Data & Craft

The Book Beautiful in the Digital Age

By

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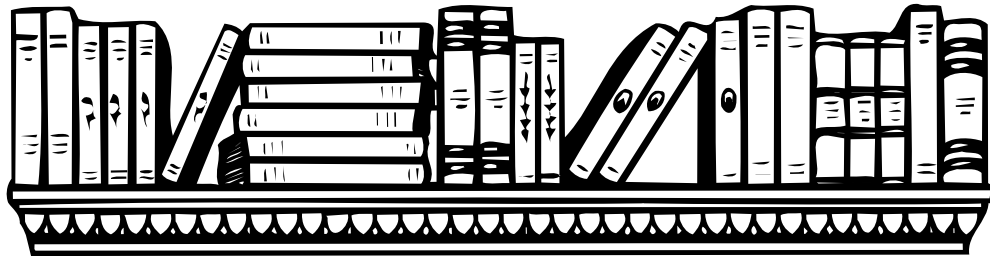
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Submitted to the School of Design
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June 2012

Abstract

In 1917 Thomas James Cobden-Sanderson threw his life's work off the Hammersmith bridge into the river Thames. Cobden-Sanderson did this for the ideal of the Book Beautiful, a book that he thought should be made for beauty, with all constituting elements considered; a book with presence and aura due to the manner in which it is crafted.

In contemporary culture technology is becoming increasingly ubiquitous and as a result we read and interact more online than we ever have before. The ease of the internet seems to make the book redundant, yet despite this the book cannot be replaced as it is an emotive physical medium for our text. The ownership of a book is the closest relationship we can have to a text, belying the widespread prevalence of digital texts.

This thesis investigates the relevance of the Book Beautiful in our technological society and explores the importance of the Book Beautiful today. One distinct importance is the collecting and ownership of books, in particular the Books Irreplaceable; those so saturated with memories that we cannot part with them. The Book Beautiful facilitates this relationship and nurtures the human side of us, retaining the associations and emotions that permeate it.

One hundred years ago Cobden-Sanderson believed that only the exclusive use of the human hand can make a Book Beautiful, but today there exist digital manufacturing machines that can both facilitate the production of the Book Beautiful and facilitate its growth within our communities. To use such technology and yet retain the qualities of craft is called Digital Craft, which this thesis demonstrates is not a contradiction in terms.

Acknowledgements

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I
INTRODUCTION

here is something special about a book, something that defies explanation, yet we know it is there. There are qualities that books possess that digital texts do not and in our current digital age these aspects of the book are contrasted against the digital world. Books are for much more than just reading. We can hold them, hide them, display them, burn them, place a cup of coffee on them, revere them, feel them, smell them, remember them and forget them. Beyond this, we can relate to them and the ideas they hold on a deeper level. Books retain memories and emotions in a way unlike that of most other objects, and this is important.

The increasingly ubiquitous nature of digital technologies supersede the function that books perform but digital technologies neither replace the book or the human feelings and emotions that books retain. The romance of turning a page, feeling the weight of a book in the hand and the pleasure we gain from this is more than mere sentimentalism, it is a reassuring phenomenon that indicates something else is present. The small but complex interactions between us and our books signify a human element to our relationship with text that cannot be digitised or synthesized. Books are something genuine that should not be lost in the flurry of new and shiny technology.

Today we are faced with a dilemma: how do we ensure that this ephemeral aura is not lost? Although I think it far fetched that books would disappear, I do believe that they will become much less prevalent in our everyday lives. What is needed for the future is a book that addresses and focuses on these ephemeral elements and embodies them. A form of book that can be produced by those who wish to create them for the sake of creating rather than commercial gain from a commodity. Such a book, or rather the idea of such a book exists and the story begins in London with an old craftsman, his type and the river Thames.

Thomas James Cobden-Sanderson and the Doves Type

fig. 2
Illustration of Hammersmith bridge, London

In 1917 Thomas James Cobden Sanderson (1840-1922) wrote in the *Catalogue Raisonne*, his final publication from the Doves Press, that he had bequeathed the Doves Type, as well as its punches and matrices, to the floor of the river Thames.[1] Cobden-Sanderson had spent the last 17 years printing books from the Doves Press with it, so why dispose of it so that no one can use the famous type again? He did it for the idea of the *Book Beautiful*. A book that is made to be beautiful, admired and appreciated. The books Cobden-Sanderson deemed to be Books Beautiful were printed by hand, with good paper and designed so that all constituent processes work towards the single goal of beauty. More than a book, the book beautiful possesses a presence that connects with peoples emotional side. A cause worth enough to Cobden-Sanderson for him to destroy over a decade of his life's work in order to preserve the idea of the Book Beautiful.[2]

His business partner in the Doves Press, Emery Walker (1853-1933) was due to inherit the type at the closure of the Press in 1917 and wished to use it in his new business venture.[3] To Cobden-Sanderson the idea of machines using the type he designed was abhorrent. What the type represented was a tool specifically designed for the use in the production of the Book Beautiful and the method with which this type was used was very important to Cobden-Sanderson. In his journal he wrote "It is my wish that the Doves Press type shall never be subjected to the use of a machine other than the human hand, in composition, or to a press pulled otherwise than by the hand of a man or a woman."[4]

The Book Beautiful

The Book Beautiful is an ideal rather than an actual form of book. It is created through the process of craftsmanship where all aspects of the book such as typography, illustration, material, binding and subject are considered constituents of a whole. For Cobden-Sanderson the Book Beautiful was an ideal to combat the mass industrialisation of the printing industry that had the result of moving craftspeople

1 Cable, Carole. "The Printing Types of the Doves Press." The University of Chicago Press
　　vol. 44, no. 3 (July 1974): p.227
2 Tidcombe, Marianne. *The Doves Press*. London: The British Library, 2002: p.7
3 Ibid: p.75
4 Ibid

Hammersmith
Bridge

aside in favour of capital gain and business. Today however the ideal of the Book Beautiful in my interpretation is to retain and highlight the qualities that make a book a book. Qualities such as presence, aura and impression create a strong foundation for book owners to create a strong emotive relationship to the texts within the book. In my belief such a relationship must not be forgotten.

The process of hand-printing books with a cast iron handpress and binding the pages by hand gives books a presence that only a crafted object can possess. The process of printing books in this way can be a difficult process, so only texts deemed worthy of the effort and emotional investment are printed. The books printed at the Doves Press possess an aura about them that makes people value them highly, wanting to own and admire them, bringing a little beauty into their lives in a way only a book can. The book beautiful is an idea that is important in our digital age as it embraces the qualities of the book that are the antithesis of digitised texts.

Decline of an Empire

The decline of the empire of the book is unsurprising. Throughout history technologies that enabled text to be printed and distributed with ease quickly became dominant. As the printing press did to monastic manuscripts, so will digital technology mark the fall of the empire of the book and the rise of digital mediums that can transmit and transform text at speeds unimaginable 100 years ago. However though we may be witnessing the fall of the printed empire, this is not the end of the book.

In *This is not the end of the Book* academic Umberto Eco and film maker Jean-Claude Carriére relate how the book may become less prominent in society but it cannot be replaced. The book is physical culture, a snapshot of the time it was made. It is durable enough to survive the ages and its form and design are like a spoon, a form that can not be improved upon unlike the metamorphosing formats that are used to interpret and display digital texts.[5] The book is an object that we relate to on a personal and intimate level, and a form that tells our story long after we have passed away. The book may decline but it is so ingrained in our culture that for its role to diminish is hard to fathom.

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5 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book*. London: Harvil Secker, 2011: p.17

The book may no longer be utilised as the prime medium for recording information and knowledge, as digital technology can do this at little cost and with **speed**. Digitisation, the process of transforming books into digital texts makes the texts widely available. However digitisation can not capture or replicate the presence of a book. Presence is a quality that digital texts can not possess and it makes sense to assume that the future of the book will build on this quality.

The presence of the book affects how we read and interpret a text. A traditional paper book compared to an eBook is like a firm handshake compared to a transient word over the phone. The book has a clear intent and possesses the affirmation of presence. The message relayed in a book is certain and permanent, if you put a book down and come back to it in a years time it will not have changed. A sense of truth is invoked by a book, its message may be false but the embalming of the message onto paper also has a permanence to it. The book is a textual medium that enables us to interact with the message conveyed and allow us to collect and own the idea, message or emotions promoted by a book.

In his essay *Unpacking my Library* Walter Benjamin states that "ownership is the very deepest relationship a person can have with things; not that they live in him; it is he who lives in them."[6] Ownership of a text is only possible when it is presented in a physical format. Collecting allows us to place the book on a shelf and announce ownership or hide it secretly in the desk drawer like George Orwell's Winston Smith.[7] Books have a more important quality though than being able to be displayed or hidden, we can build powerful emotional relationships with them which is when books become irreplaceable.

There are books that through meaning, making or event have become a *Book Irreplaceable*, a book that is unique in character and cannot be replaced by an identical copy. These books can come from our childhoods or from a loved one and they retain memories, ideas, beliefs and meaning external to the text itself. These books sit on our shelves in our lifetime and we can connect to them in the very deepest, human way possible. Just as importantly books can survive us and become irreplaceable books for future generations.

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6 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. In *One-Way Street and Other Writings*. 161-71. London: Penguin, 2009: p.171
7 Orwell, George. *1984.* London: Penguin Books, 1976. 1949: p.85

The irreplaceable books that populate our lives in weird and wonderful ways are important not only to us as individuals but also to society as a whole. As Eco identifies, **the increasing speed of the development of digital forms is contribut**ing to a loss of our cultural heritage.[8] If less books are produced there will be less books that reveal our lives, what we read and what we believed for future generations. Books can become intrinsic to our culture and our future identity of who we were as individuals and who we were as a society. As Barker and Adams state "...they are the most important and (next to coins) numerous of human artifacts; they are the vital witnesses to the progress of civilisation."[9] The book is more than just a way to record text, it is an object that allows us to relate in a beautiful and human way to texts, ideas and history made possible only through the physical presence of the book.

The Book Beautiful is an idea that embraces the physical presence of the book through the methods of design, craftsmanship and materiality. The book beautiful is a book created irreplaceable, through the intent of the craftsperson who printed and bound it for it to be admired and treasured as a unique object of beauty, waiting for someone to own it. There are two critical relationships involved in a book beautiful, that of the craftsperson in the making of the book and that of the person who is to own the book beautiful.

When Cobden-Sanderson threw his type into the river he did so irrationally to preserve an idea that he believed in enough to suffer the consequences of his actions. Such characteristics as being irrational and emotional are typically human, and beautiful. The idea of the book beautiful is important in our current age of digitisation as it embraces the physical presence of the book and everything this physicality represents.

Problem

The Book Beautiful is a relevant and meaningful medium for the digital future, but there are two problems that hinder the propagation of the Book Beautiful; the hardware required and the skills necessary to operate it. Firstly one would need a

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8 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book.* London: Harvil Secker, 2011: p.17

9 Thomas R. Adams, Nicolas Barker. "A New Model for the Study of the Book." In *A Potencie of Life: Books in Society,* edited by Nicolas Barker. 5-43. London: The British Library, 1993: p.7

cast iron handpress, which are no longer produced and as a result are extremely expensive. Not only are the presses difficult to obtain but also the type is no longer readily available and there are countless specialist tools needed at various stages. Secondly the proliferation of the skills and knowledge required to use the equipment are slowly dwindling. Such an obstacle may seem insurmountable but the products of the digital age offer opportunities for the future of the Book Beautiful.

Opportunities for the Book Beautiful

These opportunities are present in *digital manufacturing* (DM). Digital manufacturing is the use of *computer numerically controlled* (CNC) machinery to produce products without the need for unique moulds or specialist tooling. Rather than products being restricted by economies of scale, i.e. the more you produce of a product the cheaper and more accessible it becomes instead computer programs replace moulds and allow products to be made in single or small quantities without the high cost of investment otherwise required.

It seems counterintuitive to use DM technologies to produce crafted books. Yet if you use DM as a tool rather than a method to aid the handcraft process it is possible to produce things that possess the aura of a crafted object. The use of DM technologies in this way is what I call *digital craft.* The idea of digital craft is relatively new and not fully developed as there are arguments as to whether digital craft is a contradictory term or not.[10] It presents an avenue of opportunity to reduce costs and make the tools for producing the Book Beautiful more readily available.

As DM allows people to physically craft books and overcome the restrictions of costly equipment, so too can the internet allow people to access and share the knowledge required to utilise said equipment. The internet allows the sharing, collaboration and development of knowledge through websites, forums and chat rooms. People with a similar interest can communicate across the globe, closing distances and creating micro-communities. Rather than the centralised structure of knowledge from a pre-digital age, knowledge can now be shared and developed in nodes of small communities around the world. This structure can help share and develop knowledge used to produce the Book Beautiful, allowing many small producers to print books and distribute them with the aid of the internet.

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10 Cardoso, Rafael. "Craft Versus Design: Moving Beyond a Tired Dichotomy." Chap. 42 In *The Craft Reader,* edited by Glenn Adamson. 321-32. Oxford, New York: Berg Publishers, 2010: p.332

Objective

This thesis aims to explore the idea of the Book Beautiful in the digital age and investigate the opportunities available to enable greater printing of books for the sake of beauty by asking the questions of:

- ℰ Is the book beautiful important in the digital age?

- ℰ How do we emotively relate to books and does the Book Beautiful facilitate such emotive relationships more than regular books?

- ℰ How can the concept of digital craft enable more people to print books for the sake of beauty? Is digital craft possible or is it just a contradiction in terms of the use of machinery?

By asking these questions I hope to establish the place of the book beautiful in a modern context, better understand how books can connect with us emotionally and determine a way to allow the book beautiful to multiply, rather than dwindle, in a digitally connected society.

As Cobden-Sanderson illustrates the making of the Book Beautiful is a labour of love. Making beautiful books should not be limited to those who can afford the expense, and the knowledge to do so should be shared and developed so that those who want to give words presence in this transient age can do so. Allowing people to make beautiful books will solidify the texts of our time for future generations.

A Very Short History of the Book

The book is just another method of recording text but it is an efficient medium that has developed over the ages. Textual mediums change when new technology enables text to be produced or distributed more easily and the book is the end result of millennia of development. Below is a very short summary of this development to give historical global context for the book beautiful.

Scrolls, Codexes and Manuscripts (pre-1455)

fig. 5
Mock up of ancient scroll

fig. 6
(Opposite) Page from the Lindisfarne Gospel

Homer's *Odyssey* was originally a text that was passed from generation to generation via speech until the written word came into being. In ancient Greece the written words, or texts, were carved into stone, painted onto pottery or scraped into wax tablets. These mediums were eventually superseded by *scrolls*, rolls of papyrus or parchment that were glued together to create a continuous roll.

Scrolls were read sequentially, meaning that the reader would read from start to finish, making finding a specific passage a cumbersome affair. It was this sequential method of access that made the scroll a redundant textual medium. When foldable materials were developed such as vellum (thinned goats skin) then the *codex* came into existence. The codex is a series of folded pages sewn along the spine and covered in a durable material. This allowed the reader to access the texts by flicking through the pages.

The codex would become the preferred method of recording texts until the digital age as it meant that sections of the text could be accessed with greater ease than with the scroll via pages. The invention of european paper in the late 13th century allowed for tighter folding and this led to the creation of the codex.[11] The codex is a term for the form of binding; a book for instance is a codex but the term codex also encompasses the earliest era of the textual form before the modern book.

Before the invention of the printing press all textual mediums were *manuscripts*, meaning that they were handwritten. The term manuscript refers to the method of writing but it is also used to describe medieval and pre-Gutenburg books. Manu-

11 Chappell, Warren. *A Short History of the Printed Word.* New York: Nonpareil Book, 1980. 1970: p.14

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incipit euangelii
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scripts were often produced in christian monasteries and are synonymous with heavily illuminated works of the medieval era such as the Lindisfarne gospels. Such medieval manuscripts would become precedents for the work of William Morris at his Kelmscott press.

Gutenburg (1398 – 1468)

fig. 7
Men working on Gutenburg Press

Johannes Gutenburg (1398 – 1468) developed the printing press in Mainz, Germany around the middle of the 15th century. Though Gutenburg invented what is possibly the most influential process in history he did not profit from the venture, but instead ended up having to forfeit all his work to Johann Fust (1400 - 1466), a wealthy merchant, who had loaned Gutenburg the funds to develop his press.[12] Gutenburg's work culminated in the *Gutenburg Bible* that started circulation in 1455. The *Gutenburg Bible* would become one of the most valuable books in history and symbolise the spark that caused the Renaissance throughout Europe.

Gutenburg not only developed the printing press, but also the method of moveable type needed to make the impression, as well as the paper needed to receive the impression. The press was inspired by the wine presses that would have surrounded Gutenburg in the wine making region of Germany he lived in. The Gutenburg Press was powered by the turning of a screw that would apply pressure to a plate directly below to make the impression. Gutenburg was a goldsmith by trade and this enabled him to develop the method of moveable type, which is essentially the making of a detailed mold or *matrix* that would form molten lead into a piece of *type*. A cohesive collection of type is called a *font*, terminology that still endures today in the use of digital type.

Incunabula (1440 – 1500)

Incunabula comes from the latin *cunae*, meaning 'cradle'. Incunabula s a generic term that was coined by book collectors in the 17th century to describe the first printed books of the 16th century. Printed books were modeled on calligraphic manuscripts, a form of imitation that would be replicated with the digital age. Incunabula is considered the period where printed works took on their own characteristics, breaking away from the model of the manuscript. The earliest incunabula were printed in a type similar to black gothic calligraphy, but over time the fonts were refined and developed to better suit the process of printing. Typographic de-

12 Ibid: p. 67

ros. Unde eni vocant dij? Quia mulieres apponut dijs argenteis et aureis z ligneis: z in domib3 eor sacerdotes sedent habentes tunicas scissas et capita z barbã rasam: quoru capita nuda sunt. Rugiut aut clamates cõtra deos suos: sicut i cena mortui. Vestimenta eor auferunt sacerdotes: et vestriut vxores suas z filios suos. Neq3 si quid mali patiutur ab aliquo neq3 si quid boni poterut retribuere: neq3 regem cõstituere possunt neq3 auferre. Similiter neq3 dare diuicias possunt: neq3 malu retribuere. Si q3 illis votum vouerit z nõ reddiderit: neq3 hoc requirut. Hominem a morte nõ liberãt: neq3 infirmu a potentiore eripiut. Hominem cecu ad visum non restituut: de necessitate hominem non liberabut. Vidue non miserebutur: neq3 orphanis bene facient. Lapidibus de mõte similes sunt dij illor lignei z lapidei z aurei et argentei: qui aut colut ea cõfundetur. Quomõ ergo estimãdu est aut dicendu illos esse deos? Adhuc enim ipsis valdeis non honorãtibus ea: q3 cum audierint mutu non posse loqui offerut illud ad bel: postulates ab eo loqui: quasi possint sentire qui nõ habet motu. Et ipsi cu intellexerint: relinquent ea. Sensum enim non habent ipsi dij illor. Mulieres aut circudate funib3 in vijs sedent: succendetes ossa oliuaru. Cu aut aliqua ex ipsis abstracta ab aliquo transeunte dormierit: proxime sue reprobrat qp ea non sit digna habita sicut ipsa: neq3 funis eius diruptus sit. Omnia aut que illis fiut falsa sunt. Quomõ estimãdu aut dicendu est illos esse deos? A fabris aut z aurisicib3 facta sut. Nichil aliud erut nisi id qd volut esse sacerdotes. Aurifices

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signers such as Nicolas Jenson and William Caxton would develop fonts that would become a benchmark for printers. Artists such as Albrecht Durer developed and refined methods of illustration using woodblocks over this time. Incunabula were to be considered by printers thereafter as a benchmark for printing.

Sixteenth Century (1500 – 1800)

The 16th century would become the launch pad for the distribution of the book. Around the year there is estimated to have been 1,100 books shops in over 200 cities which sold over 12 million books at the beginning of the century.[13] From here the printed book would expand from central Europe to around the world. The printed book sparked the Renaissance, the spread and development of ideas and knowledge that led to an explosion of art and culture. Books became more affordable and more people were able to read. The printed book would reach the furthest corner of the world in 1835 in New Zealand when printer and missionary William Colenso (1811 – 1899) produced the first book to be printed in New Zealand at Pahia.

 Remarkably the printing press went largely unchanged over this period in history. No major mechanical developments took place until the early 18th century but the printed book would spread around the world to become the dominant textual medium, the hub of knowledge, information and wisdom in a network of libraries spanning the globe. This was an explosion that bears resemblance to the growth of the Internet.

The Cast Iron Handpress and Industrialisation (1800 – 1925)

In a short period of time the printing press would become more powered by a more efficient lever mechanism that was driven by hand, and then technology would remove the hand from the printing equation. Around 1800 the cast iron handpress was developed by Charles Stanhope (1753 – 1816), the third Earl of Stanhope. It was called, rather originally, the Stanhope press and was the first press to be made from cast iron.[14] The structural integrity of iron supplied strength lack in the wooden structure of the Gutenburg press. More importantly the Stanhope press features a lever mechanism that reduced the amount of effort required to

13 Chappell, Warren. *A Short History of the Printed Word*. New York: Nonpareil Book, 1980.
        1970: p.84
14 Rummonds, Richard-Gabriel. *Printing on the Iron Handpress*. London: The British Library,
        1998: p.3

make the impression. This sped up the printing process and required less effort from the pressman, making the process more productive.

From here the printing process became industrialised and the human hand was removed from the process. Friedrich Konig (1774 – 1833) developed the first steam-driven printing press. Konig made a cylinder that rotated over the *form* (the locked-up type that creates the impression for the page), eliminating the need for direct downward pressure. Konig's press when first developed would print 800 sheets an hour, and after two years of development 1,100 sheets per hour. Konig's press was used to print the *Times* of London on 29 November 1814, at which point powered presses became more productive than hand-driven presses.[15] In 1868 the *London Times* was printing 20,000 sheets per hour.
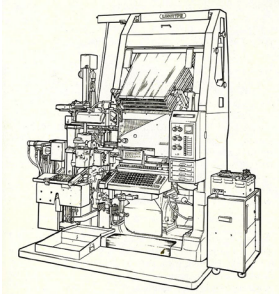
Before 1880 type was set by hand by a *compositor*, the person who picked the individual type from the font cabinet and placed it to create the page. Two machines, the Linotype and the Monotype would supersede the compositor by casting complete lines of text within a monstrous machine rather than one by one. The type was controlled from a keyboard that has become the precursor of modern computer keyboards and then cast in lead.

