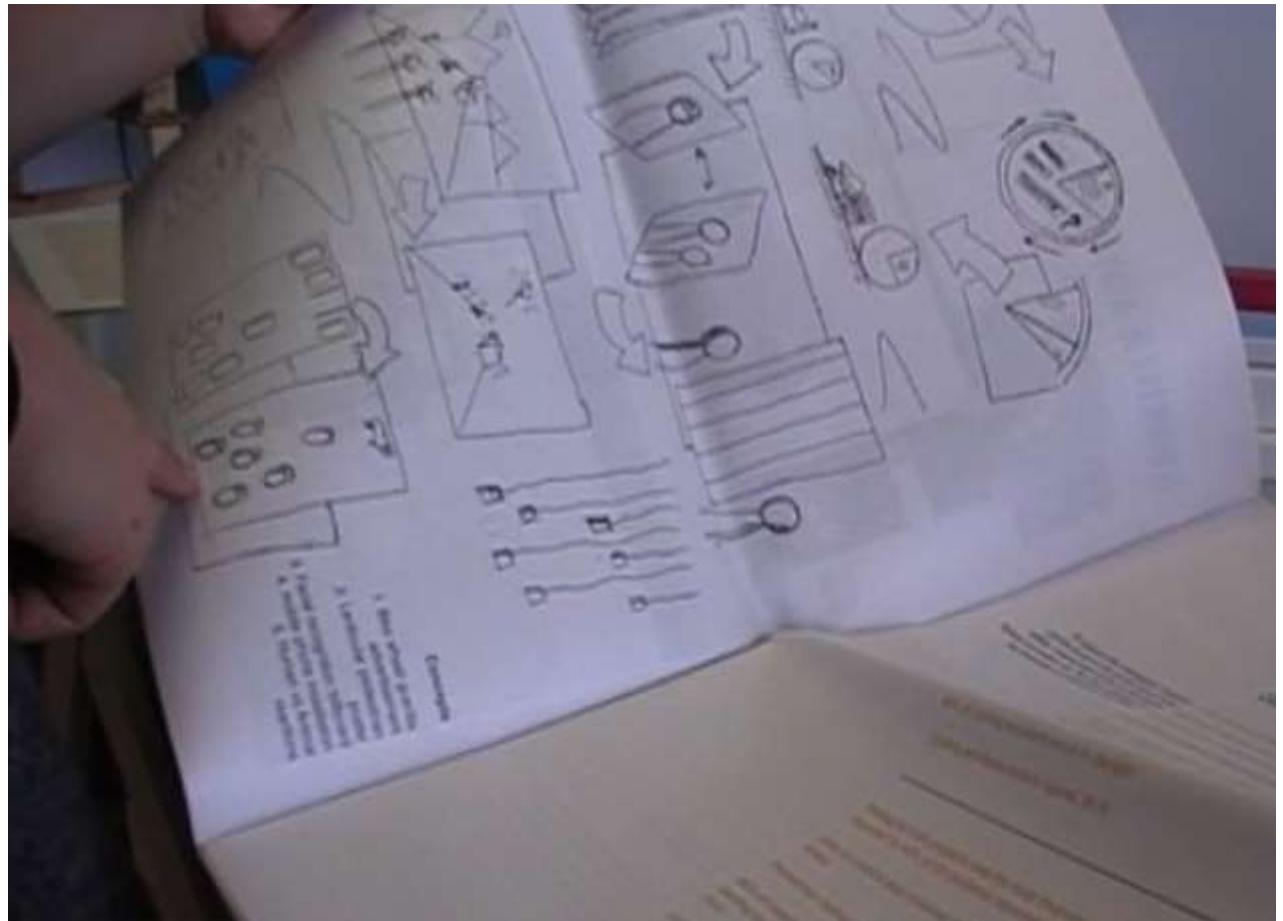


Fig. 45. Extract from sketchbook showing graphic communication, with a key. *Eddie* (2017).

in those images, the record of a human hand leaving traces on paper, evidenced the act of research having taken place. A judgment was made about how many of these representations of research being enacted had to be made. The right number of the right kind of image would signify extensive and genuine research had taken place. The images were testament to a more extensive, natural, and authentic research process having taken place in the past. As an embalmer might dress a corpse in a particular suit of clothes that characterises the person, so *Eddie* dressed their completed research process. The body of work was cleaned, preserved, any needed reconstructive work was carried out, make-up was applied in places, and it was laid to rest looking its best, ready to be viewed. *Eddie*'s embalming process was something that they had prepared for while the project was still alive. As discussed earlier, when *Eddie* (33'25") suggested it would be 'stupid' not

to respond to the set learning outcomes, it was a process they had been through many times and that they had developed expertise in:

"For example, in the third year they showed up a way of designing [the Craft Council's double diamond design cycle which has 4 main headings] so I put the headings in as my contents page." (*Eddie*, 28'45")

"I have always gone above what they ask for – if they ask for an outcome, how can I go two steps above to make it better? How can I make it something that I am really proud of?" (*Eddie*, 33'25")

Eddie's approach does show deep, rather than surface learning (Entwistle, Hanley & Hounsell, 1979), and their approach can also be seen to be highly strategic (Entwistle & Ramsden, 2015). *Eddie* had been thorough and had been highly committed to their studies; their work was creative and original, but they were also working within a course discourse that had shaped their thinking about what constituted approved practices. Producing good work, pleasing one's self, and pleasing the lecturers, had become one. Biggs (2003:2) might see this as 'constructive alignment', whereby the student constructs meanings within a curricular environment designed to enable the students to meet particular learning outcomes. Within this conceptualisation of learning, with its focus on predefined outcomes, might it be true to ask if 'The 'ideal' student then becomes the person who finds out how to demonstrate that learning most valued by the teacher' (Bellugi, 2016:31)? Might there be an imbalance of power, with too much focus being placed on lecturer or institutional needs, rather than on genuine creativity and Critical Thinking by the student?