Technological developments have affected the impression left by the type. *Relief* printing pushes the ink into the page, *intaglio* printing pulls ink from cut groves onto the page and *lithographic* or *planographic* printing transfers the ink onto the surface of the page. With technological development more power and pressure is applied to grant greater printing speeds and accuracy. The result of this is that type over time has left less of an impression on the page.

The Paperback Novel (1926 – 2012)

Technology development accelerates over time, not just for printing presses but also for guns, bullets and artillery. Such technology has changed not only the shape of the book but also the materials and availability of the book to more people.

In 1935 Allen Lane (1902 – 1970) created Penguin Books to print books as cheaply as possible so that goods texts could be sold for "the price of a pack of cigarettes" to the general population (in 1946 George Orwell deduced that the average Eng-

fig. 9
Linotype machine

fig. 10
Printing Press at The Doves Press

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15 Chappell, Warren. *A Short History of the Printed Word.* New York: Nonpareil Book, 1980. 1970: p.194
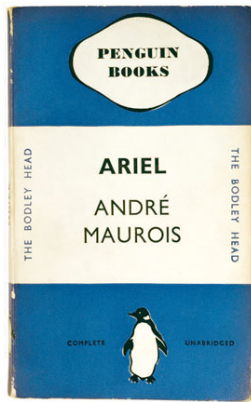
fig. 11
First Punguin Books publication

lishman would spend more on cigarettes than books).[16] The result of Lane's publishing desire was the paperback, a *text block* (the unbound book) bound by a thick paper cover as opposed to a hard card cover or leather. The design of the book was based on a formula developed by a man called Jan Tschichold (1902 – 1974), which standardised the publications in 1949, saving on cost.[17] This method was subsequently used by most other publishers and today is so common it is generally overlooked.

The paperback exploded into the world due to the increasing desire of men to rule it. During World War Two high quality paper was becoming scarce and material resources became rationed. The cotton contained in paper was replaced by wood pulp, which made the paper an inferior quality but cheaper, as a result of which books printed in this era have notoriously short lifespans[18]. However during the war years demand for books grew, thanks to the paperback, meaning that the printing industry developed technology to keep production costs to a minimum. The book had become more available than ever to people all around the world.

Today

The paperback book today is a common sight in bookshops all around the world, and much having the same tactility and appearance as the early penguin books. However the way in which books are designed and printed has become digital. The compositors of the hand press are a distant memory compared to the computer where publication occurs as soon as a key is typed. In 1996 American screenwriters protested over this instant publication claiming it possessed too much innate authority making it hard to correct[19]. The act of printing no longer requires a printer or paper but instead words and ideas can be typed into code.

Code, the series of equations and commands that dictate the actions of a computer, is the new paper that allows words to be written and sent across the globe instantly. Technology is slowly shifting away from physical prints towards digital

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16 Orwell, George. "Books V. Cigarettes." *In Books V. Cigarettes.* 1-7. London: Penguin, 2008: p.6
17 Chappell, Warren. *A Short History of the Printed Word.* New York: Nonpareil Book, 1980. 1970: p.257
18 Thomas R. Adams, Nicolas Barker. "A New Model for the Study of the Book." In *A Potencie of Life: Books in Society*, edited by Nicolas Barker. 5-43. London: The British Library, 1993: p.37
19 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book.* London: Harvil Secker, 2011: p.117

"printing". In the mid 1970s a research institution called Xerox PARC, based in California, researched the boundary between the user and the computer. Innovations such as the laser printer, Ethernet and Graphical User Interface were born. Many of the innovations developed here were scrapped, but from Xerox PARC originated the idea of a paperless environment.[20] This mindset gathered momentum and resulted in the concept of the ebook, the paperless book that exists digitally and is viewed through a specialist device such as a computer or an ebook reader. *Project Gutenburg* was started in 1971 by Michael Hart (1947 – 2011) and is widely attributed to be the earliest promotion of the ebook. *Project Gutenburg* sought to collect public domain texts and distribute them for free to as many people as possible.

The ebook and have become just as common as books now in a digital age and other formats have appeared such as email, visual media, audible media and interactive media like games and websites. Online bookseller Amazon.com reported in 2009 that it has sold more ebooks than printed books.[21] This explosion of knowledge and information in the digital age rivals that of the invention of the aftermath of the printing press. Once Homer's *Odyssey* could only be enjoyed by listening to the song of a blind bard, limited to whoever could hear, whereas today anyone can download the ebook from *Project Gutenburg* for free.
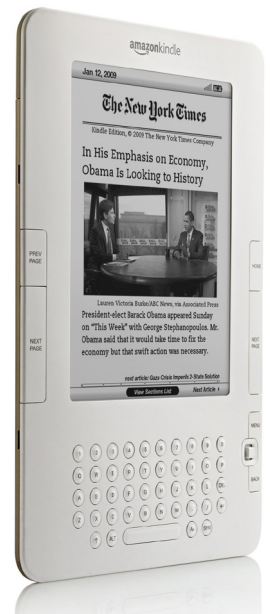
fig. 12
The Amazon Kindle

20 Richard Harper, Abigail J. Sellen. *The Myth of the Paperless Office*. Massachusetts: MIT
        Press, 2003: p.2
21 Allen, Katie. "Amazon Ebooks Sales Overtake Print for the First Time."
        http://www.guard ian.co.uk/business/2009/dec/28/amazon-ebook-kindle-sales-surge.

The Book Beautiful

The Book Beautiful is a term coined by Thomas James Cobden-Sanderson in 1892 in a speech to the Art Workers Guild. The term relates to the idea of the ideal book that Cobden-Sanderson and William Morris sought to find through their respective printing presses. Both men were prolific participants of the Arts and Crafts movement that placed immense value on the workmanship of craftspeople and opposed the division of labour imposed by the Industrial Revolution. Though both men had a similar goal they had different views of what the ideal book should be, with one view retrospective and the other prospective.

The History of the Arts and Craft Movement

The Arts and Crafts movement was a social initiative that encompassed the politics and methods of the working man. The spark of the movement can be attributed to John Ruskin (1819 – 1900), who was a prolific writer on the subjects of art, architecture and craftsmanship. Ruskin saw the craftsmanship in the details of Gothic architecture as a process that enlivened the building and the workman, as opposed to the impending styles associated with the industrial revolution. For Ruskin it was not just an aesthetic issue but also a political one. His view that "you must either make a tool of the creature, or a man of him. You cannot make both" epitomizes the conflict between the cost effective methods of industrialisation, or the aesthetic and spiritual processes of artisans and craftsmen.[22]

William Morris was a keen disciple of Ruskin and the views expressed by Ruskin were embraced by Morris and further developed. The Arts and Crafts movement was driven by the determination of Morris and three factors: the rise of socialism in mainland Europe; the fear of the destruction of beautiful art and architecture for industrial progress; and the well-being and happiness of the common worker.

The Arts and Crafts movement was a rough organisation that was composed of various initiatives to combat these concerns. Chiefly the movement romanticised the workshops, aesthetics and political structures of the medieval ages in the belief

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22 Ruskin, John. "The Nature of Gothic." *In On Art and Life*. 1-56. London: Penguin Books, 2004: p.14

that life was simpler and better then. However a defined approach for the move-ment cannot be found, as David Pye rather scathingly observes "The deficiencies of the Arts and Crafts movement can only be understood if it is realised that it did not originate in ideas about workmanship at all. Indeed it never developed anything approaching a rational theory of workmanship, but merely a collection of prejudices which are still preventing useful thought to this day".[23] However, the strong emphasis on workmanship in the movement resonated beyond political and geographical boundaries around the world.

The legacy of the movement is still recognisable today as it gave definition and strength to the idea of craftsmanship and handmade objects. There is an inherent value to objects made by hand that is recognised by society, although in a globa-lised age the term 'craft' predominantly relates to developing countries and indig-enous objects.

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23 Pye, David. *The Nature and Art of Workmanship.* Cambridge: Cambridge University Press, 1985: p.67

William
Morris

William Morris (1834 – 1896) - The Man Looking Back

Born in Walthamstow near London William Morris was the eldest son of a wealthy bill broker. His early childhood environment was that of a privileged family, which was a distant cry from the concerns of his later life. During Morris' educative years he developed a sympathy and appreciation for the working men and women whose skills he admired. Morris developed a romantic appreciation for medieval aesthetics, made apparent through early paintings of his as a young man. Before the establishment of the Kelmscott Press in 1891 Morris was a prolific writer, campaigner and artist with several business ventures. Morris was an energised person who applied himself to whatever took his fancy. From designing fabrics to wallpaper, writing books to printing them, Morris rarely turned down an oppourtunity to expand his skill set. This energy was a force that many followed creating the strength of the Arts and Crafts movement.

fig. 13
Sketch of William Morris

The Kelmscott Press was the last venture in Morris' life but arguably his finest. Named after his summer retreat 'Kelmscott Manor', Morris started the press to sate his long-held desire to print books[24]. Morris purchased two cast-iron Albion handpresses that work on a similar lever mechanism to that of the Stanhope Press. Morris started the design and manufacture of his famous types, the *Troy* and the *Golden* typefaces. These types were based upon medieval manuscripts and incunabula works that used heavy calligraphic types, in particular that of Nicolas Jenson. Morris, rather ironically, developed these types by using photography to refine and develop the design, a process one would have assumed he would have been opposed to given his ideologies. In the five years that Morris worked at the Kelmscott press he designed and printed 53 complete works, a testament to his prolific nature[25]. Of these the *Kelmscott Chaucer,* a collection of the tales of Geoffrey Chaucer is his masterpiece, a book now highly valued and sought after.

Within the *Kelmscott Chaucer* Morris' ideal of the printed book begins to take form. The heavy ornamentation of the pages and the stylised illustration of Edward Burne-Jones (1833 – 1898) hark back to medieval manuscripts with *illumination*,

24 Dunlap, Joseph R. "Morris and the Book Arts before the Kelmscott Press." Victorian Poetry vol. 13, no. 3/4   (1975): 141-57: p.141
25 Sparling, H. Haliday. *The Kelmscott Press and William Morris Master-Craftsman.* London: MacMillan, 1924: p.141

the medieval form of hypertext which refers to a narrative external to the book. Morris' design of his *Golden* typeface was rationalised by the the oculist, Talbot Baines Reed who established rules for the design of good type.

- That the eye is the sovereign judge of form.
- The eye travels horizontally along a straight line slightly below the top of ordinary letters, so that the width of the letter is more important than the height, and the lower portion of the letter is more important than the top.
- That in reading the eye takes in words and word groups rather than letters
- That the type which, by its regularity of alignment, its due balance between black and white, its absence of dazzling contrasts between thick and thin, by its simplicity and unobtrusiveness, lends itself most readily to this rapid and comprehensive action of the eye, it the most legible.
- That such type is, on the whole, the most beautiful.[26]

Morris' work was criticised by his colleague and friend Cobden-Sanderson as being too heavy, with black dominating most of the page. Cobden-Sanderson also criticised the small margins and disagreed with how Morris broke lines of text to make way for illustrations[27]. Morris' ideal book was a book that took past precedents and romanticised them.

After the death of Morris in 1896 and the closure of the Kelmscott Press Morris' silent partner in the press Emery Walker (1851 – 1933), would undergo a venture with the eccentric and passionate gentleman Cobden-Sanderson. The two would later part on bitter terms but nevertheless change the idea of the book forever.

fig. 15
example of William Morris's Troy type

I any the more: though it would indeed be hard if there were nothing else in the world, no wonders, no terrors, no unspeakable beauties. Yet when we think what a small part of the world's history, past, present, & to come, is this land we live in, and how much smaller still in the history of the arts, & yet how our forefathers clung to it, and with what care and

THE "TROYE" TYPE

26 Ibid p.17
27 Tidcombe, Marianne. *The Doves Press*. London: The British Library, 2002: p.5

Eek for to winne love in sondry ages,
In sondry londes, sondry ben usages.

And forthy if it happe in any wyse,
That here be any lovere in this place
That herkeneth, as the story wol devyse,
How Troilus com to his lady grace,
And thenketh, so nolde I nat love purchace,
Or wondreth on his speche and his doinge,
I noot; but it is me no wonderinge;

For every wight which that to Rome went,
Halt nat o path, or alwey o manere;
Eek in some lond were al the gamen shent,
If that they ferde in love as men don here,
As thus, in open doing or in chere,
In visitinge, in forme, or seyde hir sawes;
Forthy men seyn, ech contree hath his lawes.

Eek scarsly been ther in this place three
That han in love seyd lyk and doon in al;
For to thy purpos this may lyken thee,
And thee right nought, yet al is seyd or shal;
Eek some men grave in tree, som in stoon wal,
As it bitit; but sin I have begonne,
Myn auctor shal I folwen, if I conne.
Explicit prohemium Secundi Libri.

Incipit Liber Secundus.

IN May, that moder is of monthes glade,
That fresshe floures, blewe, and whyte, and rede,
Ben quike agayn, that winter dede made,
And ful of bawme is fletinge every mede;
Whan Phebus doth his brighte bemes sprede
Right in the whyte Bole, it so bitidde
As I shal singe, on Mayes day the thridde,

That Pandarus, for al his wyse speche,
Felte eek his part of loves shottes kene,
That, coude he never so wel of loving preche,
It made his hewe aday ful ofte grene;
So shoop it, that him fil that day a tene
In love, for which in wo to bedde he wente,
And made, er it was day, ful many a wente.

The swalwe Proignè, with a sorwful lay,
Whan morwe com, gan make hir weymentinge,
Why she forshapen was; and ever lay
Pandare abedde, half in a slomeringe,
Til she so neigh him made hir chiteringe

Thomas James
Cobden-Sanderson

Thomas James Cobden-Sanderson (1840 – 1922) - The Man Looking Forward

In 1900 Emery Walker and Cobden-Sanderson would start the Doves Press, a printing press inspired by their previous work with Morris at the Kelmscott Press but with a different ideal. The Doves Press was the start of modern book design with clean and crisp pages with light text. Though so closely related to the Kelmscott Press the books from the Doves Press were a stark stylistic contrast from the heavy gothic designs of Morris.

Born Thomas James Sanderson he acquired his hyphen name after marrying Anne Cobden and adopted her name as was natural for a socialist and suffragette supporter. His early career saw Cobden-Sanderson study medicine and then law. Becoming admitted to bar in 1871 he practiced until 1882 when he became depressed and unmotivated by the nature of his work. After studying bookbinding in 1884 Cobden-Sanderson started his own binding shop called the Doves Bindery that would later bind copies of Kelmscott Press works in ornate covers[28].

Cobden-Sanderson was an eccentric 60 year old man when he started the Doves Press and as the compositor of the press J.H. Mason described him: "His unusual dress was a blue blouse, knee breeches and a tam-o-shanter. He seemed to me to be like a tensed spring and he had a way of looking along his nose as though to see that nobody dared to approach too intimately close to him. He was invariably polite and generous but the qualities, too, seems to accentuate a certain aloofness. Only a Carlyle could with justice describe that exotic figure cycling along King Street, Hammersmith, with blue blouse streaming behind him".[29] Cobden-Sanderson was, all in all, an odd and passionate man who loved printing books.

The press was established in 1900 with Walker bringing the business sense and expertise and Cobden-Sanderson bringing the design and aesthetics. The famous Doves Type was based upon the same sample of type by Nicholas Jensen as Morris's Golden Type was. Designed in a similar fashion through enlarged photography the Doves type was a cleaner but relatively similar typeface to that of Jensen. From

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28 Cable, Carole. "The Printing Types of the Doves Press." *The University of Chicago Press* vol. 44, no. 3 (July 1974): p.220

29 Ibid

this type Cobden-Sanderson designed and printed the *Doves Bible,* the masterpiece of the Doves Press that was a financial and artistic success. It featured clean light type and illustration and space. Charles Ricketts commented that as a comparison the Kelmscott works were full of wine and the Doves Press works were full of light.

The ideal book of Cobden-Sanderson as exemplified by *The Doves Bible* became the Book Beautiful over years of refinement. The ideal book was an objective and the idea of the Book Beautiful was the result. Cobden-Sanderson sought to rein in the various 'constituents' that made up the books, such as illustration, typography, material and binding, and give them the single purpose of creating a whole book. His view was that books before the Book Beautiful, particularly commercially focused books, had various elements vying for dominance. This destroyed the harmony of the book and were referred to by Cobden-Sanderson as the *Book Sacrificed.*[30] The Book Beautiful was the first time that the idea of the book as a whole was articulated, encompassing the processes of printing, designing and binding. His insights were ahead of his time as they are relevant to theories that would not be developed until the 1980's.

In 1916 the Doves type was thrown from the Hammersmith bridge into the River Thames to avoid its use for Walkers' concurrent commercial practice. Cobden-Sanderson, then in his seventies, did this in secret and alone so there were no accomplices to the act. The consequences of destroying the type could be imprisonment, but still he proceeded to protect the Book Beautiful from a form of destruction that Cobden-Sanderson considered even worse: commercialisation and the desecration by machines. So strong were the ties of the craftsman to his work that he was willing to for imprisonment to protect his craft. The debacle between Walker and Cobden-Sanderson was concluded with a vigorous legal battle in which Walker was awarded a token sum of money and Cobden-Sanderson had given life to the private press movement and the Book Beautiful[31].

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30 Tidcombe, Marianne. *The Doves Press*. London: The British Library, 2002: p.5
31 Cable, Carole. "The Printing Types of the Doves Press." *The University of Chicago Press* vol. 44, no. 3 (July 1974): p.228

IN THE BEGINNING

GOD CREATED THE HEAVEN AND THE EARTH. ¶AND THE EARTH WAS WITHOUT FORM, AND VOID; AND DARKNESS WAS UPON THE FACE OF THE DEEP, & THE SPIRIT OF GOD MOVED UPON THE FACE OF THE WATERS. ¶And God said, Let there be light: & there was light. And God saw the light, that it was good: & God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day. ¶And God said, Let there be a firmament in the midst of the waters, & let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: & it was so. And God called the firmament Heaven. And the evening & the morning were the second day. ¶And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so. And God called the dry land Earth; and the gathering together of the waters called he Seas: and God saw that it was good. And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: & it was so. And the earth brought forth grass, & herb yielding seed after his kind, & the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good. And the evening & the morning were the third day. ¶And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, & years: and let them be for lights in the firmament of the heaven to give light upon the earth: & it was so. And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also. And God set them in the firmament of the heaven to give light upon the earth, and to rule over the day and over the night, & to divide the light from the darkness: and God saw that it was good. And the evening and the morning were the fourth day. ¶And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, & every living creature that moveth, which the waters brought forth abundantly, after their kind, & every winged fowl after his kind: & God saw that it was good. And God blessed them, saying, Be fruitful, & multiply, and fill the waters in the seas, and let fowl multiply in the earth. And the evening & the morning were the fifth day. ¶And God said, Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind: and it was so. And God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the

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The Private Press

With the Kelmscott Press marking the beginning of the private press movement and the Doves press defining it there have been many successive presses who shared and built upon the same ideals as the early private presses.

The term *private press* refers to an organisation which prints books for the purpose of beauty without the constraints of commercial pressure. Techniques synonymous with hand printed books are often used. Private presses create works of high quality materials, text selection and binding. Though many private presses use letterpress, it is not the defining factor of private presses, as many contemporary private presses use other methods.

Fine Print

The term *Fine Print* not only refers to small legal text but also to the process in which a book is printed using letterpress (relief) printers and quality materials. It needs to be established that fine print books are not necessarily considered to be Books Beautiful, the letterpress method is also used for business cards, wedding invitations and restaurant menus.

WHAT IS A BOOK?

The Book Beautiful is an ideal which originated a century ago and is still relevant today; however how the book is viewed today has radically changed, from the view of purity of text towards a more dynamic understanding. When Cobden-Sanderson printed his books beautiful from the Doves Press he touched upon the notion that the book is weaved with the text, that the book as a whole affects how the text is interpreted. The study of the book today reflects this idea in much greater detail, and an understanding of modern book theory is essential to understanding the importance of the book beautiful in our digital age.

The term *book* refers to the material medium in which text is recorded and subsequently transmitted from. The study of the book over the last hundred years has come to illuminate that the book and the text overlap and interlace. D.F. McKenzie defined this in 1985 when he wrote that "bibliography is the discipline that studies texts as recorded forms, and the processes of their transmission, including their production and reception."[32] The study of the book has "...shifted focus from the purity of text towards its transmission."[33] This encompasses the books authorship, publication, production, reception and its survival.

Text is the 'lifeblood' of the book though it is not exclusive to the book. Throughout history the primary medium for texts has been the medium that allows the easiest production, distribution, transmission and access to the texts. From the scroll to the book, to the ebook, the material forms in which text is presented to us have changed, yet the medium in which it is recorded affects how we interpret and relate to the text.

Text

Books though are not lifeless objects; in 1644 John Milton wrote in *Areopagitica* that "...books are not absolutely dead things, but do contain a progeny of life in them to be as active as that soul whose progeny they are; nay, they do preserve as

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32 McKenzie, D. F. *Bibliography and the Sociology of Texts.* London: The British Library, 1985: p.4

33 Thomas R. Adams, Nicolas Barker. "A New Model for the Study of the Book." *In A Potencie of Life: Books in Society*, edited by Nicolas Barker. 5-43. London: The British Library, 1993: p.7

in a vial the purest efficacy and extraction of the living intellect that bred them."[34] This 'progeny' of life is the result of the interweaving of the text with the materiality of the book.

McKenzie in his *Bibliography and the Sociology of Texts* uses the etymology of the word 'text' to find its origin in support of the relationship between text and its medium. "We can find in the origins of the word 'text' itself some support for extending its meaning from manuscripts and print to other forms. It derives, of course, from the Latin *texere*, 'to weave', and therefore refers, not to any specific material as such, but to its woven state, the web or texture of the materials."[35]

The interdependent relationship of text with its material medium (book or nonbook) affects not only how the text is transmitted but also records the response to the text. The interaction between human emotions and the medium is recorded within the material medium and becomes part of the text.[36] Actions such as marginalia, preservation, idolising, libricide and even disuse are indicative of this dynamic nature of text.

The progeny of the book that Milton refers too is not of the author's making. Authors do not write books, they write texts which are then printed, etched or computerised.[37] This gap between authorship and production in combination with the relationship between text and medium is what allows the book to be a 'progeny', a life of its own.

Reception Theory

Reception theory concerns itself with the transmission and reception of signals between the reader and the structures of the text. As previously discussed 'text' is weaved with the material of the medium, affecting the structure which is read and interpreted by the reader. Text has no inherent meaning, with meaning instead being given by the interpretation of the reader based upon life experiences or cultural backgrounds.

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34 Milton, John. "*Areopagitica*." 99-166. London: Kegan Pual, Trench & Co., 1883: p.104
35 McKenzie, D. F. *Bibliography and the Sociology of Texts*. London: The British Library, 1985: p.5
36 Ibid: p.6
37 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader." *Diacritics* Vol. 22, No. 2 (1992): p.52

Roger Chartier describes this structure for the book as a triangle of intricate relations between text, book and reader with text as the written intent of the author for publication, the book as the vessel for the text and the reader who gives meaning to the text.[38] Below are some key concepts of reception theory.

Non Face-to-Face Interaction

The interaction between the text and the reader is quite different from a discussion between two people. The social interaction between two people referred to as a *face-to-face situation* has important distinctions from the text-reader communication.[39] A text can not adapt itself to the reader so no certainty can be obtained by the reader, unlike a conversation where questions can be asked and responded to. This inability to adapt to the reader creates a structure of *blanks* within the text.

Blanks

Texts contain blank spaces where the reader may further enquire but no answer is present within the text. Blank spaces in the text quite simply give the reader license to use their imagination to fill in the gaps. The use of the human imagination to link the islands of text creates a unique textual structure for the reader. This affects the meanings that the reader derives from the text[40].

Expectation Horizon

The *expectation horizon* is a term that refers to the assumptions or expectations of a text; a set of *a priori* expectations that affect the meaning given to the text by the reader. The expectation horizon can be influenced by previous experiences, cultural background or aesthetic assumptions present before even reading the text. It is important to note that the shape and form of a book, its materiality, typography, ornamentation and even its size affect the expectations of the reader which in turn affects the meaning given to the text by the reader[41].

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38 Ibid: p.54
39 Iser, Wolfgang. "Interaction between Text and Reader." Chap. 22 In *The Book History Reader,* edited by Alastair McCleery David Finkelstein. 291-96. London: Routledge, 2002: p.292
40 Ibid: p.294
41 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader." *Diacritics* Vol. 22, No. 2 (1992): p.53

Book Cycle

Nicolas Barker and Thomas Adams reinterpreted the life cycle of the book in an effort to give a new understanding to the processes and influencing factors in the study of books (fig. 18). Though the model is for books it could also be applied to other non-book textual forms.
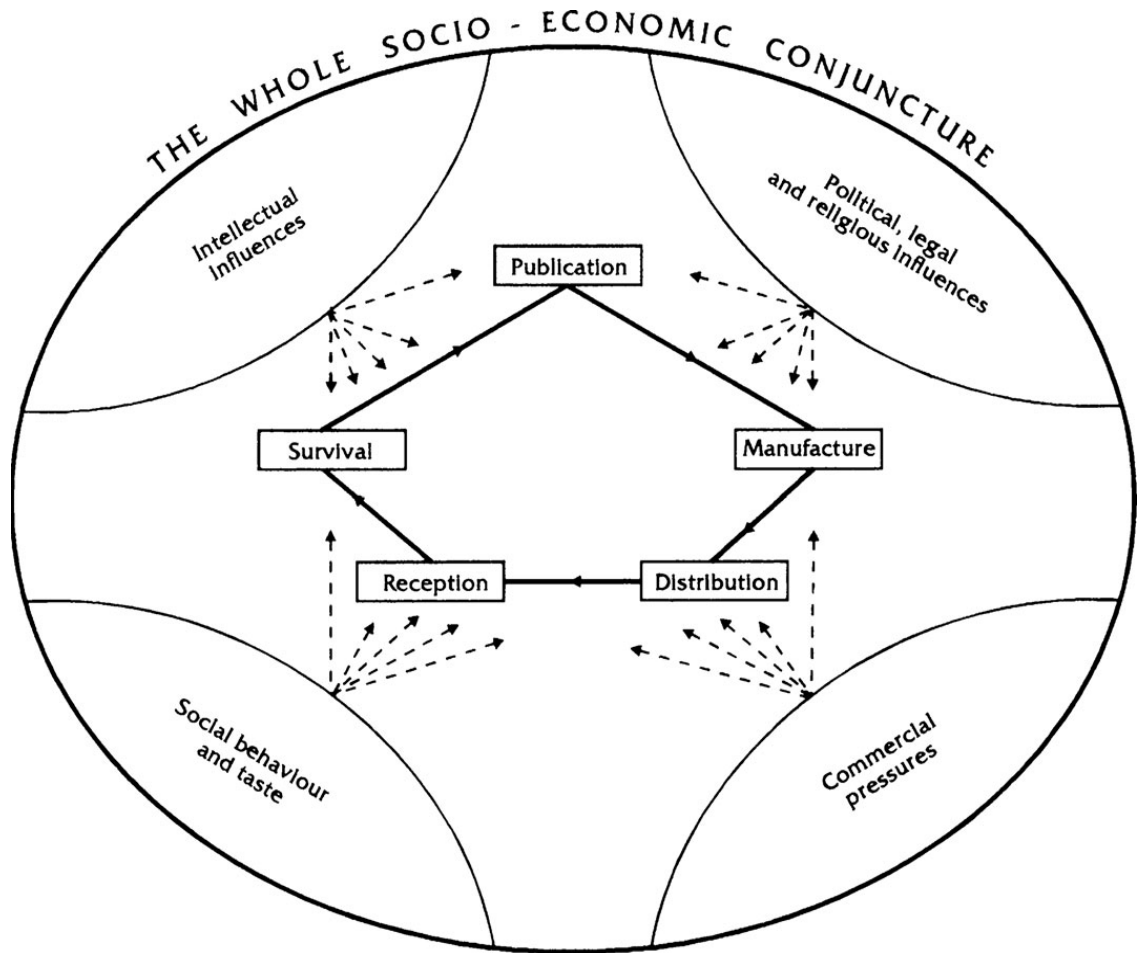
Publication

Publication is the moment of departure, the decision to create and multiply a text or image for distribution. The reason for the undertaking of publication can be one of four factors: creation, communication, profit or preservation. The most common is the commercial practice, which reasons whether a publication will be able to return a profit. In the case of the Book Beautiful the reasons for publishing a certain text are creative and personal. It is a considerable investment for the maker to print such a book so the text must have some form of artistic, ideologi-

cal, moral or emotive meaning with the maker or makers.[42]

Manufacture

The manufacture of a book is primarily a technological and economical process. The manufacturing process of a book encompasses the design, layout, printing and binding of the book. The intent of the publisher (who may also be the manufacturer) affects the economical selection of materials and processes. William Morris, for instance, chose to print his books on a custom made paper, printed by relief on a cast iron handpress and bound by hand, his objective being to make beautiful books. In comparison to this is the manufacture of Penguin paperbacks, were printed on cheap paper, adopted standardised design/layout and used fast printing methods in order to keep costs down to make the book available to as many people as possible.[43]

Distribution

Distribution in its simplest form is the moving of books to their destination. Many books may be printed but unless they are distributed to retailers or readers then the books will never be read. The first and most common form of distribution is the shipping of commercial books to retailers around the global market. With globalisation the books may come from many different production centers internationally. Library distribution is another form of distributing books to the general public, and making them available to people who may not be able to access or afford the book otherwise. In the case of private presses, distribution has either been done through subscription or, today, via online stores. Subscription based distribution secures the capital required to print the book, but often represents a potential risk for the subscriber. This risk is often diminished by the reputation of the private press or brand.[44] More recently the internet has allowed private presses to sell directly to the readers offering an avenue that removes the retailers' often heavy margins.[45]

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42 Thomas R. Adams, Nicolas Barker. "A New Model for the Study of the Book." In *A Po tencie of Life: Books in Society*, edited by Nicolas Barker. 5-43. London: The British Library, 1993: p.15

43 Ibid: p.19

44 Cable, Carole. "The Printing Types of the Doves Press." *The University of Chicago Press* vol. 44, no. 3 (July 1974): p.221

45 Thomas R. Adams, Nicolas Barker. "A New Model for the Study of the Book." *In A Po tencie of Life: Books in Society*, edited by Nicolas Barker. 5-43. London: The British Library, 1993: p.23

Reception

Despite its obvious relation to reception theory mentioned before, the reception stage of the book cycle refers to the reception of a book by the general public. Reception is mainly a passive thing as there are no direct methods of recording the public's reaction. There may seem to be a link between quantity and popularity, however this is belied by the instances of large quantities of books being manufactured and sold and the popular hype around such books as *The Da Vinci Code*, that cause a sudden surge in sales but interest and sales both quickly decline.[46]

In the case of fine press books an indication of reception is often found decades, even centuries after their distribution when the books appear in auction houses. The value for which the book sells for is indicative of the critical acclaim for the book, the press that produced it and the book's rarity. For example, the *Kelmscott Chaucer* sells for above $100,000 NZD and rarely comes to auction as it is a popular, critically acclaimed book. Private press books can be considered a profitable investment as the *Kelmscott Chaucer* sold for the relative price of one hundred dollars at the time of its printing.

Survival

In a books' life there are three main stages to its survival: firstly the printing and its initial reception, secondly when the book comes to rest in the library or bookshelf of a collector, and the third stage of survival is where the book becomes rediscovered and given importance either for a emotive and personal reason or for scholarly and academic reasons.

The quality of material and printing process of a fine print book means that fine print books are very rarely disposed of with little thought. Ignorance of a books' quality or importance may lead to its accidental disposal, but the difference in paper quality and characteristic deckle edges are so different from modern paperback pages that they stand out.

The choice of material for the manufacture of a book affects the book's chances of survival. High quality materials are often longer-lasting and have a significantly higher chance of surviving the years and even misuse. Cheaper books, such as comic books, paperbacks and magazines have very small chances of surviving.

46 Ibid

The very reason why some comic books sell for immense prices at auction is because even though many were printed in large numbers originally the paper they are printed on will only survive if well cared for.[47]

The Book Collector

Books are printed to be read, but some books cause the reader to want to own them. Walter Benjamin stated that ownership is the closest relationship one can have with objects.[48] People collect books in order to own them although ownership of a book is more intricate than ownership of an object due to the weave between the book and the text. There are three different layers of book ownership: firstly ownership for the purpose of reading; secondly collecting for the value of the book, monetary or otherwise; and finally ownership for an emotive or ideological purpose.

Owning books for the purpose of reading them is the utilitarian purpose for which books are printed. Some books are valued more than others. Some collectors will purchase books for monetary value as an investment. Furthermore the value placed on a book may be something other than monetary value, such as subject matter or a characteristic particular to the book or its production.[49] Some collectors purchase books for their aesthetic value, to line the walls of a library, or to place on a coffee table.

The book is an object that is subsequently used to display ideas or beliefs to others. In *The Meaning of Things*, Mihaly Csikszentmihalyi and Eugene Rochberg-Halton explore the connections made between objects in the domestic environment and how they relate to their owners. In this study, books were significant in the representation of ideals "Twenty-Seven percent of all the meanings referring to the embodiment of ideals involved books, over twice the number of any other object in this category... the theme that emerges is that books, more than any other kind of objects, are special to people because they serve to embody ideals and to express

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47 Thomas R. Adams, Nicolas Barker. "A New Model for the Study of the Book." In *A Potencie of Life: Books in Society*, edited by Nicolas Barker. 5-43. London: The British Library, 1993: p.32

48 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. *In One-Way Street and Other Writings*. 161-71. London: Penguin, 2009: p.171

49 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book.* London: Harvil Secker, 2011: p.271

religious and professional values."[50]

The deeper level of ownership for emotional and personal motives is an area that this thesis addresses in detail. These books are referred to as *books irreplaceable* where by the physical object of the book is valued by its owner so much that parting causes pain. These books can be valued for memories, ideas, religious values or for beauty.

Digital Text

As Alice steps through the looking glass she sees a room familiar yet different from the room she just left. The contrast between digital and physical text forms are much the same as Alice's looking glass rooms; neither negating the other but occupying opposite spaces.

Text is no longer read from a page but instead is read through a device that translates and interprets code to synthesize signals for the reader to read. Digital texts outperform physical text forms in terms of accessibility as digital texts can be instantly produced, immediately distributed and almost as quickly received and responded to. According to McKenzie "There is no evading the challenge which those new forms have created."[51]

McKenzie recognised the new textual forms presented by the incoming digital age in 1985 and attempted to redefine the study of texts to encompass non-book forms; "I define 'texts' to include verbal, visual, oral, and numerical data, in the form of maps, prints, and music, of archives of recorded sound, of films, videos, and any computer-stored information, everything in fact from epigraphy to the latest forms of discography."[52]

Flickering and Floating

As discussed before in relation to reception theory, all texts emit signals that are interpreted by the reader; however digital and physical texts emit different types of

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50 Mihaly Csikszentmihalyi, Eugene Rochberg-Halton. *The Meaning of Things: Domestic Objects and the Self.* Cambridge: Cambridge University Press, 1981: p.71
51 McKenzie, D. F. *Bibliography and the Sociology of Texts.* London: The British Library, 1985: p.5
52 Ibid

signals. Katherine N. Hayles, a post-modern literary critic, describes these as either *floating signifiers* or *flickering signifier*s.[53]

Printed text is a floating signifier as it is permanent; once printed it cannot be un-printed. Print fluctuates in the world, it does not change however but rather the world changes around it; or as Chartier relates a book changes by remaining largely unchanged in a changing world[54].

Digital text is a flickering signifier as it enters and disappears with little conse-quence. Digital texts can be unwritten or edited without acknowledging they have been. In effect digital texts can place the reader in a *face to face situation* as digital texts can alter themselves in dialogue with the reader. Examples of this are instant messaging, forums and website.

These two forms of signifiers create a dichotomy with each side containing ben-efits.

Within this thesis digital texts are referred to often without specifying a form. When referring to digital texts they can be, but are not limited to any of these forms:-

- ebooks
- email
- videos
- music
- the internet
- databases

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53 Hayles, Katherine N. "Virtual Bodies and Flickering Signifiers." *October* Vol. 66, Autumn (1993): p.76
54 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader." *Diacritics* Vol. 22, No. 2 (1992): p.56

CRAFT

The future of the Book Beautiful can be made more prolific with the assistance of *digital craft*. Digital craft is the use of digital manufacturing methods to create an object that possesses the qualities also present in a handmade object.

There is contention in the idea of digital craft though, as the use of a machine to create parts of a crafted object conflicts with the common conception of craft. The mechanisation of industry in the 19th century meant the division of labour of tasks usually performed by a craftsman. Today however technology had developed so much from the 19th century that machines, like computers or 3D printers that division of labour is no longer necessary. Digital craft is in theory possible but its success can only be confirmed by digitally crafting an object that has the same quality of presence as a traditional crafted object. However defining this presence of craft is difficult, so it is best to start from the beginning.

Hephaestus

The origins of the western conception of craft come from classical Greece, and those origins are linked to imperfection. In book XVIII of the *Illiad* Thetis, the mother of Achilles ran to Hephaestus to beg for a new set of armour for her son to replace his lost set. "Hephaestus stood up and made his clumsy approach to the spot where Thetis was seated, and himself sat down on a polished chair, took her hand in his and greeted her"[55]. Hephaestus, the lame god, agreed and set upon the task of forging Achilles armour. He laced the armour with divine, intricate images; the description of which lasts four pages.

Hephaestus, the god of craftsmen, technology, metals and fire in ancient Greece was also a lame god; in fact the only lame god. Thrown from Mt Olympus by Zeus, he landed on the island of Lemnos, where he was taught numerous crafts by the inhabitants. So prodigious did his skills become that he was allowed to return to Olympus, the only exiled god allowed to return. There is significance in the connection between his being lame but also a god, as his divinity derives not just from himself, but also from what he creates. His work transcends his physical imperfections, but being a god he symbolises the perfection of his patronage. Sociologist Richard Sennett observes this and remarks "The club footed Hephaestus, proud of

55 Homer. "*The Illiad.*" London, Baltimore, Victoria: Penguin Books, 1969: p.348

his work if not himself, is the most dignified person we can become."[56] Craftsman-ship has always been linked to the human imperfection, where the work and skill of our hands transcends ourselves powered by an impulse to do a job well.

The Aura

In his essay *The work of art in the age of mechanical reproduction* Walter Benjamin identifies this quality as a genuineness of the object, a quality that is not present in reproductions of the original.[57] Benjamin calls this the *aura* of the object and likens it to natural formations that posses a uniqueness and presence that are unique manifestations with a remoteness, regardless of how close they physically may be.[58] In the crafted object that remoteness comes from the gap created by the ambition of the craftsperson always exceeding their ability.

The Void

The German phenomenological philosopher Martin Heidegger (1889 – 1976) wrote an essay called *The Thing* where he examines the quality of 'thingness', through the example of a jug. What makes a *thing* and how does it differ from an *object*? Heidegger explains how an object is the physical form we see, that we know is there. Conversely thingness is independent of whether we see the jug or not because it is independent of ourselves. The thingness of the jug doesn't come from the the clay used to make it, but rather it was formed by a void that holds the clay together. The void that forms the clay comes from the idea of what the jug should be. "The vessel's thingness does not lie at all in the material of which it consists, but in the void that holds."[59] The *idea*, the *eidos* of the jug appears to the potter as something to be made. The idea of the jug creates the void in which the potter uses his skill and knowledge of materials. The potter "... shapes the void. For it, in it and out of it, he forms the clay in the form. From start to finish the potter takes hold of the impalpable void and brings it forth..."[60] The potters though are human, therefore they have imperfections and their idea of what the jug should be will always exceed their ability.

56 Sennet, Richard. *The Craftsman*. London: Penguin Books, 2009: p.296
57 Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Translated by J. A. Underwood. *In One-Way Street and Other Writings*. 228-59. London: Penguin, 2009: p.232
58 Ibid: p.235
59 Heidegger, Martin. "The Thing." Chap. 51 In *The Craft Reader*, edited by Glenn Adamson. Oxford, New York: Berg Publishers, 2010: p.404
60 Ibid: p.408

This gap formed between void and craft is the quality that we observe in crafted objects. Even the crudest objects of craft possess the gap between the craftspersons intent and their ability. Craftsmanship and quality come from the skills and experience used by the craftsperson to form the object. The *aura* of a genuine object exists in the gap between the void and object. However if a machine were to reproduce the original there would be no gap for the aura to live[61].

Machines are not able to imagine, they possess no ideas in which to shape the void. They are controlled to produce something to a design, so what they create cannot exceed their ambition, as they posses no ambition. The form created by a machine is as it should be as far as it is concerned and cannot be improved. The introduction of the machine and its ability of reproduction have the affect, as Benjamin remarks of "stripping the object of its sheath, shattering the aura..."[62]. Cobden-Sanderson destroyed his type because he did not want the type he used to print his books to be used by a machine as it may also shatter the aura of the books he had already so lovingly printed. Making them no longer *Books Beautiful* but *Books Sacrificed.*

Craftsmanship

The notion of craftsmanship is that of a craftsman using their hands to create something. The craftsperson uses tools to achieve their goal, and acquires technique over years of experience to form the material. There is a strong connection between the craftsperson and the material as they must understand how it resists when worked. The craft is the process that revolves around the *craftsmanship*, the *tools* they use and the *materials* they are working with. There is ambiguity over what constitutes craftsmanship, what constitutes a tool and the type of material are really open to interpretation. Sennett's view of craftsmanship has moved from the tradition of artisan-craftsman towards a more universal view that looks beyond the method of craft, instead focusing on the craftsperson and their relationship to the *eidos*, the idea of what they are to create.

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61 Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Translated by J. A. Underwood. *In One-Way Street and Other Writings.* 228-59. London: Penguin, 2009: p.235

62 Ibid

Machine Prejudice

Our modern conception of craft can be traced back to the Arts and Crafts movement of the late 19th century.[63] The movement, headed by William Morris, was a political social movement that opposed the division of labour implemented by machines. The movement opposed this for two reasons; the use of machines degraded the workmen, and displaced beauty as the final objective in favour of profit.[64] Morris argued that having objects that lack beauty offers little happiness to both the maker or the owner.

The concept of craft today is in conflict with machines for this very reason. Since the Arts and Crafts movement 'craft' has been seen as the spiritual alternative to industrialisation, a method of making that embraces beauty. The movement was powered by anger and emotions fueled by a changing world, as Morris longed for a return to the simple days of the medieval workshop. As David Pye observed, the Arts and Crafts movement did not create a workable notion of craft, but rather it created a series of prejudices towards machines.[65] Those prejudices are why the concept of craft is juxtaposed against that of technology.

The Auteur

Morris' view is that objects created by machines contain no inherent beauty because there is no one mind to direct the production process towards a true sense of beauty, unlike the process of craft. The idea of the *master craftsman* can be connected to the term *auteurism,* a theory relating to film where the director has complete control over all processes used in making the film. The idea of the auteur, or master craftsman is the overseeing of the creation process by one mind or one cohesive idea that gives the finished product a wholeness, a beauty that can only be created by artistic intent.

fig. 20
(Opposite) Illustration from 'Men and Machines' by Stuart Chase

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63 Lucie-Smith, Edward. *The Story of Craft: The Craftsman's Role in Society*. Oxford: Phaidon, 1981: p.15
64 Morris, William. "The Revival of Handicraft." Chap. 20 In *The Craft Reader*, edited by Glenn Adamson. 146-55. Oxford, New York: Berg Publishers, 2010: p.151
65 Pye, David. *The Nature and Art of Workmanship*. Cambridge: Cambridge University Press, 1985: p.67

Workmanship

Since the Arts and Crafts movement and the conflicts of industrialisation the mantle of craft has been handed over to the discipline of design. Design has become the overseer of the machines and workmen who produce the products. Design became modernised by institutions such as the Werkbund and the Bauhaus in Germany. Design has since become predominant yet the ideas of craft are not wholly forgotten. In the 1960's David Pye's work concerned itself with dismissing the resentment towards technology of Morris' idea of craft. Craft in Pye's view became the art of workmanship which is the skill and knowledge of the worker to produce the designed object with the least risk possible.[66] The concept of workmanship was meant to modernise the idea of craft to embrace new technology, yet Pye's attempts to dismiss the Morris' view of craft lacked recognition of the spirituality of the process. Despite Pye's attempts, craft has persisted within the imagination.[67]

Craft Today

Society's view of craftsmanship today has moved beyond its original prejudices towards machines as society has taken on a more accepting idea of its applications. The contemporary view of craftsmanship is expressed well by Richard Sennett in his book *The Craftsman*: " 'Craftsmanship' may suggest a way of life that waned with the advent of industrial society – but this is misleading. Craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake."[68]

If we were to apply the idea that craftsmanship is "the desire to do a job well for its own sake" we could apply it to almost any profession or task, from programming to chopping wood. However the sense of aura and evidence of craftsmanship do not come from just any task, but rather where it is obvious that there is a technique and knowledge of material that has been learned and refined with time.