Words do work (Austin, 1962) and discourses exert power (Foucault, 1981), so I found it interesting to see an institutional move to the term 'deliverables' for what needed to be submitted for assessment purposes by the students at the college where this research was carried out. What needed to be delivered by the end of the module is listed in the module assignment or project brief that students receive at the beginning of the module. Might the demands of summative assessment be overly shaping the nature of the learning, or was this a clever way of helping to bring alignment between learning outcomes and processes? When learners are being strategic they are being efficient and tactical with the efforts that they carry out, but the creative process may become game playing. For example, Graphic Design student *Chris* (35'50") told me they had included in their sketchbook some screen shots of an online design platform that had been recommended to them by a lecturer, not because the platform had proved useful, but because *Chris* thought the lecturer had expectations for what would be delivered in the sketchbook. Being asked to deliver something to someone places the deliverer in a somewhat

subservient position - power relations are being enacted, whether intentionally or not. Lecturer *Ashley* (43'20") thought the term deliverables seemed overly prescriptive and businesslike. While another lecturer, *Lindsay* (29'58"), was less worried about it being prescriptive, but did think it was inappropriate for the learning context that they were trying to set up - "I really dislike the term deliverables as it sounds like we are some sort of Uber taxi firm or something; so I have changed it in the brief to *student work required for this assessment*". Atkinson (2005:24) suggests there is a 'moral dimension in the sense that in order to 'acquit oneself effectively' a particular kind of performance is required' and this moral dimension was clearly a concern for *Lindsay* and how the words used in an assignment may have an effect on the students' perception of the nature of the course.

As students learn all the formal and informal rules associated with assessment - both the spoken and the unspoken – they become highly adept at gamifying their approach to assessment, with some students developing strategic learning approaches that appear to be evidence of deep learning, but that are probably surface learning – although they may be signifiers for, or translations of, other deep learning approaches that they went through, but that they do not have evidence of. While *Eddie's* approach could be seen as editing down their evidence to offer a clear, purposeful narrative in their sketchbook, some other students went through a process of making-up their evidence as they prepared their corpse for display. Students are expected to keep a record of their research process and progress

"I always try to choose artists that, although reflect me, are different from each other because I do not think it is helpful just getting six artists using the same media – it helps me to understand where in the art world my art would fit".

In this way, *Morgan* was meeting an expectation that part of their creative thinking should include research into other artist's work to help generate ideas, but what they were actually doing was contextualising their work within a professional context. They had translated a deep learning approach into surface learning by trying to be strategic. *Jordan* also showed aspects of strategic learning, tending toward surface learning as they made a representation of their real, deep research process in the constructed sketchbook. *Jordan* (10'25") knew they had to supply a clear exposition of their working processes, so would use Pinterest to get images that helped them illustrate the journey they had made: "I type in key words for what I want – [...] you have got to show your process, if you don't, if one part doesn't make sense, it all doesn't make sense". *Jordan* was adding extra elements to their research process, elements that had not actually

had a direct part to play in their creative process, in order to try to achieve higher grades, lecturer approbation, or, perhaps, to improve the communicative function of their sketchbook work. I call this process back-filling - perhaps Massumi (2002:7) would call these sketchbooks, completed after the process of making, 'back-formed'. Massumi (2002:8) argues 'Passage precedes construction. But construction does effectively back-form its reality'. A parallel can be drawn to the aphorism that history is written by the victorious. If 'possibility is back-formed from potential's unfolding' (Massumi, 2002:9), then what the students may be doing when they reconstruct a representation of their creative journey, is to make sense of their thinking – to make alogical processes conform to a logical norm. A student's creative process may be so far beyond their ability to articulate it they need to, in a Deleuzian sense (with Guattari, 1987), collapse all of the complexities of the virtual that they have explored into a simplified actual (accepting that the sketchbook is only a representation, translation, or interpretation of what actually took place). My O Level Physics only took me so far, but, with the help of the internet, I think that the resolution of the creative process and what actually appears in a sketchbook might be compared to a wave function collapse⁸⁶:

In quantum mechanics, wave function collapse occurs when a wave function—initially in a superposition of several eigenstates—reduces to a single eigenstate due to interaction with the external world. This interaction is called an "observation".

I couldn't have put it better! But I can put it differently: a student observes their own working process and records it. What they are able to record are the things that are intelligible. Multiple processes of thought, 'intra-actions' (Barad, 2007:175), discourses that shape actions (Foucault, 1981), 'lines of flight' (Deleuze and Guattari, 1987:188), flights of fancy, - or 'doings, sayings and relatings' (Kemmis *et al*, 2014:31) - all get resolved into what can be represented, to the student's best ability at a particular point on their educational journey. The generative processes that appear in the sketchbook, carried out by the student, have to be re-presented to an external audience, so the communicative function of the sketchbook becomes increasingly important. In the move from the private to the public, and under the threat of surveillance, practices are put under self-surveillance, with notions of what one's best abilities are, being brought into line with perceived expectations:

He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself; he inscribes in himself the

power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection. (Foucault, 1995:202-203)



Fig. 46. Heisenberg Rules! Lola Webster (2020).

⁸⁶ The idea of a wave function collapse is associated with Heisenberg (Doyle, 2020) and reminds me of a waistcoat that my friend Paul had when he was seventeen. It was a black leather waistcoat and, on the back, he had embroidered 'Heisenberg Rules! Doesn't He?'. Obviously, we all thought this was hilarious play on the uncertainty

principle and had no real idea of the nerdiness of it all. Paul is now a successful Doctor of Physics and is involved in many research projects. The waistcoat is long gone and there are no photographs of it, so my daughter produced a quick sketch to ensure the memory lives on.