Craftsmanship can only be obtained through the investment of time. Craft, Sennet surmises, involves a unity between the head and the hand that is achieved through skills and knowledge acquired only through time and experience, which Sennett calls *technique*. Not surprisingly someone has even researched how much time is

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66 Ibid: p.4
67 Ibid: p.62
68 Sennet, Richard. *The Craftsman*. London: Penguin Books, 2009: p.9

required to master a technique. Anders Ericsson of Florida State University asserts that it takes 10,000 hours of working on a task to master it, a serious commitment.[69] This figure gives scale to the determination required by a craftsperson to master their craft, the determination to continually apply oneself to the pursuit of manipulating materials to manifest an idea, with an ambition that will always exceed their ability.

Conclusion

Over the history of craft we see that what is considered craft shifts with society's perspectives. Yet there are some strong consistent themes that run throughout all interpretations:

- The link of craft to human ability, and the presence of imperfection.
- Craft is the process that flows between *craftsmanship, tool* and *material.*
- Craftsperson as the *auteur* who has control over the entire process for artistic integrity.
- The requirement of *time* for the craftsperson to learn and develop the *technique* of their craft.
- Objects created by the craft process contain an *aura* a *genuine form* that can only be formed with an *idea* and the limitations that are so innately human.

Digital Manufacturing

One of the examples used by Sennett of a craftsperson always experimenting to try and further his skill was Antonio Stradivari (1644 – 1737), the famed luthier who was the only craftsperson able to create the distinctive tone that his instruments possessed; his craft was never to be surpassed only mimicked.[70] An article in a February 2011 issue of *The New Economist* entitled "Print me a Stradivarius" demonstrates a stark contrast against the craft mentioned by Sennett. The article looks at the growing industry of digital manufacturing and uses the example of how a machine can print an exact replica for a fraction of the cost. Digital manufacturing breaks the models of industrialisation from the economies of scale towards a decentralised model. Like the internet did for publishing, digital manufacturing looks to be able to enable most people to be micro-manufacturers. Digital manufacturing is still in its infancy, but it has the capability to remove industries'

69 Campbell, MacGregor. "Make Yourself at Home." *New Scientist,* 2012, 44-47: p.33
70 Sennett, Richard. *The Craftsman.* London: Penguin Books, 2009: p.76-8

reliance on the division of labour.[71]

Current initiatives by organisations like MIT's Centre for Bits and Atoms as well as the FabLab movement around the world, are showing how the decentralised model of digital manufacturing can work. FabLab for example are an organisation of small outfits fitted with machines such as laser cutters, 3D printers, CNC routers and lathes. Anybody with a 3D file and an idea is able to walk in and make use of the equipment to create their own products.

All digital machines are Computer Numerically Controlled (CNC), meaning that the moving parts of the machine are controlled by a cartesian based code called *G-Code* that tells the machine what to do. Digital manufacturing machines can be split into two categories - *subtractive* machines which take away material, and *additive* machines which add material.

Subtractive Machines

A subtractive CNC machine uses either a tool or an energy beam to seperate material away from the form. Machines like lathes and milling machines use a toughened metal tool to remove material by either moving the tool or the material. CNC machines can operate on up to six-axis, meaning it can machine each side of a cube in one operation.

Laser cutters, water-jet cutters and CNC routers are profile cutters that cut a flat sheet to release a form, or etch the sheet's surface to leave an impression.

Additive Machines

Additive CNC machinery is mostly dominated by 3D printers that add material by either extruding, fusing or fixing it in place. Of these printers the two most common methods are Fused Deposition Modeling (FDM) and Selective Laser Sintering (SLS). FDM is the cheapest form of 3D printing available as it uses common materials such as ABS or acrylic. FDM 3D printers are currently available for $1,000 NZD which is an affordable price. SLS is a high-tech industry method that uses a laser to fuse parts of a fine sheet of powder to create a form. 3D printers work by splitting a model into tiny horizontal lines and layering those segments one by one.

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71 "Print Me a Stradivarius." *The Economist,* Feb 12th-18th 2011, 11-78: p.11

The Virtual Mold

Though most CNC machines can be controlled by directly altering the G-code it is far more effective to create a 3D model and allow a computer to generate the G-code itself allowing for more complex objects to be made. The major cost saving component of digital manufacturing is the 3D model's displacement of an expensive mold. The removal of such a large overhead and the increasingly diminished cost of CNC machines means that they are becoming available to more and more people.

Digital Craft

Digital craft is a new idea but there are some issue as to what constitutes digital craft and whether it conflicts with the idea of craft. The issue that surrounds digital craft is that if you replace the tool with a machine from within the feedback cycle of *craftsmanship, tool* and *material* does it still constitute as a craft. A machine as defined by Charles Babbage, the grandfather of the modern computer, is "when each process has been reduced to the use of a single tool, the union of all these tools, actuated by one moving power, constitutes a machine."[72] A machine takes away control from the craftsperson and breaks the cycle. However the increased complexity of machines means that the single processes are now so numerous that they have become versatile. The versatility of a CNC machine could mean that no longer dictates the process. This offers potential for the operator to control the process rather than being dictated by the machine and its limitations. Such opportunity could potentially allow craftsmanship back into the feedback cycle.

The Trap of the Computer

Computer Aided Design (CAD) is the interface that designers use to create 3D models for CNC machines to print from. Sennett makes the point that CAD is an inviting trap for the aspiring craftsperson; "The seduction of CAD lies in its speed, the fact it never tires, and indeed in the reality that its capacities to compute are superior to those of anyone working out a drawing by hand. Yet people can pay a personal price for mechanisation; misuse of CAD programming diminished the mental understanding of its users."[73] The use of computers has enabled makers to

72 Babbage, Charles. "Economy of Machines and Manufactures." Chap. 6 In *The Craft Reader,* edited by Glenn Adamson. 48-54. Oxford, New York: Berg Publishers, 2010: p.53
73 Sennett, Richard. *The Craftsman*. London: Penguin Books, 2009: p. 81

create objects of exponential complexity. Such ease though, like printing a Stradivarius, means that the user is fooled into thinking they have achieved something of great work but in fact have just become a witness to the process rather than a participant. On the other hand, there is the argument that the actual physical making is a minor part of the craft process.

The Virtual Material

Malcolm McCullough presented a case in his 1996 book *Abstracting Craft* where he argued that working the 3D model is in itself a craft. McCullough took the flow of craft and interpreted it for a digital medium as: direct experience, personal vision and mastery of medium. He argues against the idea that craft is the use of hands. Using the example of glassblowing he illustrates how the glass blower never actually touches the work, yet glassblowing is a craft. The tool, he argues, matters little as craft is about giving the idea form.[74] Like the glassblower objects can be indirectly formed and still be considered craft. By abstracting craft it seems that the defining feature of a crafted object, its aura, is being marginalised; however if we take a step back from analysing the craft process and look at society itself we see another perspective on digital craft.

Why do we Craft?

Rafael Cardoso takes McCullough's abstraction even further by seeing digital craft not as an individual process but as an effect on society as a whole, a natural progression for the discipline of design. With better technology designers have been able to create their own works. The nodal structure of digital manufacturing can be compared to the romanticised medieval industry that Morris so much yearned for. Digital craft is about making industry "open source", sharing ideas, collaborating and taking a more personal experience towards making. The freedom afforded by technology means "the question is no longer what to design, but why."[75] This is a positive question that removes focus from the technicalities of making and directs them towards the reason why we make.

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74 McCullough, Malcolm. *Abstracting Craft.* Cambridge, MA: MIT Press, 1996: p. 56
75 Cardoso, Rafael. "Craft Versus Design: Moving Beyond a Tired Dichotomy." Chap. 42 In
     The Craft Reader, edited by Glenn Adamson. 321-32. Oxford, New York: Berg
     Publishers, 2010: p.331

Conclusion

At first glimpse the argued existence of digital craft looks to be a technical question of 'what counts as a tool?'. McCullough's assumed redundancy of the process between the tool and the made object seems to veer digital craft away from the process of making towards the forming of ideas. Digital manufacturing could make the making experience more personal, as people become more enabled to create their own objects. Digital making can be a reflective process like craft, but I believe that the finished object and its aura are the continuation of the craftsperson and this has been overlooked.

Crafted objects are created to be appreciated; the objective of crafting a beautiful object is so that it is enjoyed, while also establishing a record of the craftsperson and the age they live in. Material culture has taught us how to value artifacts that we create, and crafted objects are amongst the most valued because of what they reflect of ourselves; our Hephaestus-like imperfection. The aura of these crafted objects, their genuine nature connects and resonates with people.

There is no clear definition for digital craft but there is definite potential for its development. Industrialisation has seen the objects that surround us become clean, complete forms with polished steel and injection-molded plastic. Digital craft seems to be a collective yearning for something genuine, something that can be related to. I believe a process that tames technology to create objects that possess a crafted presence, an aura, is entitled to the term *digital craft*.

Research Objective

This thesis seeks to explore the Book Beautiful in the context of our time, where digital technology around us is becoming ubiquitous. The prejudice against machines consolidated by the Arts and Crafts movement has dissipated and craft, the core concept of the Book Beautiful, now has the opportunity to become a reinterpreted. Digital craft can take the inaccessible and expensive process of letterpress hand printing and make the tools necessary to print books more available to people armed with an idea and a passion for crafting books.

This thesis aims to investigate three areas: the importance of the Book Beautiful today; the relationship of the book to the collector; and the possibility of digitally crafting the Book Beautiful to make its production more accessible. By looking at the production of a Book Beautiful to its reception by the reader I hope to create an understanding of the Book Beautiful in a contemporary context and its importance.

The specific objectives:

- Firstly to place the Book Beautiful into contemporary context in contrast with the flickering texts of the digital sphere and appraise the differences and importance of the qualities of the physical book that the Book Beautiful highlights.
- The second objective is to examine the relationship between a collector and their books and to grasp the complex and intimate relationship that takes place between a person and their books, focusing on what makes a book irreplaceable.
- Thirdly to determine whether the idea of digital craft is possible and not contradictory.
- The final objective is to examine whether producing a Book Beautiful by digital craft still creates an aura and also experience the process to see, if any, opportunities are present.

Structure of Thesis

These objectives have been divided up into three chapter in this thesis:

❧ Chapter One: The Book Beautiful Today
A context analysis of the qualities of the book beautiful and case studies ascertaining why it is an important textual form in the digital age, exploring the ideas of trust, impression and presence.

❧ Chapter two: The Book Irreplaceable
An insight into the final destination of the book in the collection of the owner. Examining how books can become irreplaceable and how Books Beautiful are treated differently within the library of New Zealand historian John Cawte Beaglehole. The case study of his posthumous collection offers an empathic understanding of his relationship to his beloved books.

❧ Chapter three: Digitally Crafting the Book beautiful
Having explored the relationship between the book and the collector this chapter looks at the Book Beautiful and its maker. The result of a practical investigation into whether the creation of an aura, such as that attained by the book makers of the Arts and Crafts movement can be achieved using digital manufacturing machines.

Scope of Research

This thesis aims to re-envision the Book Beautiful into a modern digital context. The subject matter of this research has the potential to reach towards an in-depth understanding of the importance of the physical medium of the book, as well as how to use digital craft to produce a Book Beautiful. However time and resource is a restriction that thwarts even the most passionate, as a result the scope of thesis is to gain an understanding of the Book Beautiful and identifying potential routes that can be pursued more in-depth within a PhD.

The Book Beautiful Trilogy

This thesis explores extensively the relationship between the three entities related to the Book Beautiful: the craftsperson responsible for the creation of the book; the book beautiful itself and its properties; and finally the collector with their unique and human relationship to the book.

From the inception of the idea from the craftsperson to the object of the book resting with the collector and their emotive relationship with the Book Beautiful the focus of this research is on the dynamic relationship that exists within this sequential trilogy that digital mediums lack.

fig. 21
Diagram of the flow within the thesis scope

Time and Craft

Craftsmanship and time are tightly interlinked. As determined by the research of Ericsson the figure of 10,000 hours gives a good indication of the investment required to master a skill. As this would equate to 1,250 eight hour days entirely focused on a single skill it is unrealistic to expect that a comprehensive mastery of the craft can be obtained within the limits of this research. Therefore this thesis acts within its scope by identifying potential for further development and discussion.

Within the Book Cycle Model

The five areas within the model of Adams and Barkers model (fig. 18); publication, manufacture, distribution, reception and survival cover the whole cycle of the book and give a good framework to address the scope of this thesis.

This study focuses on three of these areas in specific relation to the Book Beautiful

- **Manufacture:** The production of a finely printed book examined in this thesis are form making, inking and printing. Focus is placed on achieving similar aura to books produced using traditional relief printing.

- **Reception:** Theory of reception is explored in this thesis by building on current theories to create a coherent theory around the importance of the Book Beautiful in a modern context.

- **Survival:** Books Beautiful are made to be owned and treasured. Unlike books lent from libraries the Book Beautiful is an object that demands ownership and personal attachment. The relationship between books beautiful and their owner is explored extensively within this thesis.

There are a couple of necessary assumptions made for the remaining two areas, publication and distribution, that are not directly addressed in this thesis.

- **Publication and authorship:** Anyone who wishes to invest such time and effort into printing a book beautiful would select text that they felt justified the effort. As is the case with private presses I assume they would not cater to popular demand but rather print books that they believe are worthy of the process for the sake of creation.

- **Distribution:** The internet allows for easier distribution and I believe that makers of Books Beautiful will avail themselves of the advantages that the internet presents.

Typography

Typography, the art of fonts and their use, is a wide field that demands its own thesis, and is not addressed in this study. I believe that the issue of typography, a detailed subject where dots matter, should not be glanced over but rather given full recognition. By including the subject within this research I feel it would not be done justice.

Beauty

When discussing the Book Beautiful the concept of 'beauty' is a dominant factor. Yet I refrain from defining what that beauty is as it is such a subjective subject. Over the course of human history the ideals of beauty have shifted. Though consistent factors may be present I do not propose tp fence in what beauty is in relation to the Book Beautiful. As Umberto Eco states in the introduction to his book *On Beauty* "It is possible – over and above the diverse concepts of beauty – that there may be some single rules for all peoples in all centuries. In this book we shall not attempt to seek them out at all costs. Rather, we shall highlight the differences. It is up to the reader to seek any unity underlying those differences."[76] Like Eco I believe that whatever beauty the Book Beautiful possesses I shall leave that to the reader to envision. I will however discuss the conditions in which the Book Beautiful exists and the implications within the digital age.

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76 Eco, Umberto. *On Beauty*. London: Secker and Warburg, 2010. 2004: p.14

Methodology

"While the Beaver confessed, with affectionate looks
More eloquent even than tears,
It had learned in ten minutes far more than all books
Would have taught it in seventy years"[77]

This study directs itself towards the emotive qualities present in the trilogy of the Book Beautiful: the toil of the craftsperson, the beauty of the book itself and the emotional attachment to it from the collector. Such qualities are unique to the individual and may not be transferable to others but a greater understanding of these qualities can reveal an framework that can be identified and built upon.

Instances of elements such as *aura, presence, irreplaceability* and *craft* cannot be accurately described as they constantly change depending on the individual's experience. You cannot for instance describe your experience of aura to another and have them fully understand, but we know that such a quality exists through the multiple and diverse references to it. The existence of these qualities though is not in question, rather how they exist and how they are created.

Finding the conditions that these elements exist in can not be defined empirically. Take craft for example, it can not be defined by stating that 'all work that uses a hammer is considered craft' as it doesn't acknowledge who is holding the hammer; we know however that some crafts use a hammer. It is the manner in which the hammer is used and the intent of the person wielding it that lead us to think it is a craft or not, intent however can not be observed.

The conditions can be understood from either a macro or micro perspective, each with their own advantages and disadvantages. To research on a macro level using the scientific method, taking large samples and analysing the results to create a model in which these elements could exist, would yield the advantage of factual proof and certainty of replication. The danger of this method is that the names and faces of individuals can be dehumanised and seen as data. Yet these individuals, their experiences and their emotions are an integral part of the conditions that give rise to elements such as craft and aura.

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77 Carroll, Lewis. "*The Hunting of the Snark*." In The Complete Lewis Carroll. 677-99. London: Wordsworth Editions, 1999: p.693

On the micro level one loses sight of the bigger picture, instead seeing the details on a more intimate level; but as such the researcher becomes a participant. For example, when the French anthropologist Marcel Griaule studied the Dogon tribe of Mali in the 1940s, he did so by participating in conversations with a tribal elder named Ogotemmeli to gain an understanding of their religious beliefs, which he later published in his book *Conversations with Ogotemmeli* in 1948. Through the direct contact with Ogotemmeli, Griaule was able to gain a thorough understanding, not only of the tribe's religion but also of Ogotemmeli himself, his emotions towards their religion and how it fitted into his life. Unbeknown to Griaule was that his presence there had an effect on the tribe which was revealed decades later as Eco relates; "When you arrive there... you find yourself surrounded by clamouring children. I asked one if he was a Muslim. 'No' he replied, 'I'm an animist.' But no animist would ever say he was an animist unless he studied social sciences at university. An animist by definition cannot know he is one."[78]

To observe on a micro level you inevitably become a participant, as the Griaule example shows. Therefore I propose that participation is the most effective method of investigation for this research as it reveals human qualities that would otherwise be overlooked. An understanding of the details of these elements can be obtained and reported, however there will be no scientific evidence. I propose that the results start dialogue from which an even greater understanding can emerge.

Phenomenology

Phenomenology is a philosophy that studies the underlying structure of experience. The field of phenomenology was started by German philosopher Edmund Husserl (1859 – 1938) and subsequently spread across the globe. Husserl believed that through systematic reflection one could find the structure of experience, our *being-in-the-world*. Husserl sought to find a universal structure that we all follow in our interactions across boundaries and cultures.[79]

His most notorious student Martin Heidegger went even further employing phenomenological inquiry as a means to explore ones own existence. Heidegger discarded the idea of a unifying structure we all adhere to and took a step back to examine our existence in the world. Heidegger used the term *dasien*, which

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78 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book*. London: Harvil
      Secker, 2011: p.121
79 Sartre, Jean-Paul. *Sketch for a Theory of Emotions*. London: Routledge, 1994. 1964: p. 8

translates directly to being, in order to reference the individual who is experiencing in the world.[80]

It is often thought that phenomenology is a lofty and introspective philosophy, but its has developed along a line of reasoning and is widely considered a scientific study of experience.[81] Phenomenological investigations repudiate the idea of a theoretical foundation from which to examine the world, as such theories are instead considered part and parcel of the world. Phenomenology looks at the immediacy of experience and is a method that can obtain a direct understanding.[82]

The Phenomenology of Craft and the Book Beautiful

Our experience of the world is shaped by objects, either natural or artificial, that are independent of ourselves. We can interact with objects through our senses and can even create them as well as manipulate them but they remain removed and independent from us. For us "Objects project possibilities for action as much as they project that they themselves were acted upon".[83]

This progression from the action that created the object, or in our case the book, to the collector constitutes what was earlier referred to as the trilogy of craftsperson, book beautiful and the collector, described as a trilogy to emphasise the sequential nature of these entities.

This research through three chapters explores each of these areas in varying ways.

> **Chapter One:** examines the object of the book through literary research and a formation of the characteristics of the book. This research establishes an understanding necessary on which to use as a platform for the remaining two areas as to what the Book Beautiful is and why it is important.

> **Chapter two** uses *empathic phenomenology* to gain an understanding of the relationship between the collector and their books. In philosopher Jean-

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80 Sartre, Jean-Paul. *Sketch for a Theory of Emotions*. London: Routledge, 1994. 1964: p.9
81 Jackson, Michael. "Introduction: Phenomenology, Radical Empiricism, and Anthropology."
       In *Things as They are: New Directions in Phenomenological Anthropology*, edited by
       Michael Jackson. 1-50. Bloomington: Indiana University Press, 1996: p.1
82 Ibid: p.2
83 Morris, Robert. "Some Notes on the Phenomenology of Making: The Search for the Moti
       vated." Chap. 65 In *The Craft Reader*, edited by Glenn Adamson. 540-47. Oxford, New
       York: Berg Publisher, 2010: p.545

Paul Sartre's book *Sketch for a Theory of Emotions*[84] he takes an empathic perspective on the study of emotions. He criticises the scientific study of psychology for the reason that "the psychologist strictly is forbidden to consider the men around him as men like himself."[85] He instead takes the approach of observing the phenomenon in question and rationally empathising how it fits within a larger framework.

To examine my own collection of books I thought would be futile as my collection grows and would change over the course of the research. An opportunity arose to study the library of New Zealand historian John Cawte Beaglehole who died in 1971. Beaglehole's library consisted of a 'complete' set of books that he kept close until the end of his life, including an impressive collection of fine press books, all of which could be considered Books Beautiful. His son Tim Beaglehole, an academic whose reputation rivals his fathers, wrote a detailed biography of his father's life and collated an itemised list of his fathers library. Through the analysis of data and J. C. Beaglehole's biography it is possible to collate an image of his life and his emotive relationship to his books.

The final chapter uses *immersive phenomenology* as I directly engage in the task of using digital machines to develop a method to print books that can lay claim to the title 'Book Beautiful'. The precedent for this is the processes and works of T. J. Cobden-Sanderson and William Morris, both of whom created books that can be referred to as Books Beautiful.

The logical starting point would have been to learn how to print on an Albion cast iron handpress similar to the presses used by The Doves Press and the Kelmscott Press, that conveniently can be found underneath the Victoria University Library at the premise Wai-te-ata Press run by Dr Sydney Shep. However to learn how to use such a tool is complicated and I wanted to undertake this investigation without a preconceived assumption of what printing a book should be like. The renunciation of a firm skill set to approach this immersive research indicates my intention to keep an open mind as to the possibilities of digital craft, and underlies my attempt to discover a sense of craft when printing a book in an age very different to over a hundred years ago.