Learning to play by the rules is important if one is to win the game. Photography lecturer *Ashley* (13'45") told me about a student who produced high quality photographs, but did not meet academic and evidential rules:

'we have a student at the moment who is a brilliant photographer – you know you can just send him out with a camera and he will come back with amazing images, but he can't research, can't write, he can't critically reflect; he hands in a sketchbook which is just 2 or 3 sides of A4 saying I did this shoot and I got some images I am pleased with and, unfortunately, when you look at the grading matrix and you look at the learning outcomes it limits him to a 2:2, even though the work is fantastic and it is the sort of stuff that goes up on the wall'

An important aspect of the summative assessment practices brought to my attention by both staff and students, the thing that would 'infuse a spark of being into the lifeless thing' (Shelley, 2014:46) that is the sketchbook as a corpse, is the opportunity for the students to discuss the representation of their research with a lecturer during the summative assessment process, and for ongoing formative assessment interactions to inform summative assessments. At the college where this research took place the sketchbook does not have to operate as a standalone object. It is used in a way similar to the one I used for the intrerviews carried out during this project, and in the way that *Lindsay*'s course conceptualised the studio book. The sketchbook is part of a conversation, it offers opportunities for diffractive readings, for reinterpretations, for the construction of shared meanings. The sketchbook offers opportunities for spoken words to fill in spaces, to make connections between elements, to prompt thoughts and remembering, to help to put together a more complete picture of what went on during a project. Belluigi (2016:27) suggests there is an 'understanding that summative assessment is made from an 'outsider view'' (Belluigi, 2016:27), where the lecturer, as assessor, is supposed to take an objective stance, using the assessment criteria to evaluate how well a student has evidenced that they have met the learning outcomes. But when carrying out summative assessments *with* the student then the lecturer is more likely to be able to adopt an insider view. An insider view will allow the lecturer to go beyond a *prima facie* reading of the sketchbook evidence and try to engage more fully with the lived experience that the student has been through. An insider view encourages the development of a 'thick description' (Geertz, 1973:9) by talking with a student and gaining insights into their personal 'structures of signification' (*ibid*).

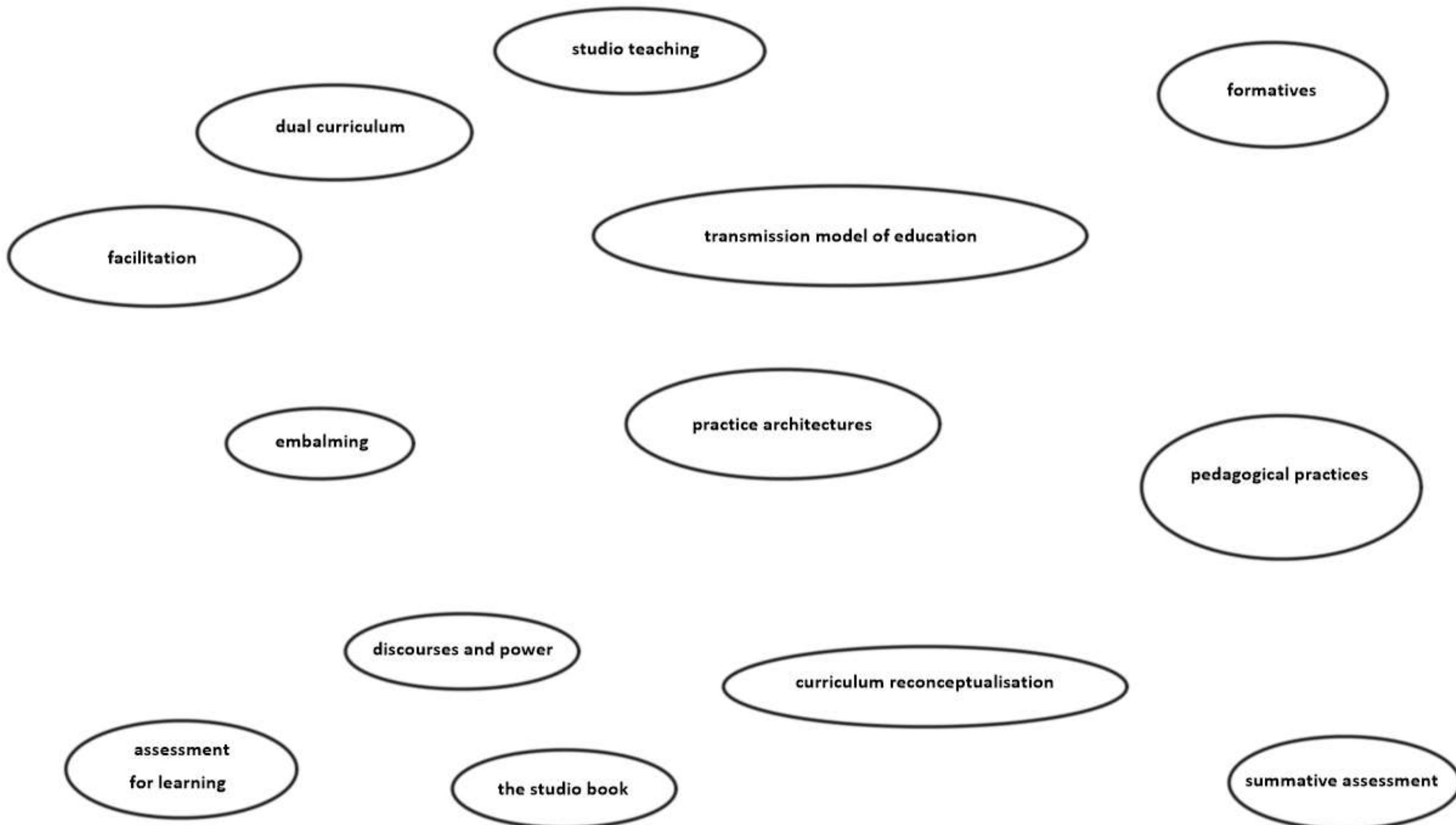
Although the sketchbook can be an excellent source of evidence of 'constructive alignment' (Biggs, 2003:2) when used to help make assessment decisions, an over-reliance on it may lead to a limited, misleading, or skewed view of a student's working practices. The view may be limited

partly because the sketchbook does not contain evidence of all the work that a student has carried out. Some processes may have taken place elsewhere or may have been written out of the sketchbook as a narrative reality is 'back-formed' (Massumi, 2002:9). The view a lecturer gains from viewing a student's sketchbook may be misleading because a back-forming process may impose an ordering of the sketchbook that is edited after the authentic working practices have been completed. What is offered in the sketchbook may be inauthentic because what is shown is not what actually happened in terms of order or extent, or may even be fictitious, offering evidence of practices that were not part of the process at all – like doing preliminary drawings after the final piece has been made. The sketchbook work may be skewed because the assessment practices have been overly influenced the working practices – the tail is wagging the dog. The construction of the learning process can be overly aligned with the assessment practices, causing the student to focus too much on strategic approaches to learning, with efforts being addressed to inauthentic surface learning, rather than authentic deep learning. A parallel can be drawn with Goodhart's Law that advises 'when a measure becomes a target, it ceases to be a good measure' (Strathern, 1997:308). Talking with the students, reviewing their sketchbooks with them, making connections between elements of the sketchbook, between the sketchbook and the artworks they have made, and between the sketchbook and the student's verbal narrative will all help to build a more fulsome, thicker, summative assessment decision. I think the sketchbook as a site of practice, with a focus on its generative functions, however idiosyncratic, is something that should be championed. The storage and communicative functions of the sketchbook should not dominate the generative function. Assessment practices should try to understand and be involved in meaning making, rather than 'predetermine, prescribe or proscribe' (Horton, 2015:2) sketchbook practices and associated critical and creative practices.

A final note on the embalming process and how it can be related to summative assessment process can be made when thinking about module boxes and the institutional storage and display of student work. Hast (in Mayer, 2012:6) claims 'embalming is the best-known method of presenting the decedent well through the memorial event'. With summative assessment processes, once the students have presented their work and it has been provisionally graded, an indicative sample of it must be made available to external examiners. Deblon & Wils (2017:online) explain how the preservation and presentation of bodies moved on from being a largely practical process into being an art form. Body parts were being stored in jars full of alcohol so that they could be used for educational purposes. These body parts had to show a particular condition, or aspect of a medical

procedure, but they also started to take on an aesthetic that celebrated the craft skills of the person who prepared the jar. These jars created ‘new spectacles of death’ (*ibid*). Students will have already taken care to embalm their work and then the staff take charge of further memorialisation through the stages of embalming that they have responsibility for. Embalming allows ‘moving the deceased to a distant location for final disposition and if desired, viewing’ (Mayer, 2012:6). Embalming also ‘allows time to organize ceremony and ritual with the body present’ (Mayer, 2012:6). Digital representations of students’ sketchbook work have made these processes far easier. Rather than keeping a few exemplar sketchbooks (that the students may be unhappy or unwilling to give away), it is possible with digitalised sketchbook work to get the students to submit work that can easily be stored and that is designed to be in an appropriate format without any additional work from the lecturers (I remember photographing pages from students’ sketchbooks on 35mm film and paying to get it processed in an attempt to build good quality module boxes in the past).

This section is for the reader to make notes, make connections, and add their own thoughts as a summary to the chapter



Concluding: The end?⁸⁷

As readers and writer come toward the end of this thesis there are, I believe, two major and related questions to ask. Does the work constitute a PhD level of research and, if it does, how does it contribute to the body of knowledge concerning sketchbook practices in formal post-compulsory Art & Design education? I would argue that there is a tautological relationship between these two questions. If it contributes to the body of knowledge then it can be classed as research, and if it is research then it will contribute to the body of knowledge.

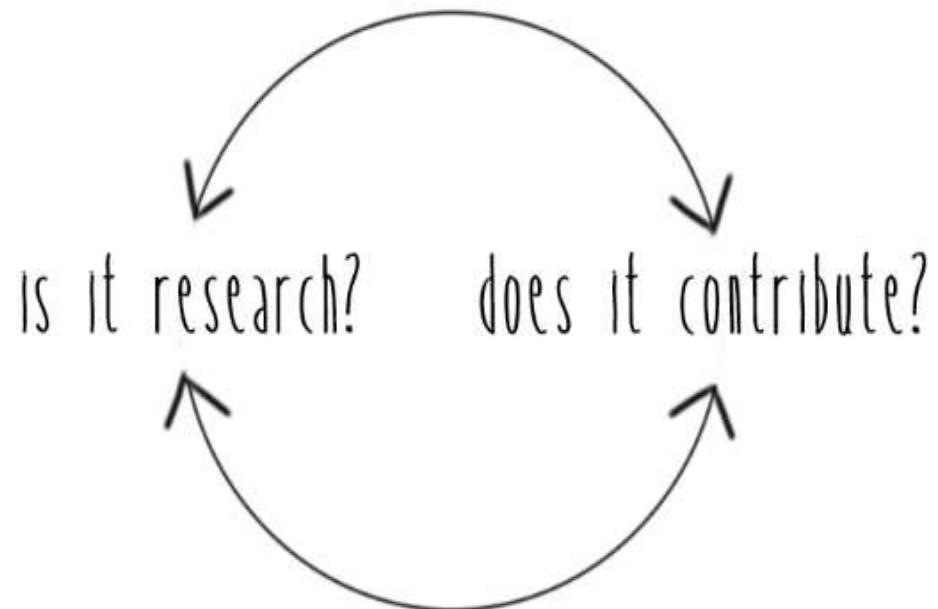


Fig. 47. *Is it research?* Simon Webster (2020).

As a research project it has gone through changes; from its inception, reconceptualisations, and responses to its own ‘unfoldings’ (Deleuze & Guattari, 1987:194) – there has been what Gale

⁸⁷ As I finish writing and, if it is the correct term, look forward to my viva and the corrections that are suggested, I am reminded of the opening words of The Doors song, *The End* (Morrison, 1967) that my friend Dan sings with his band:
Lyrics removed due to copyright restrictions

(2018:6) calls a ‘methodogenesis’. The ongoing approach to the research has had to be tailored to fit the needs of the project, including the data/‘creata’ (Andersen, 1994:131) that had to be collected, or made; the ‘ethico-onto-epistem-ological’ (Barad, 2007:382) decisions about how students’ and lecturers’ sketchbook work or their words from the intrerviews would be used; and so on. The major decision I made was to move from an approach that was to be based around Grounded Theory (Glaser & Strauss, 1967) and Symbolic Interactionism (Blumer, 1969) to one that had a close relationship with Arts-Based Educational Research (ABER) (Barone & Eisner, 2006). ABER, by its very nature, is not an exact science – it consciously avoids being one, although in its efforts to gain ‘trustworthiness’ (Lincoln & Guba, 1982:3) and defend its perceived rigour, informal rules are starting to appear (Eisner, 2008) that will have a ‘disciplining’ effect (Foucault, 1979:212). As an act of ‘individuation’ (Semetsky, 2011:12), partly in an attempt to move myself away from the ‘structurings’ (Ransom, 1997:55) of others, and also in an attempt to have a methodology that is the best possible fit for the project, I coined ‘research-as-an-art’ as a ‘bespoke’ (Ross, 2007:283)⁸⁸ approach. Brown (2017:4) offers a rationale for why it may be necessary to find one’s own path:

In my earlier years, I tried the opposite approach – filling my mind with critics and naysayers. I would sit at my desk and picture the faces of my least favourite professors, my harshest and most cynical colleagues, and my most unforgiving online critics. *If I could keep them happy, I thought, or at the very least quiet, I'll be good to go.* The outcome was the worst-case scenario for a researcher or a social scientist: findings that were gently folded into a preexisting way of seeing the world; findings that carefully nudged existing ideas but did so without upsetting anyone; findings that were safe, filtered, and comfortable. But none of that was authentic. It was a tribute.