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84 The precursor to his famous existentialist work Being and Nothingness
85 Sartre, Jean-Paul. *Sketch for a Theory of Emotions*. London: Routledge, 1994. 1964: p.3
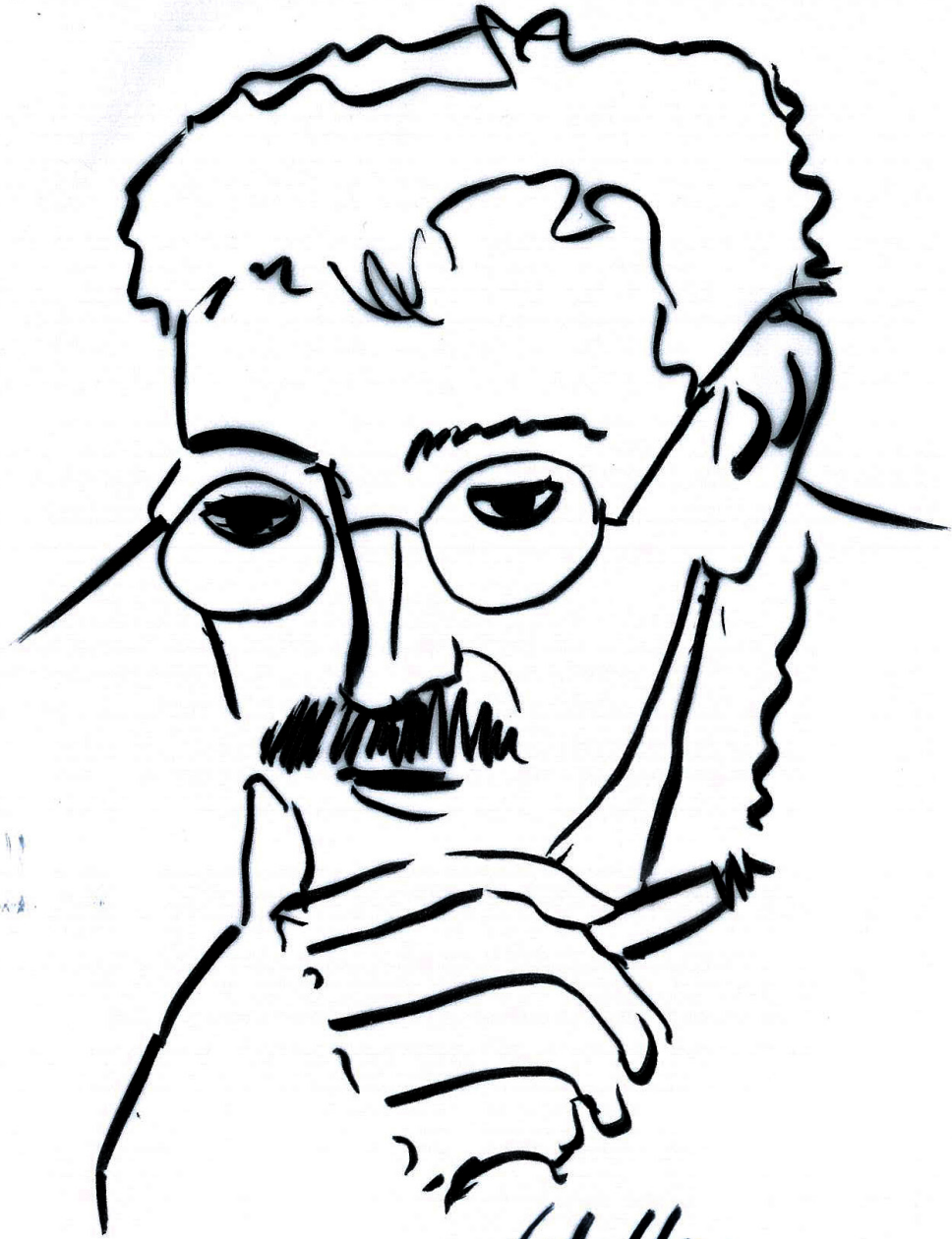
Walter
Benjamin

II

The Book Beautiful in the Digital Age

When the Book Beautiful is created the ink laden type is pressed into the page leaving its imprinted message. Its pages are then folded and bound into a complete volume. Through this process the craftsperson wants the book to become something beautiful and meaningful. As technology has progressed over the last couple of centuries the process of printing and binding has become automated and produced to a template. The indentation once left by the type is now a glance over the surface of the page in a noncommittal fashion. Ease and economy have long since forgotten the manual letterpress process in preference for faster and more prolific mechanised printing methods. Technology however is an ever progressing entity and the methods that once outdated the letterpress are now being challenged by digital technologies that allow text to be published with almost no effort. For what seems like the evolution of natural selection is in fact a paradigm shift from the realm of tangible physical print towards ephemeral transmutable texts.

When McKenzie wrote in 1985 he addressed a change in attitude towards bibliography, from the dusty cataloguers of university libraries towards a living, breathing medium. McKenzie addressed the then emerging digital formats as textual forms but in 1985 very few could foresee the implications or success of such technology.[1] It is only recently that we have been able to clearly see that digital texts are very different from print formats. This clash between the physical and the digital creates a contrast which reveals qualities of the book that were previously unseen, like a white object on a white background. Books communicate in a way that addresses us as humans, emotional and responsive beings who desire more from a book than just a text. Books are portals to ideas, narratives and beliefs that we can hold, hide or display. In a world of flickering texts on a screen books become more than a medium. They are a form that we can relate to on a deeper emotional level, and no other book induces this relationship more than the indented letters upon the page of a Book Beautiful.

The book is a medium that will persist regardless, but its function within peoples' lives will change from the primary textual medium towards a more emotive func-

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1 Erickson, Paul. "Help or Hindrance? The History of the Book and Electronica Media." In *Rethinking Media Change: The Aesthetics of Transition,* edited by Henry Jenkins and David Thorburn. 95-116. Cambridge, MA: MIT Press, 2003: p.95

tion. There are qualities that set the average book apart from digital texts but these are generally acquired unintentionally. The Book Beautiful is a meaningful medium which builds upon these qualities and emphasizes them. But why does the medium even matter? What are the qualities that the Book Beautiful possesses that sets them apart from regular mass printed books? Why is that relevant when confronted with digital texts?

These questions hinge around the undeniable quality of *presence* that is possessed by all books. Simply by being a physical object books affect how we relate and interact with the texts that they contain. Books Beautiful go beyond presence as they possess the ephemeral sense of *aura* and the qualities of both *physical impression* and *meaningful impression*. I will embellish on these later but first it is important to establish why textual mediums matter.

The Texture of Text

The work of Don McKenzie changed the perception of books back in 1985 with his book entitled *Bibliography and the Sociology of Texts*. Within this work McKenzie delves into the very nature of text. The word text comes from the Latin *texere* meaning 'to weave'. Also from the Latin *texere* came the English word *texture* and the implications of this shed light onto how we should perceive text. Text is the result of the two elements of conveyed meaning and material becoming interdependent; the message, represented by grammatical *symbols* or *signifiers,* and the material on which they are recorded. The implications of the relationship between the two is this: text cannot exist without a material in which to manifest on. McKenzie considered text as either letters on a page, maps, recorded music or any computer stored information, each of which require a material medium in which to manifest. Whether paper, stone, computer code or vellum, there is always a material present where text is. The involvement of material means that production, transmission and consumption of a text are all affected by the material in which the text is recorded.[2] If we take this basis for text and view it through the lens of how that text is received we can begin to see why textual medium is so important.

The medium in which a text is recorded brings with it an expectation, an anticipation from the reader for how that text will be read. Textual medium creates a context in which the message or narrative of the text is to be consumed. If we consider receiving a letter from a relative in the post there is an expectation that

2 McKenzie, D. F. *Bibliography and the Sociology of Texts.* London: The British Library, 1985: p. 5

the message is important, as there is more effort involved in writing and posting the letter than there is in sending an email. This is called within reception theory the *expectation horizon*.[3] The expectation, dictated by a combination of context and *a priori* knowledge, affects how we read and interpret a text. Interaction with the medium is an important factor in the reading process, and can be the difference between taking the letter from a relative seriously or accidentally mistaking it for junk email and deleting it.[4]

Material and text are an inseparable combination as text relies on material to bring it into existence and material gains meaning and importance from the text. The textual medium, be it book or otherwise, affects the reception of the text by the reader.[5] How the text is presented to the reader is therefore an important element affecting the meaning that is gathered from it. Following this logic it is clear that there is a significant difference between an ebook and a Book Beautiful, but what are the implications of this and why is it important? The answer to this question begins with the quality of presence. It is a tangible quality that books naturally possess and it is the basis for why Books Beautiful have an increased relevance in this digital age.

3 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader." *Diacritics* Vol. 22, no. No. 2 (1992): p. 53
4 Eco, Umberto. "Openness, Information, Communication." Translated by Anna Concogni. Chap. 3 In *The Open Work*. 44-83. Cambridge, MA: Harvard University Press, 1989: p. 53
5 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader." *Diacritics* Vol. 22, no. No. 2 (1992): p. 50

Presence

Presence is a quality that we assign to something that is tangible to our senses and this has significant implications for texts and how we interpret them.[6] Presence fundamentally cannot be possessed by digital text, and this is the basis for why books, and more importantly the Book Beautiful, have an important role to play in our lives in the digital age. Our emotional engagement to texts live through the physical object of the book, something that digital texts cannot offer in the same way due to their nature. What is that difference though, and why can books offer presence and digital texts cannot? The answer lies in how the textual medium retains the text, the difference between floating and flickering signifiers.

The Floating and Flickering Text

When we read from either a book or a computer screen we see letters and words that literally spell out the message the author is trying to communicate. Although the two means of reading may seem similar, as it is the same alphabet and grammar between the two, what happens when we stop reading and either put the book down or turn the computer off? The book is an entity that is linked with the text; it will remain where we left it. The computer, however, has seemingly forgotten the text and the blank screen would indicate that the text has simple flicked out of existence.[7] The book as a medium *floats,* never leaving existence and is always there. Digital text however flickers in and out of existence, the medium in which we view is not exclusive to the text. The text is retained with the digital material of a binary signal that is made comprehensible through a code, and that code is stored somewhere in the world on a hard drive that remembers how to create the text, but does not store the text itself.[8]

Text is a form of code that stores and retains information that can be read and thus knowledge acquired from it. This code of communicating information is what

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6 Russell, Bertrand. "Appearance and Reality." Chap. 1 In *The Problems of Philosophy*. 7-16.
    London: Oxford University Press, 1957: p.13
7 Erickson, Paul. "Help or Hindrance? The History of the Book and Electronica Media." In
    Rethinking Media Change: The Aesthetics of Transition, edited by Henry Jenkins and
    David Thorburn. 95-116. Cambridge, MA: MIT Press, 2003: p.105
8 Ibid

N. Katherine Hayles refers to as a signifier[9]. The symbols and grammar that dictate the text signify a meaning that is attributed to the text by the reader, but if the reader cannot understand the symbols then the meaning is lost. Text has no inherent meaning but instead signifies a meaning already known by the reader..

Text of the Floating World

Hayles likens the book to the human body: "Just as the human body is understood in molecular biology as simultaneously a physical structure and an expression of genetic information, so the literary corpus is at once a physical object and a space of representation, a body and a message"[10]. Once written it cannot easily be changed. The entanglement of the message and the body is represented through the code of *presence* and *absence,* the book and its text is either there or it is not, and this is what is meant by the term *floating signifier.*

 The medium floats within the world and there exists a feedback loop between the reader and the textual body that is deep and complex. "Because they have bodies, books and people have something to lose if they are regarded solely as informational patterns, namely the resistant materiality that has marked the experience of reading no less than it has marked the experience of living as embodied creatures. From this affinity emerge complex feedback loops between contemporary literature, the technologies that produce it, and the embodied readers who produce and are produced by books and technologies. The result is a network of changes that are moving in complex syncopation with one another"[11].

This loop between the reader and the book allows for an emotional relationship through the consistency of the book's presence. There is potential for books to share experiences with readers as well. The shared constitution of the human body and the book is what allows emotional attachments to be formed, therefore the textual form of the book is fundamentally different from the makeup of digital texts. Books remain, they scar, they age and battle with time in such a way that is comprehensible.[12] This fact gives printed text presence, and this cannot be digitised.

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9 Hayles, Katherine N. "Virtual Bodies and Flickering Signifiers." *October* Vol. 66, no. Autumn (1993): p. 76
10 Ibid: p.75
11 Ibid
12 Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Translated by J. A. Underwood. *In One-Way Street and Other Writings.* 228-59. London: Penguin, 2009: p.232

Flickering in and out of View

The act of digitising text is a process of dematerialisation from the code of presence and absence towards the computational code of *pattern* and *randomness*[13]. Digital text does not exist as a body but rather as a sequence. This allows digital text to be completely rearranged with no reference to its previous state. The ease of transmutation of digital textual forms upon the material of sequence and pattern allows for quicker creation and publication. Digital text can be packaged up and sent across the world at speeds that were unimaginable a hundred years ago. The trade-off for the speed and efficiency of digital text is the renunciation of the body for the text to be enmeshed with.

Digital text flickers in and out of existence through any computational device that can read the code to create the image of text. The flickering allows digital text to be transient, transmutable and multiple. This text may be stored within a physical optical drive but the object of a computer is not linked to the text, other than transiently when the text is in use. The lack of a body means that the text has no presence, and as a result is in a constant state of flux. Digital text, unlike printed text, is amnesiac and has no set identity as it is always being reinvented. In a word processor the author can quickly delete a passage of text and anyone who reads the subsequent text will have no idea that there was ever a deleted paragraph. Such speed and ease of manipulation is made possible through the non-permanence of digital code, its weightlessness and the absence of a body.

The flickering of digital texts affects the reception of the text by the reader. Unlike books that retain permanence once printed, the digital text can be constantly refreshed. As referred to earlier within reception theory the concept of *face-to-face interaction* is a reality for digital texts.[14] Interaction such as that on a search engine or instant messaging program allow the user to receive a response from the text. Digital texts allow a conversation to take place, sending out a message and receiving a response, add dynamics to the reading of a digital text.

The nature of digital text means that it is more capable of performing some of the tasks that paper and ink used to fulfill, in terms of recording information and

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13 Hayles, Katherine N. "Virtual Bodies and Flickering Signifiers." *October* Vol. 66, no. Autumn (1993): p. 72

14 Iser, Wolfgang. "Interaction between Text and Reader." Chap. 22 In *The Book History Reader,* edited by Alastair McCleery David Finkelstein. 291-96. London: Routledge, 2002: p. 292

correspondence. However that very nature means that it is not, nor ever will be, a medium to challenge the permanence and presence of a printed book. A lack of physical tangible presence makes digital text distant. Its ability to exist in two places at once destroys a text's uniqueness. The implication of this is that the reader will read the text in different ways and that cannot be avoided. Flickering and floating signifiers are two polar entities and must be treated as different, regardless of their visual similarities.

Implications of Presence

There are two implications of the presence of a book that are important to acknowledge, *permanence* and *trust*. Both of these qualities are integral to the relationship between a reader and the text. Both permanence and trust though are traits strengthened through presence. Without these a reader may find it hard to relate to a text emotionally, or to imbue the physical object with memories and feelings. Trust and permanence and the consistency that it allows lay the foundation for an intimate relationship.

Permanence

Books change by remaining unchanged in a changing world[15]. As soon as the ink is printed on the page it has become permanent until the page itself is destroyed. A book over the years may become scarred and stained, yet those details become permanent in themselves and simply develop the identity of the book. As an object this means that a book allows future generations to get a snapshot of society from when the book was printed. However in an intimate relationship with a reader or an owner the book becomes a companion[16], a consistent and trustworthy anchor in which many ideas, perspectives and memories are embedded.

Permanence extends beyond the reader and a book can exist for several generations; some have even existed for over a millennia. Books as cultural objects can allow future generations a glimpse of society from when the books was printed. Material cultures speak more about the age they are from than just what the object was intended for. Works such as Homer's epics or Chaucer's *Canterbury Tales* would have become lost to us had they not been printed within books that were

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15 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader." *Diacritics* Vol. 22, no. No. 2 (1992): p. 56

16 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book*. London: Harvil Secker, 2011: p.327

durable enough to stand the ravages of time.

Digital texts are entirely dependent upon electricity, and should power ever vanish then that text would become beyond our reach. In his essay *A Dream* Umberto Eco eloquently relates the permanence of books to the context of a post-apocalyptic world: "Reading will become popular again, because with the exception of fire, books can survive all kinds of disasters. They will be discovered in abandoned rooms and removed from the great city libraries; they will be lent out and given as presents for Christmas; and they will keep us company in the long winter nights and in the summer as we answer nature's call beneath a tree."[17]

Trust Me

The permanence of books allow us to trust them. We can place them down and know that they will not rearrange or delete sections when we pick them back up again.[18] Although a book may contain statements that are untrue, the fact that the book has stated them remains immutable.

Such an example of this trust of the book can be found within George Orwell's seminal work *1984*. The protagonist Winston Smith comes to doubt the government called Big Brother, a government that observes and enforces all areas of an individual's life. Winston confides in a red diary hidden in his room with these illegal doubts, a companion which contrasts sharply with his job as a Newspeak editor where he edits and alters news stories that suit the Big Brother establishment. Though the book eventually becomes his downfall (precisely because his words, once recorded, were unalterable) it was the only object within his whole world that he could entrust such treacherous ideas too, he could not even fully trust his lover.[19]

The theme of trust though beyond the fictional allegory *1984* to the physical book of *1984*. In 2009 customers of Amazon.com purchased a copy of the eBook *1984* for their Kindle, a handheld eBook reader. Yet upon the discovery that the publisher for the electronic text of 1984 did not have the publishing rights for

17 Eco, Umberto. "A Dream." Chap. 7 In *Turning Back the Clock*. 329-34. London: Vintage, 2008: p. 332
18 Erickson, Paul. "Help or Hindrance? The History of the Book and Electronica Media." In *Rethinking Media Change: The Aesthetics of Transition,* edited by Henry Jenkins and David Thorburn. 95-116. Cambridge, MA: MIT Press, 2003: p.105
19 Orwell, George. *1984.* London: Penguin Books, 1976. 1949: p. 8

George Orwell's novel in the United States, Amazon responded by removing the illegal ebook from all Kindle users who had purchased it (though the customers were refunded).[20] Through presence we assert through our senses that a book is real and that it is there. Yet in the case of the eBook *1984* the text ironically disappeared down what Orwell called a "memory hole" as if it had never existed.

The example of *1984* illustrates a chasm extant in digital text. The diminished sense of trust in the medium makes the establishment of an emotive relationship difficult to build. Such trust has historically been taken for granted when text was printed. The example also highlights that digital texts can never really be owned. Now that digital text has become a dominant source of information, the constant flickering, updating and adjustments being made even while we are reading the text cause an uneasy stir. The presence of a book is a comfort in a constantly updated world and that comfort leaves an impression on us.

20 Stone, Brad. "Amazon Erases Orwell Books from Kindle."
http://www.nytimes.com/2009/07/18/technology/companies/18amazon.html.

Impression

Up to this point I have explained why the book is important in a digital age, but why is the Book Beautiful more significant than the normal mass printed book? Both have the same format and similar form. Both have presence and carry the implications associated with that. Yet the Book Beautiful is somehow more of a book. The quality that separates the Book Beautiful from other books is the impression left both on the page and on the reader.

In the sense that I am discussing it, the word 'impression' has two distinct interpretations. Firstly the impression which is the result of the process of printing a Book Beautiful. The ink-laden type is pressed into the surface of the moistened paper, which leaves a small indentation on the page. In this interpretation the physical impression embodies the physical qualities of the book as a whole; materiality, appearance, remnants of craft and transparency of process.

The other interpretation of 'impression' discussed in this chapter is that of meaning. This is the impression that a Book Beautiful leaves with the reader. The Book Beautiful changes the meaning of the text simply by the text being a part of the Book Beautiful. The tacit qualities and the aura that surrounds most Books Beautiful create an expectation from the reader. Even before the covers are parted the Book Beautiful has shifted the meaning by its visual and tactile appearance. Meaning however is accumulative and Books Beautiful that live in somebody's ownership become an anchor for more intimate meanings, such as memories, ideals and beliefs.

Impression: Physical

Books Beautiful are different from most books as it is the book as a whole that is considered in its creation. Cobden-Sanderson sought to connect the constituents of the book; the binding, the print, the illustrations and the materiality into a considered whole. When referring to the physical impression of the Book Beautiful I mean much more than the poetry of the impressed text; I refer to the book as a whole and what it signifies. The impression of the Book Beautiful as a physical object extends beyond type to transparency of process, tactility and physical representation.

The most notable feature of a Book Beautiful is the impression left on the page from the type. This impression hints at the weight of the words printed, heavy words leaving footprints on the page. The creator of the Book Beautiful would need to have great belief in the words that are printed to go to the extraordinary effort of undertaking the task of setting up the type, wetting the paper, building the form, taking test prints until it is just right to proceed with the print run. The ease of digital publishing means that there is little discretion in what is produced. Words of a contemporary visionary are as easy to produce as emails or rambling blogs. The process of printing a Book Beautiful becomes a form of filter, and although what is printed is always subject to taste and aesthetics it cannot be denied that there must be a strong belief in what is printed for someone to make the effort.

The impression of the words on the page also signify transparency in process. There are very few ways in which the indentations could be made on the page other than the pressure from a platen onto type with paper in between to record the event. Transparency of process means that magic does not take place, as Jean-Paul Sartre notes in his *Sketch for a Theory of Emotions* magic is an element that our minds use to fill in what we do not understand. Although it can create a euphoric mysticism, it also produces suspicion and a disquieting sense.[21] Digital text is produced through computational means that will always be beyond most human comprehension. Although the user knows how to open a word document and save it the mechanisms that take the binary code of the processor chip, through the RAM and the application that translates data to create the image on the screen, are beyond the average user and unecessary to know.[22] The 'magic' of digital technology that produces both digital text and digitally printed text, when set against the transparency of letterpress reveals by contrast a comprehensible simplicity in the letterpress process. That simplicity, a form of honesty, adds to the sense of trust that is so essential to building an emotive relationship.

The resulting tactility of the letterpress process adds a dimension to the communication between the reader and the book that is not normally present in planar printed books and definitely absent in digital texts. The Book Beautiful as a considered whole also includes the materials that it is made from. The quality and

21 Sartre, Jean-Paul. *Sketch for a Theory of Emotions.* London: Routledge, 1994. 1964: p. 56-7
22 Erickson, Paul. "Help or Hindrance? The History of the Book and Electronica Media." In
     Rethinking Media Change: The Aesthetics of Transition, edited by Henry Jenkins and
     David Thorburn. 95-116. Cambridge, MA: MIT Press, 2003: p.105

attention to detail present in a crafted book are evident not only to the eye but also to the hand. Though a blind person could not read the imprinted text on the page they would be able to read the materials of the book, to get a sense of its importance and appreciate its construction. Aspects of tactility such as texture, weight, and shape communicate something beyond the text printed on the pages. These qualities tacitly relate something to the reader but just as important is what the tactility and appearance of the book relate about the owner of the book.

Bookshelves serve a greater purpose than to simply store books, they are also a place to display them. Stacked together and pressed between bookends the titles on the spines of the books begin to create a picture of the person who owns them.[23] For someone who dislikes poetry you will be unlikely to find poetry on their shelves, and for those who love Shakespeare you can expect to find all his plays. What if somebody had a passion for a subject that could not be satisfied by a copy of the text in paperback?