Adopting a ‘research-as-an-art’ approach helped me to open myself up to alternative ways of doing things. It reminded me of ‘daredevil’ (Jipson & Paley, 2007:1) approaches to carrying out research and helped me to move away from a social science approach and toward an arts-based approach. It allowed me (I allowed myself) to bring my subjectivity, my being, to bear at every stage of the project. I believe this to be a common practice, but is often denied while claiming ‘the methodology of the position-less account’ (Smith in Letherby, Scott & Williams, 2013:41). I wanted

⁸⁸ Ross (2007) discusses tailoring and offers a quotation that explains differing approaches ‘A bespoke suit is cut from a pattern made specifically for a particular client (i.e. the material is spoken for), whereas a made-to-measure suit is cut from a standard pattern and amended to suit the contours of the individual’ (Walker in Ross, 2007:283). There is no mention of off-the-peg – it simply would not do!

it to be clear that researching sketchbooks was something that I had a real interest in, that the people I spoke with were people studying at a college where I have worked and have had some influence on, either through my arts-based teaching or through my work as a teacher educator. I adopted the 'intrerview' (Kuntz & Presnall, 2012; Stender Petersen, 2014) over the interview as it recognised the active role of the researcher in an event that brought together the sketchbooks, the students and the spaces where they worked. In those intrerviews I embraced Andersen's (1994:131) idea of 'creata' over traditional concepts of data. When analysing the materials I brought home from those intrerviews - the videos, photographs, the sound recordings, and memories - I rejected Grounded Theory's (Glaser & Strauss, 1967) internalised, constant comparative method for one that allowed me to bring a wide range of external literature, simile and metaphor to bear. And, when presenting the final thesis, I selected a non-traditional mode, bringing together a hybrid of styles that worked for me, allowing me to use footnotes, images of student's work, images made by my family, and some of my own, as well as other asides (e.g. meme-like quotations).

Placing myself at the centre of the research was not meant as an act of self-indulgence. Partly, it was a recognition that the researcher is always deeply imbricated⁸⁹ in their research (Hammersley, 1992)⁹⁰, and, very much related to this, there is a sense of a posthuman (Van der Tuin, 2014) or new materialist connectivity, or 'intra-relations' (Barad, 2007:94) within the events or phenomena

⁸⁹ As I have had to do so often, due to my mild dyslexia, I checked the spelling and meaning of imbricated. I often look at synonyms to help me triangulate a sense of the possibilities for what a word might mean and how it may be used. In this instance, when looking up synonyms for imbricated it offered me three alternatives, none of which I was familiar with (Thesaurus, 2020). I don't remember that ever happening before – they were: jugate, lapstrake and obvolute. I will not undermine your natural inquisitiveness, nor deny your pleasures gained by surfing the web by giving definitions of these words.

⁹⁰ Hammersley (1992) seems to recognise that the researcher themselves must be deeply influential on their study, but wishes that they were not. Hammersley (1992:2) has concerns about ethnographers ability to represent an 'independent social reality' beyond themselves, claiming that 'many have come to question this realist conception of validity, arguing that the data which ethnographers use is a product of their participation in the field rather than a mere reflection of the phenomenon studied, and/or is constructed in and through the process of analysis and the writing of ethnographic accounts. The most obvious example of this anti-realist trend is the growing interest in the rhetorical strategies used by ethnographers, these often being treated as constituting rather than merely representing what they describe' (*ibid*). Hammersley argues that if the social reality the ethnographer is researching is constructed by individuals then social realities are plural and relative, with each person creating their own reality and ethnography's apparent search for realism is replaced by relativism. Importantly, the ethnographer is also actively constructing their reality, 'rather than merely representing some independent reality (more or less accurately)' (Hammersley, 1992:45). Rather than reporting underlying truths the researcher is reporting their own construct or interpretation. This does not sit comfortably with Hammersley's view that there is an underlying truth. He acts like one of the knights from the Vulgate Cycle books concerning Arthurian legend, protecting the road that leads to the Stony Path, deciding who is fit to pass and who is not. As Lancelot approaches, his way is barred because he had been seen riding on a cart, rather than a horse, thus demeaning and denigrating the status of a knight. The knight protecting

that I was involved in. There was, for example, a (rather long) event involving myself, the Ethics Committee, and my ethical approval forms⁹¹. Each intrerview was an event or phenomenon. Each analytical and creative engagement with research materials as I carried out my writing was an event. At each of these events, I was one of the relata at the centre of it, along with the other relata, whether that be the studio space, student and their sketchbooks during an interview, or my recordings, field notes, computer and internet as I was writing. I was at the centre of the research along with everything else. Earlier, when writing about drawing, I introduced the phrase 'as-the-now', claiming it to mean the confluence of all things that are relational to the coming together of a phenomenon. Everything that is relevant comes together as one and everything that is not falls away, out of focus, or becomes at a distance (as with Csikszentmihalyi's (2013) flow state). Again, trying to delve deep into my physics knowledge, which is thin, I offer (on the following page) a couple of drawings that try to capture the nature of my argument: one that shows an atom with multiple nuclei, and another an atom without nuclei (Briggs & Dimitrovski, 2008)⁹². In two different ways, they try to show that, in a phenomenon, relations within relata are formed and that there does not have to be one dominant relata around which all the other relata rotate. As a researcher I am decentred (Strom, Mills and Ovens, 2018), yet in the centre. Van der Tuin (2014:235) puts it this way:

A posthuman understanding neither places the Subject in the centre nor attempts to remove him [...], but rather opts for a proper placing of subject, object and instrument in an agential and material-discursive environment (an 'assemblage', to speak with Deleuze).

the path calls him a 'disgraced son of a whore' (Lacy *et al*, 2010:209), 'reproaching him severely for the cart' (*ibid*). Although, philosophically, Hammersley (1992; 2011) sees objectivity as unattainable, he believes that it is something that should be strived for. Subjectivity is seen as a corrupting force or vice, leading us away from 'what is true' (Hammersley, 2011:3). Hammersley (1992:5) tries to bridge a philosophical gap between objective realism and subjective relativism through, what he calls, 'subtle realism'. He offers faith or 'belief' (Hammersley 1992:50) as the ultimate proof of 'the existence of phenomena independent of our claims about them' (*ibid*). He believes that the path towards truth, one that he vehemently protects, is the one that must be travelled.

⁹¹ I wanted the participants to be able to withdraw at any time up to publication (as in line with the University (2013) research policy at the time), but the Ethics Committee insisted I set a limiting time period in case a withdrawal undermined my chances of delivering the project. They would not let me proceed without setting a time period – I was furious and had to choose whether to comply or withdraw. I complied after some haggling over how long the period had to be. I felt compromised and bullied. Although I know that I would have withdrawn all/any mention of a participant who wished to withdraw (in line with the limitations set out in the ethics paperwork held in the appendices), whatever time limit the forms they had signed stated and whatever the consequence, the experience gave me a Foucauldian (O'Neill, 1986) and Gilliam-esque (1985) sense of the disciplinary powers of bureaucracy.

⁹² Briggs and Dimitrovski's (2008:10) 'atoms without nuclei', like posthumanism, is 'is just a hypothetical concept' (Zyga, 2008:online), but that does not mean it is not a useful idea to pursue, learn about and play with. Other interesting concepts considered and rejected for this project were Wheeler's 'one-electron universe' (Wikipedia, 2020), whereby one electron is everywhere and everywhen all at the same time, and the idea pursued by Douglas Adams (1979) that our world is an experiment made by more intelligent beings (based around the idea that intelligent beings use experiments to develop knowledge and that, as the universe is infinite, there will be far more intelligent being than us – so we may be one of their experiments).

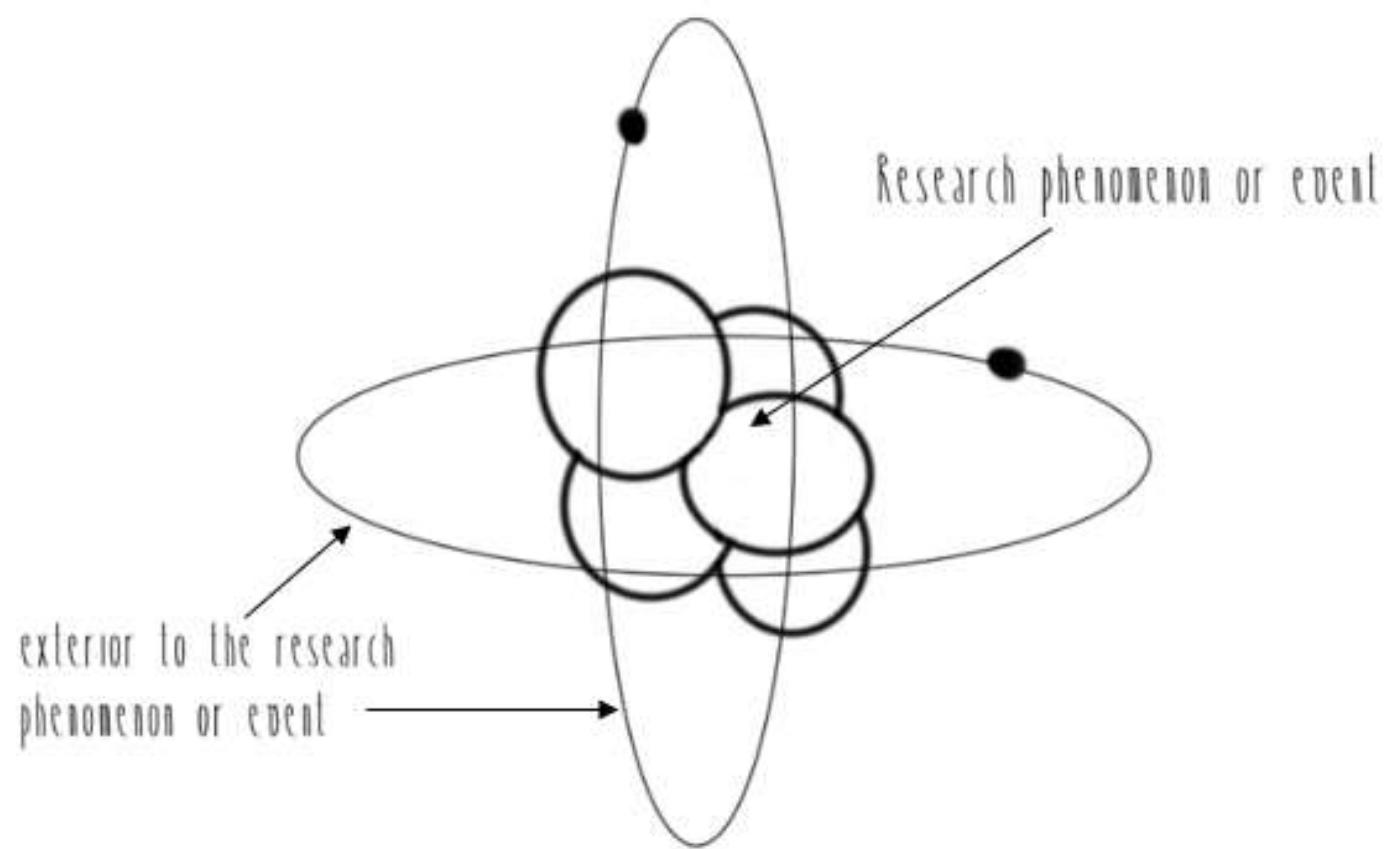


Fig. 48. Nuclei are relating in the centre; electrons are peripheral. Simon Webster (2020)