The Book Beautiful stands out from other books due to its presence, tactility and aura. Such a book can only be acquired through a desire to own something that expresses a strong passion for a subject or an author. The Book Beautiful fills a unique function of display on the book shelf. It represents a part of the owner with an exclamation mark; it is different and stands apart. It causes curiosity for the browser, and to pull it from the shelf and open it up seems only natural.

The impression of the Book Beautiful as a physical object surpasses that of a regular book. Its value lies in its ability to communicate value and hierarchy through materiality and tactility. The honesty in the process creates stability for an emotive relationship between the reader and the text. This relationship is physically manifested through the presence of the Book Beautiful on the bookshelf, both intimately connecting the owner to the book and facilitating th representation of the owner to others. The physical aspects of the Book Beautiful are complemented and enhanced through the interpretation and impression of meaning.

Impression: Meaning

Reading a text is not as straightforward as most people believe. The context, the medium and the appearance of the text affect how the reader interprets it. Words

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23 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. *In One-Way Street and Other Writings*. 161-71. London: Penguin, 2009: p. 170

have no meaning in themselves; we learn from a young age what each word means. For example take the word 'mountain'. If we were to read a sentence that said "The eagle flew across a backdrop of mountains", there would be a difference in each reader's mind as to what those mountains looked like. Someone from a town near the Swiss Alps would more than likely picture large looming mountains tinted blue by the atmosphere. Another reader from the Midlands in England would be more likely to imagine tame mountains that were covered by the rolling shadows of clouds.[24] This notion of the separation between information and meaning is portrayed by the surrealist painter Magritte in his painting *Key of Dreams*. The words do not fit the images. What we see and the words we use to describe it are not one and the same.[25]

fig. 23
Rennie Magritte *Key of Dreams*
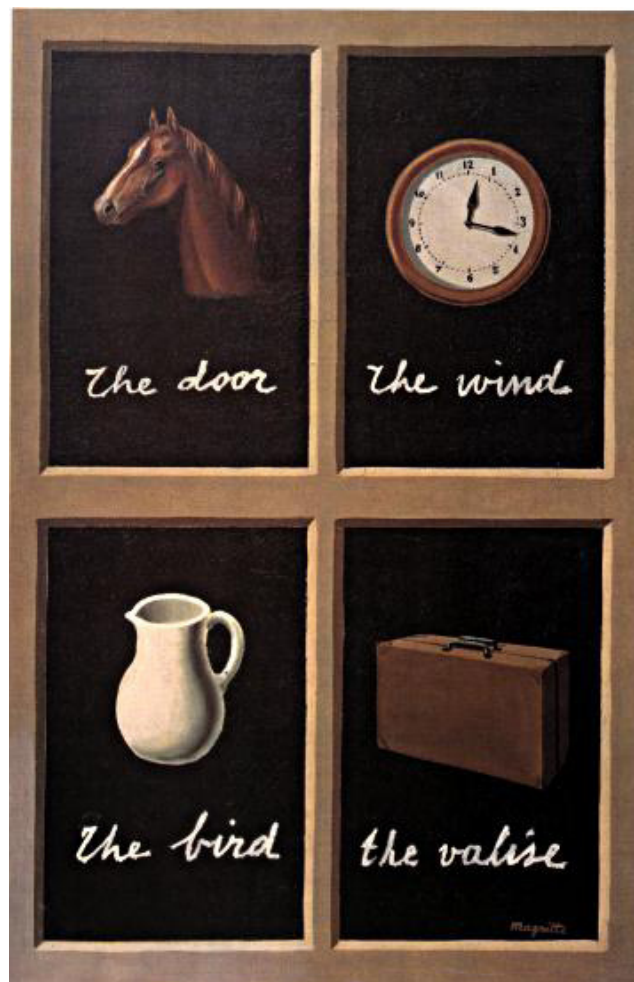
24 Eco, Umberto. "The Platypus between Dictionary and Encyclopedia." Chap. 4 In *Kant and the Platypus*. 224-79. London: Vintage, 2000: p. 224
25 Berger, John. *Ways of Seeing*. London: Penguin Books, 1980: p.8

We apply meaning to words through *a priori* knowledge, the knowledge that we know prior to the experience of an event. Before we open the covers of a novel to begin reading we develop an expectation for how that novel will read. A weighty copy of *Ulysses* by James Joyce gives the sense that this is a big story, and also there is the common knowledge that *Ulysses* is a book that is very dense and hard to read. Before we even begin reading we have an idea of what we are going to read. The proverb states "Never judge a book by its cover", yet not doing so is unintuitive. This expectation is what is referred to in reception theory as the *expectation horizon*.[26]

Three Boats on the Horizon

A good way to explain this idea is to imagine sitting on a pier looking out to sea and seeing three ships come over the horizon towards the harbour. One is a large container ship, the second is a luxury yacht and the third is a rundown fishing boat. Before the boats dock and unload we can gather an idea of what they contain by their appearance and the *a priori* knowledge that we posses about boats. This expectation tints our anticipation for the arriving vessels, as while the cargo ship and the fishing boat may be a common sight the luxury yacht stirs curiosity as to who is aboard. Although it is unknown there is the expectation that they are wealthy, that they like boats, and obviously that they have spent the money to acquire one.

Like boats, books also create an expectation based upon their appearance and what we already know of them. This affects the meaning of the cargo of text contained within. The Book Beautiful creates an expectation for the text within itself imbuing the text with a sense of importance. The exterior of the Book Beautiful represents what is within, both visually and tactilely through appearance and materiality. This expectation is constructed by the craftsperson, who had the book printed and bound. The importance that they have placed on the text is manifested through how they have created the book and this reveals itself to the reader. Although modern paperbacks generally have an illustration on the book cover, they are limited to industry conformity. The templates and the stock paper materials are much the same between paperbacks, and whether the text within is something we should consider important or not can only be found out by reading.

The meaning we anticipate from a text is important as it affects how it is interpret-

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26 Rodger Chartier, J. A. González. "Laborers and Voyagers: From the Text to the Reader."
     Diacritics Vol. 22, no. No. 2 (1992): p. 53

ed. When confronted by the *blank spaces* within the text the expectation prompted by appearance and materiality affects how the reader uses their imagination to fill in the blanks between the islands of text.[27] As related before McKenzie intrinsically links the material of the book to the text contained within. From this weave of material and text we can assume that even identical texts encased within different books, one a paperback and the other a Book Beautiful, are interpreted differently by the reader.[28] This contrast highlights the importance of the Book Beautiful in our interpretation and expectation of texts.

Meaning and Memory

Meaning is not a one way street however; we may establish an expectation from the form of the book and give meaning to the words of the text, but we also impart meaning onto objects. The meaning we impart onto a book does not need to correlate with the book at all. All imparted meaning towards a book revolves around memory, as Benjamin eloquently describes when contemplating his book collection; "Such a device or indeed any other is simply a dike raised against the spring tide of memories that comes rolling towards any collector contemplating his things. Every sort of passion verges on chaos, I know, but what the collecting passion verges on is a chaos of memories."[29] The chaos that Benjamin describes aptly frames the lack of need for correlation between the subject of the book and the imparted meaning.

The phenomenon present is that almost any object is capable of receiving this meaning, and books are a particularly fertile ground for such memories to grow. The Book Beautiful through its uniqueness and materiality promotes itself to become an object for memories. Books Beautiful are such a rare breed that it is hard to forget them, and memories attached to them are rarely forgotten. A digital text possesses no body, it is not an object and so it cannot assume memory in the same way as a book.[30] I argued before that digital texts were "amnesiac" and this also applies to imparted memory from the reader.

27 Iser, Wolfgang. "Interaction between Text and Reader." Chap. 22 In *The Book History Reader,* edited by Alastair McCleery David Finkelstein. 291-96. London: Routledge, 2002: p. 293
28 McKenzie, D. F. *Bibliography and the Sociology of Texts.* London: The British Library, 1985: p. 6
29 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. *In One-Way Street and Other Writings.* 161-71. London: Penguin, 2009: p. 162
30 Hayles, Katherine N. "Virtual Bodies and Flickering Signifiers." *October* Vol. 66, no. Autumn (1993): p. 73

Meaning in all its forms are heightened through the Book Beautiful. The Book Beautiful imparts a sense of value to the reader and absorbs meaning in a way that mass-produced books cannot. The Book Beautiful possesses qualities that are absent in digital texts. These qualities build context and meaning around the texts which are vital to the human and emotive relationship that exists between books and their owners. Additional to this Books Beautiful possess the quality of aura, a trait that is hard to quantify yet is so important the contemporary digital age.

Aura

Within his essay *The work of Art in the Age of Mechanical Reproduction* Benjamin discusses what uniqueness has become when images of paintings can be reproduced in such numbers that the reproductions develop a different meaning from the original. As John Berger relates "The uniqueness of every painting was once part of the uniqueness of the place where it resided. Sometimes the painting was transportable. But it could never be seen in two places at the same time. When the camera reproduces a painting, it destroys the uniqueness of its image. As a result its meaning changes. Or, more exactly, its meaning multiplies and fragments into many meanings"[31]. This fragmentation of meaning revolves around the original and from these multiplied meanings the original accrues an aura.

The aura is a quality possessed by an original like the *Mona Lisa,* demonstrated by tourists flocking to Paris just to see the original even though copies can be obtained anywhere in the world. However when we speak of aura in books however this interpretation may at first seem misplaced. The book, since the invention of the printing press by Gutenburg, has inherently been an object of reproduction. The multiplicity of books was what ignited the Renaissance, and it cannot be denied that reproduction is at the core of the book's success. So how can the idea of aura be linked to the book?

My argument is that the book, unlike works of art, is a more intimate artifact. In order to read and truly appreciate a book one cannot stand back in an art gallery and observe for a minute until bored, then move on. The book consumes hours of reading time and the reading process is an internalised process which requires the reader to participate[32]. Readers who read the same text come away with slightly different interpretations, as they do with works of art, but unlike art there is no original. Mass-produced books which are built upon a template, such as Penguin books, feel similar regardless of the copy which is read. Mechanisation and digitisation are tools which excel in producing identical copies. A mass-produced book can only obtain an aura through imparted meaning, memory specific to that copy of the book. Uniqueness can be manifested through scars of use, marginalia or a

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31 Berger, John. *Ways of Seeing.* London: Penguin Books, 1980: p.19
32 Iser, Wolfgang. "Interaction between Text and Reader." Chap. 22 I*n The Book History Reader,* edited by Alistair McCleery David Finkelstein. 291-96. London: Routledge, 2002: p. 295

particular publication date (such as a first edition).[33] These are auras of historical relevance; unlike art there is no one original for a book and if there is an aura it is most likely personal not public. The personal relevance of a book is a quality that I refer too in the second chapter of this thesis as *irreplaceability,* or the *Book Irreplaceable*. But no mass-produced book possesses aura when created, and no digital text can ever possess it.

This lack of aura was noticed before Walter Benjamin was born. Some members of the Arts and Crafts movement, such as William Morris, revered what Benjamin called the aura and abhorred the mass-reproduction of works. In his final major project William Morris created the Kelmscott Press that produced books that had an inherent quality of aura due to the nature of craftsmanship. When T. J. Cobden-Sanderson started his own printing press after Kelmscott with the Doves Press, he created the ideal of the Book Beautiful, which encompassed the use of craftsmanship and incidentally created a template for books with an aura.

The Book Beautiful is created unique, small production runs and the imperfection of the human touch ensure that each book has a sense of individuality. As I will discuss in the third chapter of this thesis, the crafted is identified with the quality of aura. It is created when the ambition of the craftsperson always exceeds their ability. Like Hephaestus, the nature of craft is imperfection in search of betterment, and this results in a genuine quality and the creation of an aura.

The aura is ever-present in a book which lives up to the ideal of the Book Beautiful. Each Book Beautiful is an original, and this is important in the digital age. I believe that to be surrounded by objects that do not possess an aura results in a loss of individuality. Such loss of individuality needs to be avoided in society and the aversion to such an extreme is what I believe to be a necessity and a challenge in the digital age.

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33 Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Translated by J. A. Underwood. *In One-Way Street and Other Writings*. 228-59. London: Penguin, 2009: p.232

III
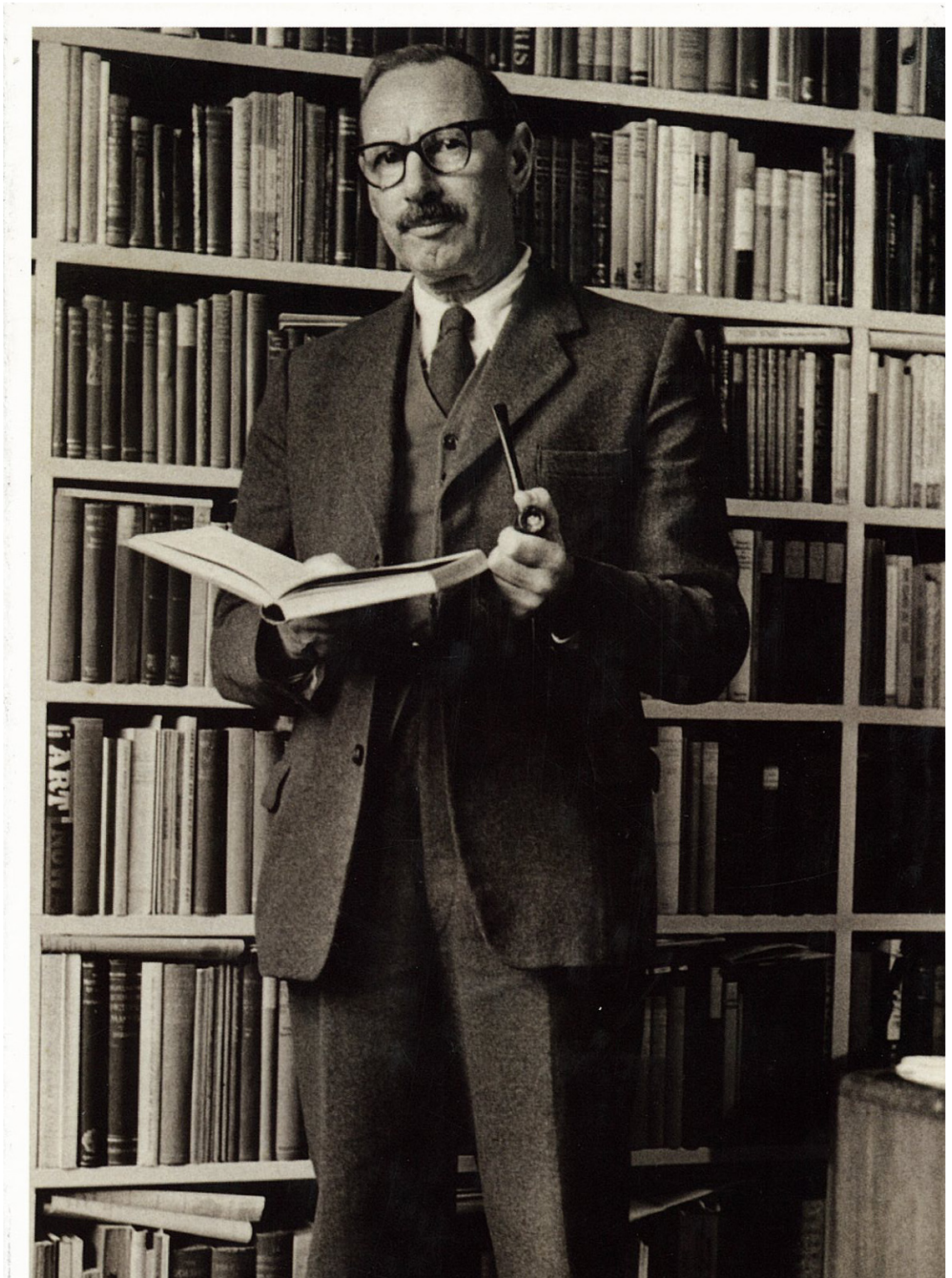
THE COLLECTOR

ll books are made to be read; it is the final step of the voyage from the maker to the reader. Yet to say that all books are treated by the reader in the same way would be a false statement. Some books are simply read while others become owned. Ownership, as Walter Benjamin states, is the closest relationship one can have to an object[1]. Ownership denotes a special and unique relationship between the owner and the book. For the myriad of reasons that somebody not only obtains but retains a book for their lifetime indicates that there is a strong emotive bond present. For reasons of values, beliefs, memories or ideals people own books in order to be closer to what the book represents to them, making the book an irreplaceable part of the collection.

This relationship between the book and the owner is something that needs to be maintained in the digital age. It is all too easy to get caught up in the many new digital technologies and forget the deep and complex relationships that take place between an object and its owner. While it is extreme to suggest that these relationship will face their demise, it is a real concern that they will be sidelined. The emotive relationship present with objects summons emotions that cannot be accessed through the internet. The nostalgia and the flood of memories that surface when rummaging through an old box full of childhood objects is indubitable today, but future generations who are increasingly attached to their screens and virtual realities will have diminished object collections. The consequences of such a loss are unknown but nonetheless it is important for these to be preserved to complement our digital lives rather than be discarded.

While for some books being read is enough, for the Book Beautiful being owned, admired and loved by a collector is its ultimate destination. The Book Beautiful through its uniqueness is like an emotive magnet. Due to the presence of the Book Beautiful, and the impressions it imparts to, and gains from the reader, it is an ideal medium for the digital age. It counteracts the loss of presence of digital text with an increased potency of presence which surpasses regular books. The ideal of the Book Beautiful may have been born with the industrial revolution, but it has renewed importance in the digital revolution.

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1 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. In *One-Way Street and Other Writings*. 161-71. London: Penguin, 2009: p. 171

The Flow to Ownership

Within this chapter my goal is to investigate the factors that create the emotive relationship between the owner and their books. My belief is that Books Beautiful facilitate this relationship more than regular books due to the qualities discussed in the previous chapter; *presence*, *aura* and *impression*. Yet before the book lands in the hands of the collector it must be created and it is important to note the flow addressed within the introduction of this thesis. The Barker and Adams life cycle of publication, manufacture, distribution, reception and survival follows the cyclic process from beginning to end. The steps of publication and distribution are placed aside as their breadth is too extensive. The remaining steps are condensed into three main areas in specific relation to the Book Beautiful:-

- **Maker:** This encompasses the production of the book from the craftsperson's perspective, assuming the prior selection of the text and its intended audience. It also encompasses the quality of the craftsmanship and the craftspersons application and sense of beauty.

- **Book:** This step views the frozen state of the book, its inherent qualities and the way in which it is received by the reader.

- **Owner:** Finally the Book Beautiful comes to the owner. This step is not simply the purchase of a book but also the process in which the book becomes irreplaceable to the owner as a unique and valuable addition to their library.

Readers, Collectors and Owners

The relationship present when someone borrows a book from a library or friend, compared to the relationship between those who collect books as objects or those

who create a special bond with the book is very different. I would like to address three variable levels of relationship to the book that differ on the depth. The three levels are interchangeable and one person can be all three at once in varying degrees.

- ❧ **The Reader:** This is the most common and generic end user of a book and for whom the book is primarily produced for. The reader reads a text with no given assumptions as to their relationship with the book. Reading is a surface-level process where the information of the text is given meaning. Anybody who reads a book can claim this level of relationship to a text. Beyond this are those who seek to collect the book itself.

- ❧ **The Collector:** This is a person who assimilates the book into their own collection for some perceived inherent value. The perceived value for which a collector may receive the book into their possession may be monetary, idealogical, moral, interest or emotive. This stage of relationship with a book is the point of contact where possession is assumed up and the book is added to the collection.

  Many people collect with no intention of reading as the book may be an investment or an uninteresting gift; quite a few books are taken into a collection with the intention of reading but are never subsequently read. This is a common trait of book collectors for reasons of potential which Eco points out: "Gazing at books in the hope of extracting knowledge. All those books you haven't read and that are so full of promise."[2] The collector recognises the potential for a book, though whether the book lives up to that potential is a matter for both fate and time.

- ❧ **The Owner:** The deepest and the most meaningful level is the owner. This term is coined from Benjamin's statement that "ownership is the closest relationship one can have to an object."[3] His statement wasn't in relation to simply having an object in your possession but signifies a deeper underlying relationship.

To the owner the book means something personal and intimate. This is the level

2 Umberto Eco, Jean-Claude Carriére. *This Is Not the End of the Book.* London: Harvil Secker, 2011: p. 314
3 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. *In One-Way Street and Other Writings.* 161-71. London: Penguin, 2009: p. 171

where memories and emotions play a strong part in bonding the object of the book together with the owner. An owner must not necessarily have read the book in question for it to reach this level. In the context of inheritance a book may recall memories of the previous owner; the reading the book becomes second to the intimate relationship.[4]

It is this level of relationship that is focused on within this thesis, and more specifically within this chapter. Ownership of a book is a unique connection that cannot be dematerialised into digital content and a relationship that should not be overlooked. With it exists strong human emotions and feelings that span a lifetime and which is important as it reminds the owner of themselves, what they believe in and what they delight in. The ownership of a book is a mirror for a fragment of the individual and the collection of books is a multifaceted mirror that reveals many perspectives of the self.

When a book enters someone's ownership it becomes unique and irreplaceable. Ownership refers to the relationship taking place between an individual and a single book. From this relationship that book gains a special quality and becomes a *Book Irreplaceable.*

The Book Irreplaceable

When sorting through old boxes of books, as most of us do at some stage of our lives, we eventually but invariably come across a Book Irreplaceable. A childhood story book, an influential life-changing novel or even a school textbook with an old love note scribbled inside can open up a floodgate of memories which we had long forgotten. These are the select few books that have reached the inner level of ownership and have become truly unique.

I refrain from attempting to define the Book Irreplaceable, as the reasons for which a book becomes irreplaceable are manifold. To compare one person's Book Irreplaceable to another's does not gauge the complexity, intimacy and delicacy that is involved. It is a phenomenon that exists and one that is easily recognised, yet to draw a box around it destroys the uniqueness that is inherent in a Book Irreplaceable. For these reasons it is impossible to ascertain which books will join this elite, but some books carry more potential than others.

Numbered among those books that have this potential are the Books Beautiful.

4 Ibid: p. 170

The qualities of the Book Beautiful facilitates itself to become unique to somebody. In the last chapter I stated that a Book Beautiful is created unique, but being a unique object is very different to being unique to somebody. Irreplaceability is created through events in the individual's life with the Book Irreplaceable signifying those events in varying degrees. However through its process of production for the purpose of becoming beautiful the Book Beautiful becomes especially fertile soil for the growth of a meaningful relationship. As with art throughout history the objective of beauty has created the strongest works and most meaningful interpretations. Very rarely are works revered for their ugliness, and even less for their averageness and their ability to be forgotten.