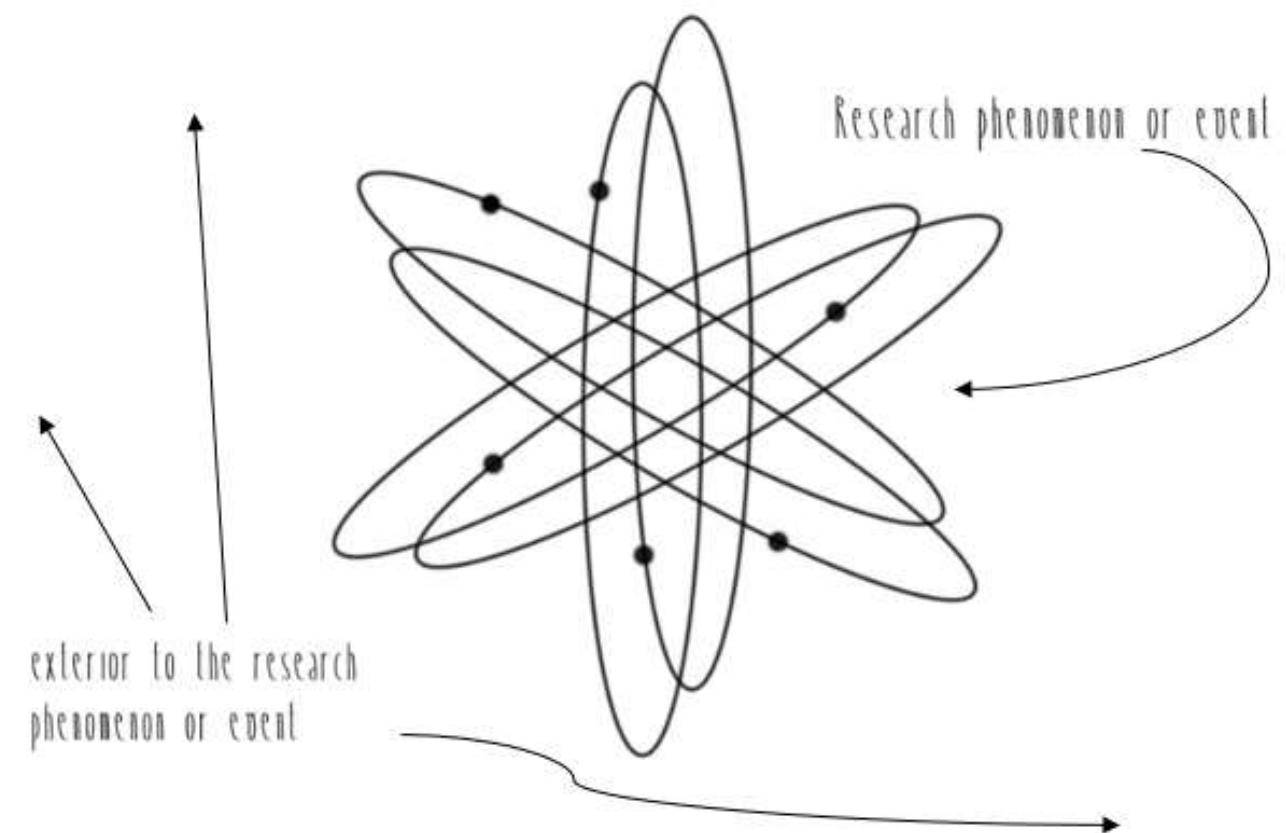


Fig. 49. Atom without nuclei, with electrons relating as a centre and everything else distanced⁹³. Simon Webster (2020)

⁹³ Strom & Martin (2017:79) offer an explanation of assemblages that can be applied to the simile of the atomic structures to research practices involving the researcher and the researched, in all their complexities, coming together as a temporary but still 'substantive configuration' that generate 'functions and productions' (*ibid*) as they become meaningful and make meanings of the research: 'nothing exists nor operates in isolation, but rather, is constructed as and receives its meaning from the assemblage as a whole' (*ibid*). Hordvik *et al* (2018:59) refer to Strom & Martin's phrase for the researcher and the researched forming an assemblage - 'coming into composition'.

Hordvik *et al* (2018) go on to discuss 'the nonlinear and fundamentally relational process of constructing knowledge' (*ibid*) and why 'attention shifts away from the individual self towards the constitutive nature of the interdependent connections between self and other in the production of and knowledge about practice' (Hordvik *et al* (2018:60). The researcher enters into an 'intimate' (Strom, Mills & Ovens, 2018:2110) relationship with the research, which challenges binary conceptualisations of the researcher and the research by recognising they are as one.

Another way that I have tried to look at the relationships between a researcher and the research, something that has appeared a number of times in this thesis, are ideas around tools affecting the maker, writing affecting the writer, reading affecting the text – there is a back-and-forth that exists in Bennett's (2010:30) 'thing-power' and in the relationship that O'Brien (2007) describes between the policeman and his bicycle as they rub against each other, swapping personalities. Affect is a two-way (at least) thing. As a researcher, even if I tried to exert power and control over my subject, it will resist and push back. It will affect me as I try to affect it.

So, the constructed text is more than a report on what I found. 'Research-as-an-art' has helped me to find a way to work with my research that has drawn out useful categorisations, concepts and insights. Of course, it is not the only way that this study could have been pursued, but I believe it has been an affective and effective one for me. It is time to explore the other half of the tautology – exactly what has the research contributed to the body of knowledge concerning the use of sketchbooks in post-compulsory Art & Design education?⁹⁴



Fig. 50. Words by O'Brien (2007:88). Images by Simon Webster (2018)

⁹⁴ As stated earlier, this thesis is a temporary report on ongoing research into the use of sketchbooks. Further research is likely to explore the use of sketchbooks on the PGCE teacher training course I work on, and research into sketchbook practices in the studio as students develop their work, during crits and formative assessment tutorials.

Developing an approach that sees ‘research-as-an-art’ produced, as a by-product, a manifesto that suggested ways that ‘artfulness’ (Manning, 2015:47) and ‘research-creation’ (Manning, 2010:133) can be brought together as a productive way of approaching research, whether that be for a written thesis or for making art objects, installations, or performances. As the manifesto has sat within this document and I have moved past it regularly, sometimes reading it and sometimes musing about and around it, I have felt an increasing parallel, not with Marinetti, who inspired it, but with Sister Corita Kent (with Jan Steward, 2008) and her ten art department rules. Kent (in Kent and Steward, 2008:12#) asks us to keep looking, to see things afresh:

We don’t understand the fulness of everything, of anything. Things constantly change and we may have seen an object only five minutes ago and thought we knew it – but now it is very different. To be able to adjust to these subtle differences means looking anew with what new materials we have gathered up inside ourselves – as well as noting what changes have taken place within the object. We need to be aware of what we don’t yet know.

I hope that my manifesto may inspire someone else to engage with the art and/or research practices in a new way. They have been made as temporary statements, adaptable, changeable, inexact and open to interpretation. Mabey (2012) writes about the herbalist Nicholas Culpepper and how he tried to offer medical advice that encouraged readers of his book to create treatments from the advice given about various plants, adapting medications based on what was locally available, making the public less reliant on other doctors’ expensive treatments and the restrictive hold on medical knowledge that they were claiming as their own. The remedies were not fixed. Mabey (2012) explains that Culpepper’s approach was as much political as it was medical. He wanted to protect the ‘liberty of the subject, [which is] most infringed by three sorts of men, Priests, Physicians, Lawyers’ (Culpepper in Mabey, 2012:100)⁹⁵. I hope that ‘research-as-an-art’ will offer some an alternative, looser, framework to operate within than those of the social sciences, one that allows people to create an approach that suits them.

The reading, thinking and writing for this project produced a clear and useful categorisation for what a sketchbook can do in an educational setting. The storage functions, generative functions and communicative functions nomenclature I devised⁹⁶ has not been bettered in the texts I have read. They offer a set of terms that relate well to each other and they carry complex meanings under easily accessible headings. The terms and associated concepts could be used effectively in

⁹⁵ Mabey (2012:103) sums up one of the evaluations of Culpepper’s work thus: ‘the deranged reflections of a man whose life had been a constant battle with the Establishment, and who was close to dying because of a sacrifice made while defending his alternative view of the proper order of things’.

⁹⁶ Duggan (2004) and Şener (2015) have used the terms together, but not as an organising structure for the writing.

assignment briefs, assignment briefings, staff training, awarding body specifications and anywhere else where the purpose and usage of sketchbooks needs to be discussed or laid out. The links I have made to Gibson’s (1986) ‘affordances’ add an extra dimension, showing what planning for sketchbook usage can allow for, and how sketchbook users can make use of unplanned for opportunities that sketchbook planners have not thought of. This, I feel, is particularly important as sketchbook practices are an ever-expanding field and new approaches have to be incorporated into educational practices – course designers, lecturers and students need to stay open to emergent possibilities, perhaps created through the arrival of new technologies.

When considering the effect of digital technologies on the use of sketchbooks in post-compulsory Art & Design education this research has developed other useful phrases and concepts. Perhaps the most important of them is the dispersed sketchbook. This term sums up the practices I saw so frequently during this project. Students had multiple sketchbooks, some that would easily be recognisable as traditional paper sketchbooks, notebooks or journals, but others were in their computers, in the cloud, or were hybridised combinations of traditional and digital elements that were cross-fertilised and combined to offer a fuller representation of all the creative and critical work that students were doing in support of their project work. Another term created was the digitally impregnated sketchbook (or the digitally infected sketchbook for those who are less positive about the effects of digital technologies on traditional practices), which highlights the creep of the digital into every aspect of our sketchbook practices, from sketchbook and pencil manufacture, through to digital drawing and image appropriation. As with the dispersed sketchbook concept, digital practices can be overtly present through the use of hardware and software, or their presence may be concealed. Recognising all the ways that digital practices are being incorporated into students’ sketchbook practices will help ensure that good practices can be shared, used, appreciated and fairly assessed. Pedagogical and assessment practices will need to adapt to ensure they are keeping up with the rising tide. Waves of digital practices are not lapping at our toes, they are upon us and we should try to ride them, rather than imagine them as a threat that might overwhelm us.

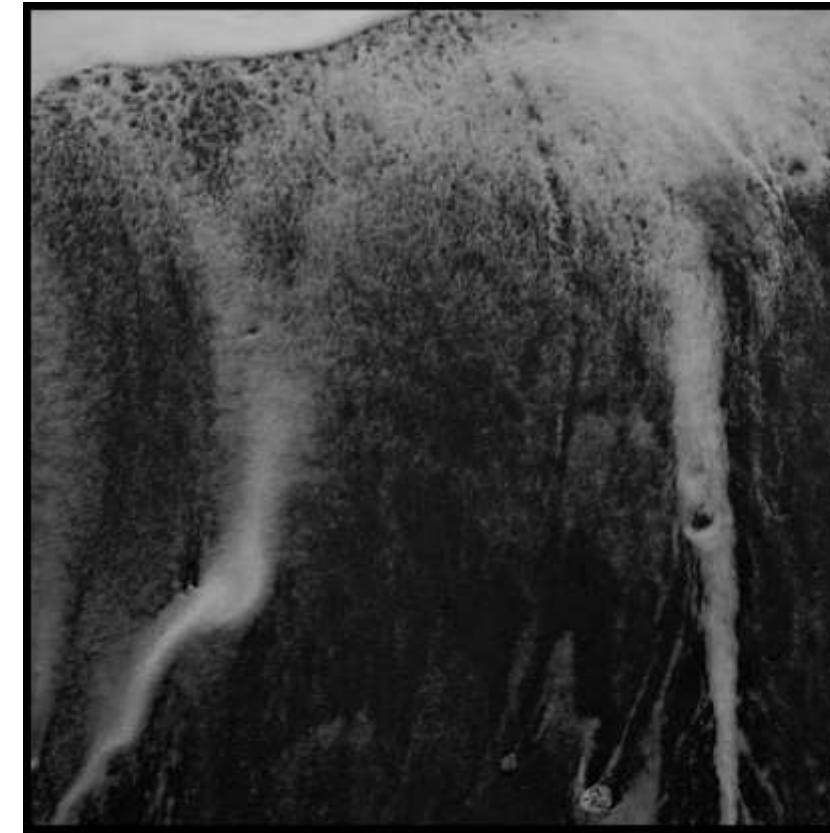


Fig. 51. *The coming tide will not be halted*. Simon Webster (2020).

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