However of these average and forgettable works there are those that gain meaning and irreplaceability through events. One such example of this is the *Mona Lisa,* painted by Leonardo Da Vinci. Painted in the latter years of his life the enigma began with his refusal to give the painting to the patron who had commissioned it. The chiaroscuro technique and Da Vinci trademark diminuendo fantasy landscape backdrop were nothing new, and the work's beauty compared to his earlier portraits was lacking. The *Mona Lisa* was all but forgotten until its theft in Paris in 1842 which became highly publicised, and the painting's one redeeming quality, the enigmatic smile, caught the public's imagination.[5] Now it is one of the world's most famous and recognised works of art, made possible through the gilded events which framed its life, and truly irreplaceable. So too with books; events can turn a paperback airport novel about the Mona Lisa into the most precious book amongst its owner's collection.

Books are living, breathing objects, their ability to be marked, scarred and subject to marginalia adding a subtext to the original text. Although some books have more potential than others to become irreplaceable, there are those with no potential whatsoever that manage to find themselves in the core of somebody's collection.

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5 Sassoon, Donald. ""Mona Lisa": The Best-Known Girl in the Whole Wide World." *History Workshop Journal,* no. 51 (Spring, 2001): p. 9
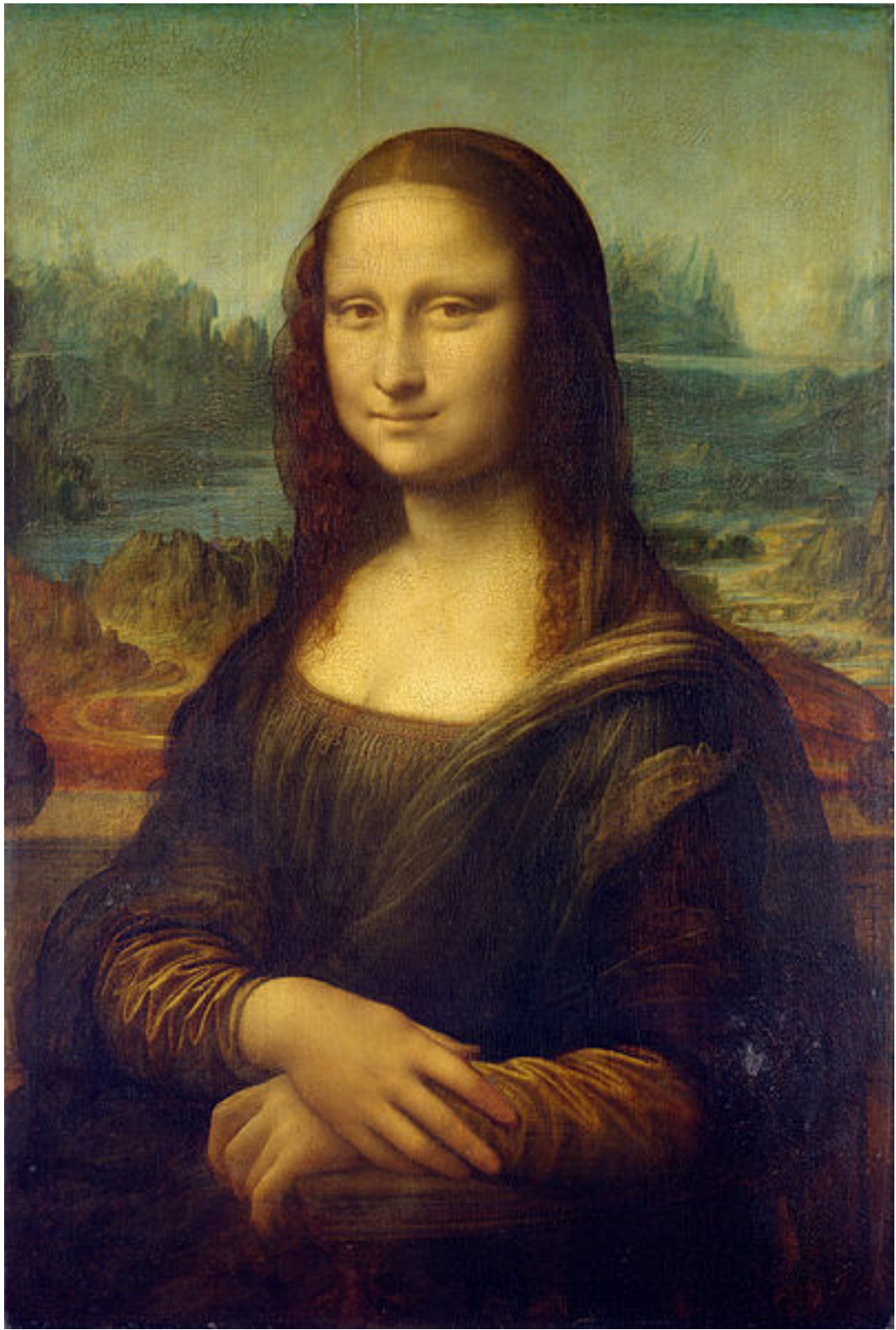
The Books Irreplaceable of John Cawte Beaglehole

In 2009 a case study was conducted into the core collection of the books of John Cawte Beaglehole. This study was an investigation into a complete library with the intent of gaining a greater, more detailed understanding of the personal attachment between an owner and their books. Beaglehole passed away in 1971 after a scholastic life and his collection represents the end result of a lifetime relationship with his book. There are two distinct advantages in investigating this posthumous library: firstly the collection and its significance would not change during the study as it was complete and secondly the ample records left behind in journals, letters and a biography allowed for a personal view into J. C. Beaglehole relationship with his books.

By trawling through lists of books and the supporting information of journals, letters and his biography the collection was able to be listed as data and graphed to visualise and compare the collection against the timeline of his life. The result was a correlation between the formative years of his life, where he was introduced to new ideas and characters against the majority of the books that he had retained throughout his life. The resulting paper was published in the International Journal of the Book in 2009.[6]

The distinct quality that made this case study relevant to this thesis was his collection of fine press books, of which most if not all could make a claim to be Books Beautiful. His lifelong habit of signing and dating his books was not carried through to his fine press collection. Separated from the rest of his collection, these books were treated with reverence and left unmarked, yet his letters reveal a close relationship with and admiration of these books. They left an indelible mark on his work as typographer, an activity that took second place only to his profession as a historian.

Beaglehole was truly a bookish man with a passion for the printed word. It is important to note that this study of his collection is not intended to create a definite framework for the formation and establishment of an emotive relationship. Rather it is intended to be a glimpse into Beaglehole's life and the books that had meaning for him so that exist so that the reader may empathize with and understand the magnitude and importance of Books Irreplaceable.

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6 Scudder, Dan. "The Irreplaceable Books of Jahn Cawte Beaglehole." *International Journal of the Book* 7, no. 3 (2010): 13-26.

Case Study: The Books Irreplaceable of John Cawte Beaglehole

John Cawte Beaglehole was born in Wellington, New Zealand in 1901 and grew up in his family home at 49 Hopper Street. Here he became exposed to his parents' love for books, both the reading and the collecting.[7] This paper gives a description of Beaglehole's library as it remained after he died in 1971, by analysing data through a computer visualisation program which plots the books according to their characteristics, for example according to author or publishing date. The focus is on the relationship between Beaglehole and his books as displayed by the overarching trends that are revealed by the software, where a connection is revealed between Beaglehole and the ideas that the books contain.

The text and the book together create the experience of reading; as author Roger Chartier says, "One must state that the forms produce meaning and that a text, stable in its letter, is invested with a new meaning and status, when the mechanisms that make it available to interpretation change."[8] A book is unique due to this weave between the text and its carrier. Thus when books are collected it is about more than just the object of the book. In *The Meaning of Things*, Mihaly Csikszentmihalyi and Eugene Rochberg-Halton explore the connections made between objects in the domestic environment and how they relate to their owners. In the study, books were found to be significant in the representation of ideals: "Twenty-Seven percent of all the meanings referring to the embodiment of ideals involved books, over twice the number of any other object in this category... the theme that emerges is that books, more than any other kind of objects, are special to people because they serve to embody ideals and to express religious and professional values."[9] This relationship is a dynamic connection which displays the owner's characteristics unable to be otherwise shown. This relationship may be the rea-

7 Beaglehole, Tim. *A Life of J.C. Beaglehole: New Zealand Scholar.* Wellington: Victoria University Press, 2006: p. 37-45
8 Chartier, Roger. *The Order of Books: Readers, Authors and Libraries in Europe between the Fourteenth and Eighteenth Centuries.* Cambridge: Cambridge University Press, 1994: p. 3
9 Mihaly Csikszentmihalyi, Eugene Rochberg-Halton. *The Meaning of Things: Domestic Objects and the Self.* Cambridge: Cambridge University Press, 1981: p. 71

son why some of our childhood books are so difficult to throw out, or why some books are all too easy to do away with.

This study makes use of the resources available to first visualise the library and then interpret the results. A bibliography of Beaglehole's library with his characteristic signing inside the front covers of the books allows comparisons to be made between his library and events in his life. Correspondence available from the New Zealand Electronic Text Center between Beaglehole and his family during the period of 1926 to 1929, while he was studying his PhD at the London School of Economics, gives context as well as a primary account of his relationship with the books collected in an important period of his life. This lively correspondence frames Beaglehole's personality, and in doing so, also his passion for books. His biography *A life of Beaglehole Cawte Beaglehole: New Zealand Scholar,* written by Beaglehole's second son Tim Beaglehole, gives a comprehensive account of J. C. Beaglehole's life. The biography carries a narrative of J. C. Beaglehole's books that give meaning to the bibliography. Additional to his correspondence and biography is a notebook Beaglehole used between the years 1918 and 1926. This notebook contains lists of books he read and purchased in that period, exhibiting a small glimpse of Beaglehole's buying and reading habits. Using graphing software *Ggobi* a visual representation was created from the list of his library that allows a holistic view of Beaglehole's books to be compared to his life. By using this method it is the relationship between Beaglehole and his books that becomes the focus, rather than the books themselves. The results from the graphs allow conclusions to be drawn on the elusive characteristics of the books and why certain books have remained in the collection.

Beaglehole Cawte Beaglehole and his Books Irreplaceable

John Cawte Beaglehole is best known for his work on James Cook's journals. This work consisted of four volumes that eventually earned him the Order of Merit in 1970, a year before his death in 1971. Beaglehole's close friends and family fondly recall his passion for books.[10] This stems from Beaglehole's parents, Jenny and Ernest Beaglehole who were both a major influence on Beaglehole and his book habits. Beaglehole's father collected books and had a keen eye for quality, such as fine press prints and leather bound box sets. Beaglehole's mother however was a keen reader and would often leave passages open for her children to come upon when

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10 'J.C. Beaglehole some personal reflections' supplement to the VUW Gazette No.11, 1971

roaming about the house[11]. His parents represent two sides to Beaglehole's book collecting habits. He was a scrutinising book collector as well as a prolific reader. In 1920 at the age of 19, he wrote a letter to his friend, and possible sweetheart Star Hooper. In it Beaglehole reveals a love for books that infects his mind and ambitions. "As Augustine Birrel says, no private library can be considered respectable unless it consists of at least 10,000 volumes; so I will have to buy about 300 books a year. So I am afraid no prospective mother-in-law will ever have to worry about getting a sufficient return in wedding presents for the money spent over my nuptials".[12]

Today the collection of books that Beaglehole left behind contains 767 books, not including his fine press collection, the main collection is being identified by Beaglehole signing his name and date of acquisition within the front cover. There are 46 books that contain his marking but do not state dates. 13 of these can be assumed to be from around 1920 judging by his handwriting, the remaining 33 are unknown. This habit of signing the books can be traced back to his father who would list and sign the books he owned. Beaglehole recalls the first book he purchased "It was an odd volume of the Tatler vol.II,[13] a little crown octavo thing, bound in paneled leather, blind-stamped, gilded spine and (once) edges, 1733, 9d. Romance. I see I wrote my full name on the fly-leaf, and the sacred date, 26/01/1917. Just think – 1733! It may have been to make this article look even more antique that I repeated my name on the inside cover, in my best writing, with the words 'Hys Booke'."[14] From the Tatler Vol. II the ritual of signing books into his library continued until 1950.

The journal he kept from the years 1918 to 1926 gives a glimpse of his collecting and reading habits. On average he read 96 books per year,[15] often non-fiction, and in the first three months of 1919 Beaglehole listed specific books he had read, as well as books he purchased. From January to March he had read twenty-seven books and purchased fifteen. Of the fifteen books he purchased he read seven of them within a month. From this small glimpse into his reading and buying habits

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11 Beaglehole, Tim. *A Life of J.C. Beaglehole: New Zealand Scholar*. Wellington: Victoria
        University Press, 2006: p. 55
12 Beaglehole, John. Letter, October 24th 1920.
13 Beaglehole, Tim. *A Life of J.C. Beaglehole: New Zealand Scholar*. Wellington: Victoria
        University Press, 2006: p. 55
14 Ibid: p. 56
15   Beaglehole read 80 books in 1920, 91 books in 1921, 100 books in 1922, 85 books in 1923,
        109 books in 1924 and 116 books in 1925.

it is apparent that Beaglehole, unlike other more stereotypical collectors,[16] would read the books he purchased rather than hoarding them on shelves. This implies that there was scrutiny in his selection of books as he would buy them with the intention to read them.

His library has changed over the years as his letter to Star Hooper shows. He states that in October 1920 his library contained 250 books, not including periodicals or concert programs[17]. In the list of Beaglehole's library today which contains 767 books from over his life, there are only 25 books that can be confirmed to have been in his collection in 1920. This shows that over the years there has been significant cutting and culling. This would partially be due to the secondhand book culture of New Zealand at that time where books were often resold to acquire different books [18]. The studied collection that remains is compiled of books that Beaglehole could not throw away, making it a distilled collection of Books Irreplaceable, that has remained with Beaglehole throughout his life.

fig. 27
J.C. Beaglehole's 1918-1926 journel

Graph Results

Breaking down Beaglehole's collection reveals specific qualities which correlate to his personal life. Using Ggobi,[19] a high dimensional graphing program, the data from Beaglehole's collection is visualised. Ggobi allows easy comparison between different data sets, and can retain the characteristics of a value. The software was used to plot characteristics against the year that a book was acquired, giving context to the graph in relation to Beaglehole's life. Each book within the collection is represented by a point that is plotted on an x-axis and y-axis. Each point contains tag data so that the specific book and its characteristics can be identified. The values plotted are divided into two types, categories and variables. The categories are data that has no numeric value but rather information such as authors, publishers and location of publication. Categories are plotted by the program on the y-axis by adding a y value every time a new category is introduced. So the y-axis shifts that appear show new categories added to the collection. The variables are time based

16   "Let me simply remind you of that reply that, again, [Anatole] France held in readiness for those philistines who, having admired his library, rounded matter off with the obligatory question: 'And you've read all these, Mr France?' 'Not one tenth of them. Do you dine every day off your Sévres?'", Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. In *One-Way Street and Other Writings*. 161-71. London: Penguin, 2009: p. 164

17   Beaglehole, John. Letter, October 24th 1920.

18   Anna Rogers, Max Rogers. "Introduction So Many Bookshops." In Turning the Pages: *The Story of Bookselling in New Zealand*. 1-15. Auckland: Booksellers New Zealand, 1993: p. 1-15

19   http://www.ggobi.org/

figures; date of acquisition and the date of publication. These graphs when viewed holistically show trends over the life of the collection and reveal a broader picture of the relationship between Beaglehole and his books.

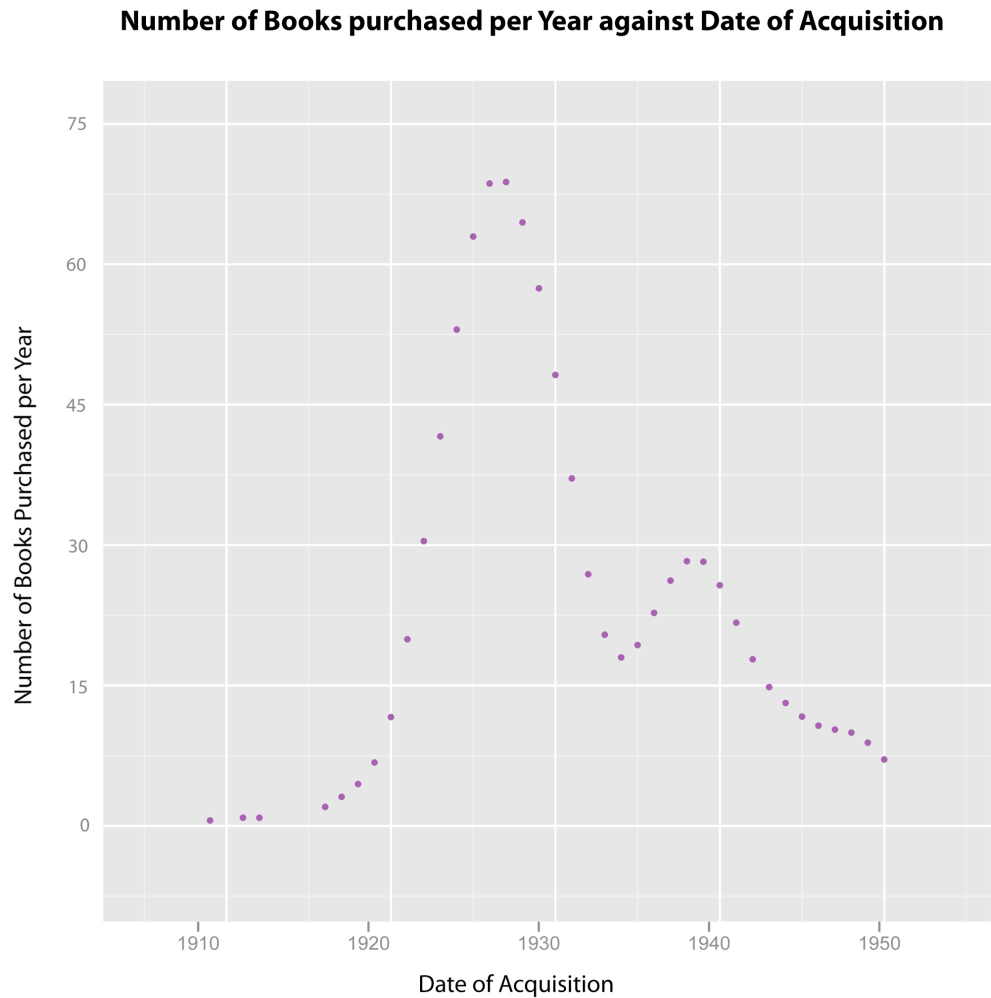**Number of Books purchased per Year against Date of Acquisition**

fig. 29

A generalised linear curve showing the number of books purchased per year

The graph above displays a linear plot of the date of acquisition against the number of books purchased in that year (fig. 29), revealing a trend that correlates not to all the books purchased in his life, but to the periods of his life where the books purchased have remained in the collection. The beginning of the plot displays childhood books which have remained with him throughout his life. The earliest is a book entitled *Wood Magic* by Richard Jeffries and inside the front cover is signed "Jack, from Mother June 13th 1909." It was not until *The Tatler Vol. II* that Beaglehole started purchasing books, and so prior to this, only 7 books remain in the col-

John Caste Beaglehole

Hys Booke

John Caste Beaglehole

lection.[20] The graph shows a jump around the period 1926 to 1929. This is when Beaglehole lived in London, where he was exposed to new ideas, and a larger selection of books from around the world. This period of Beaglehole's is considered to be influential as the city around him was teeming with activity, and it was where Beaglehole made lifelong friends and met his influential mentor Harold Laski. In Beaglehole's letters to his family, Laski is mentioned with the highest regard, and Laski's attitudes towards education and politics echoed in Beaglehole's life after he returned from London. The young impressionable New Zealander must have remembered this period of his life well, as his return visit in 1949 sees a jump in books purchased where the signing inside the covers is reminiscent of his earlier trip. The sizable valley that develops in the early to mid 1930s accurately shows a period in Beaglehole's life where the Great Depression was taking its toll on New Zealand academia, and where Beaglehole's political viewpoints made finding a job in a conservative New Zealand difficult. A lower income and the responsibilities of being newly married to his wife Elsie made this period financially more difficult to purchase new books, although it is during this lull that Beaglehole started work on the Cook journals, a work that would in a way bring an end to his collection in 1950. As his work became more acclaimed and as Beaglehole became more respected in academia, he was overloaded with books given as gifts or submissions to be critiqued, generally creating a much larger workload.

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20 Beaglehole, John. "Journal." Wellington: Private Collection, 1918-1926.

Number of Locations against Date of Acquisition
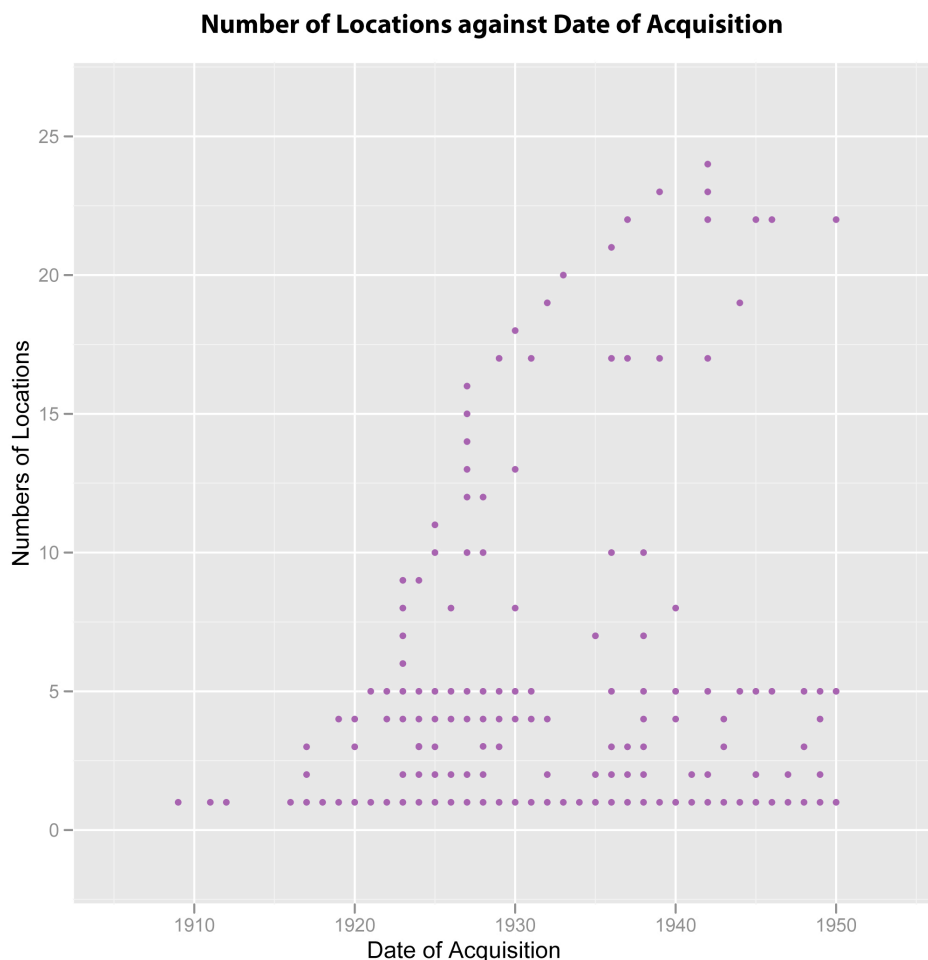
fig. 30

Graph showing the number of locations against the date of acquisition. The lower five horozontal lines show (in ascending order) London, Cambridge, Wellington, Oxford and New York

The above graph displaying Location against the Date of Acquisition (fig. 30) shows more about the availability of books to Beaglehole than his relationship with them. There is a significant increase in new publication locations added to the collection during the London period of his life (1926-1929), but the bulk of the points on the graph remain at the bottom. This shows that the books he kept were predominantly from major publishing centers (London, New York, Oxford and Cambridge), though later in his life the locations are more sporadic and wide spread. This seems to demonstrate the book trade and books available to Beaglehole, particularly in New Zealand. All of these places were publishing and printing centers that were active in the New Zealand book market in the early-to mid-1900s[21] and produced books that were of specific interest to Beaglehole.

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21 Preston, Alan. "Distribution." In *Book & Print in New Zealand,* edited by Ross Harvey & Keith Maslen Penny Griffith. 156-66. Wellington: Victoria University Press, 1997: p. 159-60

The Date of Publication against Date of Acquisition
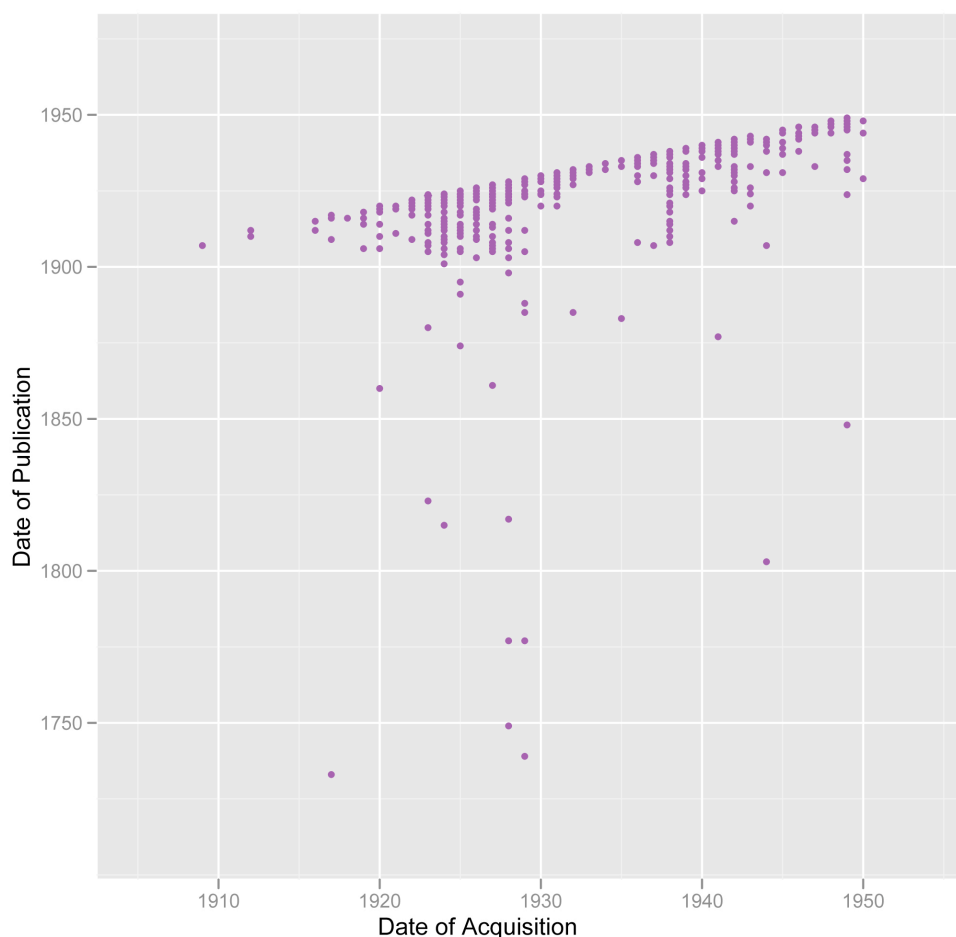
fig. 31

Graph displaying the date and publication against the date of aquisition. The upward trend shows that books were often acquired close to publication

In the graph above (fig. 31) there is a strong trend line showing books were often bought close to their printing, generally within a year or two. Beaglehole at that time was keen to acquire new books and new ideas, yet on the underside of the main trend there are falls showing instances where Beaglehole purchased older books. There is clustering around the periods of 1926 - 1929 and a gap in the early 1930s reflecting his London years and the Great Depression. London's bookshops had more selection and a bookshop Beaglehole frequented in London, Bumpus Books, was both a secondhand dealer and fine press outlet. It was here that Beagle-hole would often browse and haggle for new books.[22]

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22 Beaglehole, John. Letter, 7th September 1928.

Authors against Date of Acquisition
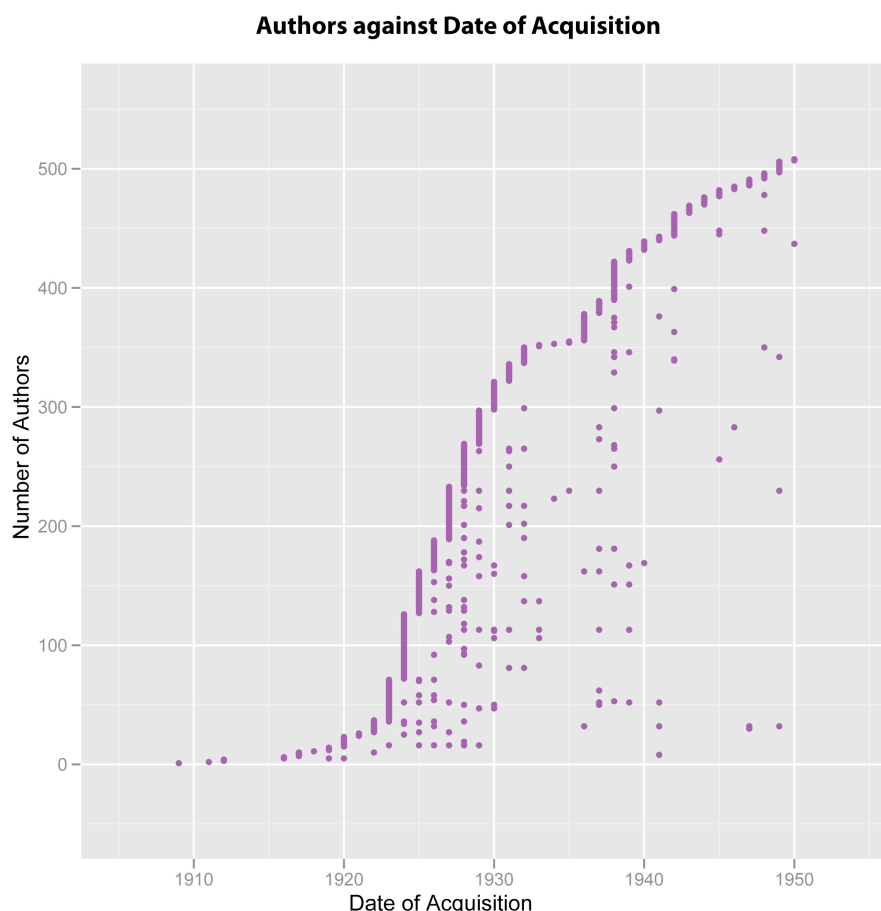
fig. 32

Graph displaying the date and publication against the date of aquisition. The upward trend shows that books were often acquired close to publication

 The graph of authors against the year they were obtained (Fig. 32) shows some loyalty to certain authors but only in a few cases. The intake of books during periods of some prosperity show vertical lines, indicating the amount of new authors in that year. This suggests that Beaglehole embraced new ideas and had an open mind when it came to books. The graph coincides with Fig. 1 in that there is a sharp increase in new authors in the 1926 to 1929 period and a lull during the depression. With over 500 different authors out of 767 books the majority of the collection is not necessarily dedicated to any specific author. However the most frequent authors share interesting consistency that shows an invested interest. There is very little fiction within his collection with the exception of Jane Austen who was Jane Beaglehole's (J. C. Beaglehole' mother) favorite author, whose presence in Beaglehole's collection was encouraged by his mother.[23] It can be assumed from the strength of the correspondence to his mother mentioning Austin that the

23 Beaglehole, John. Letter, 3rd November 1927.

subject a way of being closer despite geography.[24] Beaglehole's mentor in London, Harold Laski,[25] features quite prominently within the collection. With the first of Laski's books purchased in 1924, before the two met in 1927, Beaglehole obviously knew of Laski prior to their acquaintance. Later in 1929 a surprising note on the inside of *A tract on the law of nature and principle* by Granville Sharp reads "J.C. Beaglehole, Given to me by Laski 31 January 1929". The signing is unusual as there are is no other book that Beaglehole has inscribed, mentioning that it was gifted to him.

Number of Publishers against the Date of Acquisition
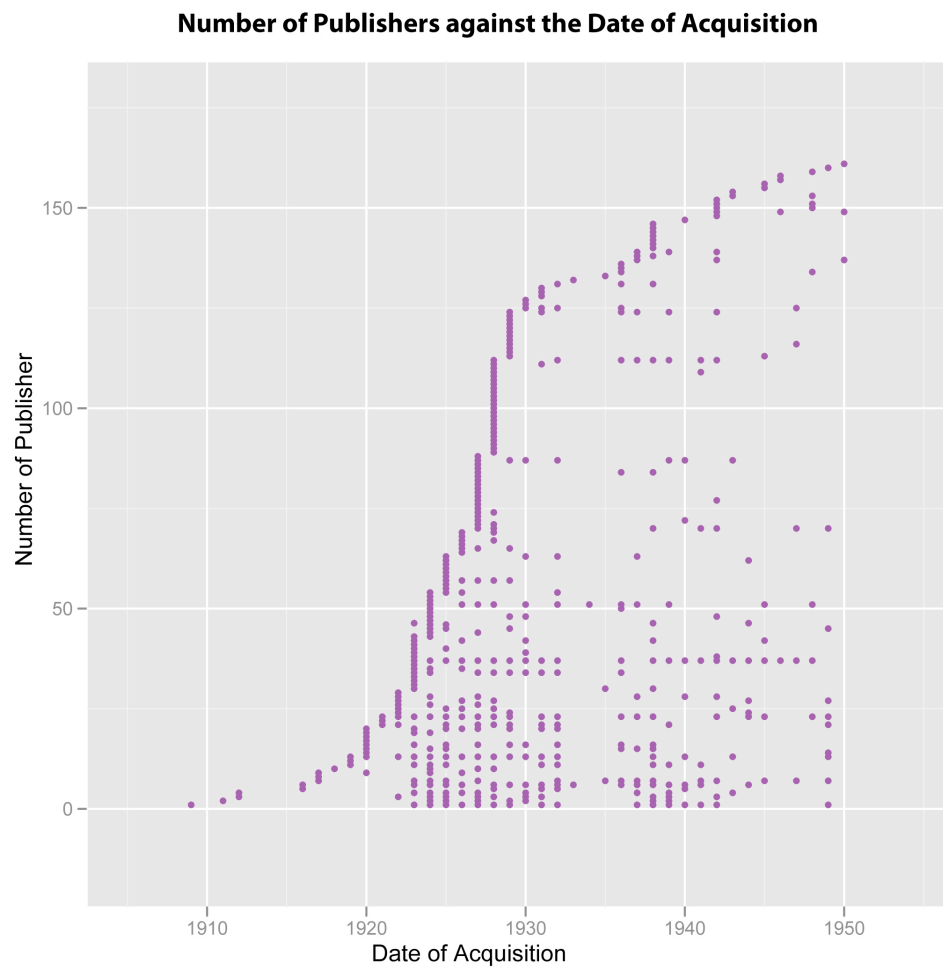
fig. 33
A graph displaying the number of publishers against the Date of acquisition. Note the cluster around the bottom of the graph showing a trend of consistent publishers in collection

The graph of publishers (fig. 33) relates to the graph of authors in that it shows a similar trend of new ideas and periods in Beaglehole's life. Publishers however, reflect another aspect of his book collection, that of brand and a mark of quality.

24 Beaglehole, John. Letter, 23rd January 1928.
25   Beaglehole, Tim. *A Life of J.C. Beaglehole: New Zealand Scholar.* Wellington: Victoria
       University Press, 2006: p. 95-6

The lower portion of the graph contains clusters of horizontal trends. Like the location graph (fig. 30) these show that these particular publishers are consistent through the duration of the life of the library. Notably J.M. Dent and the Traveler's Library series, which were affordable and often printed well known authors and works, are common in the collection. Oxford University Press, Cambridge University Press and Clarendon Press are the most abundant publishers, were also the most affordable.[26] These presses are also associated with reputed academic institutions. Beaglehole had the hope of having his thesis published by Oxford University press in 1929 but his work was rejected[27]. Oxford was a publisher of whom Beaglehole thought very highly of. The trend of authors and publishers displayed in these graphs contains over 600 different authors and over 150 publishers, a wide range for a collection of 767 books. The absence of any dedicated authors or publishers suggests that this collection exists primarily for the ideas contained inside the books. In conjunction with the ownership of these books one cannot help but consider the notion that the books are representative of ideas shared by Beaglehole cemented in ink and paper.

Analysis of the graphs above, in conjunction with events in Beaglehole's life, illustrate the importance of the period he lived in London. This period was where Beaglehole was exposed to so many ideas that we find carried through his life, and frames the function of Beaglehole's books. The graphs show no detail, but the general trends of his London years hint at an emotional attachment to books that were present in that period of his life.

 The thought behind the choices made by Beaglehole to acquire and keep a book are only really known by him. If we were to speak to him today and question him about every single item, presumably he could give a reason for why it is there. However there would no doubt be situations where he may not give the full story, and so by having the ability to view his collection and read personal correspondence, an interesting understanding is gained.

Fine Press Collection

Additional to his signed collection is a separate collection of fine press books from private presses such as Gregynog, Shakespeare Head, Nonesuch Press and Golden Cockerel Press. These Books Beautiful remain unsigned by Beaglehole as they were considered to be works of art and should not be marked. Beaglehole's admiration

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26 Beaglehole, John. Letter, 8th August 1927
27 Beaglehole, John. Letter, 5th April 1929 & Beaglehole, John. Letter, 3rd November 1927.

of Books Beautiful was inherited from his father, a conversation topic that was frequent in his correspondence, possibly adding an emotive level to his collection.[28]

The trait of not signing Books Beautiful creates a distinction between Beaglehole fine press collection and his main collection. It displays a reverence for beautifully produced books, with the design, the printing, the binding and the illustrations being notable components of these books, particularly the Golden Cockerel books, which are renowned for featuring the celebrated artist Eric Gill.

These books had a significant effect on Beaglehole, as is evident in his own works on book design. In his printing of the small booklet of his essay *James Cook and Mercury Bay*[29] Beaglehole exerted great control over the look and feel of the completed work, printed at the Wai-te-ata press at Victoria University Wellington by D.F. McKenzie.[30] Furthermore in his time at the Ministry of Internal Affairs Beaglehole put considerable effort and negotiation into creating books that were not just informative but also well laid-out and attractive to look at.[31]

The presence of the fine press collection, his reverence towards it and the influence it transposed onto his own work shows a living quality that the Book Beautiful possess, that of inspiration. Within the context of Beaglehole's collection, these fine press books acted as a muse and it is my belief that the aura that these books possessed played a significant role in the furtherance of his career. The Books Beautiful are a living element with their collector. They are not mere books, but books that represent something beyond words, caught in between the ink, the paper and the binding.

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28 Beaglehole, John. Letter, 10th July 1927
29 Beaglehole, John. *James Cook and Mercury Bay*. Wellington: Wai-te-Ata Press, 1971.
30 Interview with Hugh Price, June 2010
31 Shep, Sydney. "The Centennial Racket: J.C. Beaglehole, Nationalism and the 1940 New Zealand Centennial Publications." In *Literary Cultures and the Material Book*, edited by Andre Nash Simon Elliot, Ian Willison. London: The British Library, 2007: p. 393

Factors for Collecting

From this case study I find that there are two types of factors that determine whether a book will become irreplaceable or not; these are either controlled factors, such as method of production and content or uncontrolled factors which shape the context, of the book and the owner's perception of it. These two poles represent large and expanding groups of factors that influence the reception of a book, and allow for the shift from mere readership towards ownership.

Uncontrollable

The uncontrollable aspects of the book are also the most romantic, as it is often fate that decides the stories that shall become attached to books. Memories, events, revelations and marginalia are all factors well beyond the reach of the book, yet have such an effect on how it is interpreted. For instance, Beaglehole's chance meeting with Laski created a context for the books that Laski wrote himself, and although the content of the books may have had some relevance to the work of Beaglehole's, they exist within his collection mainly as a result of him having met and admired the man. Another classic example are his handful of childhood books that he retained, as the content was obviously not a challenge to read, but the object of the books themselves retained such memories that they stayed with him until the end of his life.

Another uncontrollable element is that of age, and for this to become a factor the book must first survive for a certain amount of time. As books become older they also become rarer, and the stories that follow behind old books such as incunabula are often remarkable. Either hidden away or passionately cared for books can survive almost indefinitely.

The uncontrolled elements of the Book Irreplaceable create its own sense of uniqueness, giving it an intimate aura that is only seen and felt, and can only really be understood by the owner. It acts as a form of mirror reflecting back shards of a lifetime consisting of emotions and memories. This aspect of the object cannot be replicated, instead having a sense of transience and duration.

Controllable

While most books are given their uniqueness by the lives they lead, there is also opportunity to encourage and allow for a book to become a Book Irreplaceable. These opportunities reside in the production of the book itself. The first and most obvious is the content for which the book is produced. The relevance of the author or the subject to the reader creates a relationship that resonates with the reader.

The second opportunity is the uniqueness of the book; if it is a first edition or a special edition then it lends itself to becoming a book that highlights its content. First editions have their own inherent uniqueness. Many collectors will pay more for a copy of a book that was first off the press although this takes place long after the printing and often for books that have become successful. Another means for creating a unique book are special editions, being a somewhat faux uniqueness. Using design as a means to imbue value into a work is widely used within the printing industry today. Special editions are often seen for books which sell well to capitalise on their success, and feeds the demand of the reader to own a unique or handsome copy.

The third and last opportunity to create a Book Irreplaceable is the production of a Book Beautiful, where the actual process of printing the book makes each copy unique. Even if the content is irrelevant, the outward beauty and appearance of the book creates an aura destined for the future owner. Books Beautiful are rarely, if ever, found on library shelves. Rather they are inherently recognised as unique works and find themselves sometimes in special libraries or collections, but more often in somebody's personal collection.

Conclusion

The Book Irreplaceable is a book valuable to the owner as the book reminds them of a part of themselves. In the age of digital technology this relationship is important, as it reflects and remembers the owner in a way that digital textual mediums cannot. The path from the book's production to its stance as a Book Irreplaceable can only be facilitated by the owner who gives the book its value and meaning, and this is an uncontrollable force. However the way in which the book is produced can influence this journey through controlled means. The strongest of these controlled means is to produce a unique book making it genuine and imbuing it with a sense of aura.

The study of Beaglehole's library does not give a definite set of parameters to make the book irreplaceable, but instead shows that they become so due to the meaning and importance imbued into them from the owner. The act of taking a book and retaining it throughout a lifetime is a phenomenon that reveals that something powerful and human is taking place. The inner circle of ownership, as opposed to readership or collecting, is as close as a person can get to an object and what that object represents.

The presence of a sub-collection of Books Beautiful, many of which were designed and printed under the influence of the Doves Press and Cobden-Sanderson's ideals, highlights the influence of the method of production. Furthermore these books exerted considerable influence on Beaglehole, in return manifesting his passion for beautiful printing.

The point I would like to conclude with is this: books as physical objects are a mirror of their owner; not only showing reflections to the owner themselves, but also to people who care to look upon their collection. Beaglehole's library shows a depth of character that cannot be explained simply. It shows a presence of meaning and memory, the details of which existed only in Beaglehole's mind, but nonetheless his books affirm that presence. If you can imagine leaning back in your chair and observing your own collection, with your eyes skirting over the spines and titles of each book, there is a recollection of why those books are there. Out

of all the books in the world, why is it that these select few are the only books that have entered the inner circle of ownership?

The relationship that exists with books cannot be digitised as memories and meaning are lost in the translation from a floating body to a flickering one. Each book is like a brick in a house and the physical presence of these books is the firm foundation that allows the house to be built as Walter Benjamin asserts, "The bliss of the collector, the bliss of the private individual! No one has been less ferreted out and none felt better for it than the man who, behind his Spitzweg mask[32], has been allowed to pursue his disreputable existence. The fact is, inside him spirits (little ones, anyway) have taken up residence – with the result that, for the collector (a real one, I mean, a collector as he should be), ownership is the very deepest relationship a person can have with things: not that they live inside him; it is he who lives in them... I have shown you one of his houses, where the bricks are books, and now, fittingly, he disappears inside."[33]

32 This is a reference to the German artist Carl Spitzweg's (1819 – 1889) 1850 painting entitled The Bookworm
33 Benjamin, Walter. "Unpacking My Library." Translated by J. A. Underwood. *In One-Way Street and Other Writings.* 161-71. London: Penguin, 2009: p. 171

III

DIGITAL CRAFT

The method that a book is produced by greatly affects how the book is received by the reader, and can communicate beyond the text that it creates. The historic method used to create Books Beautiful, the letterpress, is a traditional process that has been implemented for centuries. The letterpress produces a distinctive characteristic which is easily recognisable, and requires extensive skills, knowledge and experience to create the printed pages of the book. Furthermore yet another set of skills is required to bind the book. In his Book Beautiful manifesto Cobden-Sanderson explicitly states that the handcraft process is integral to the production of the Book Beautiful, and that the use of a machine shatters the beauty and creates a Book Sacrificed.[1]

Today however the process of printing by letterpress is exclusive to those people and institutions who can afford the machinery. The machinery, tools and specific materials are difficult to come by due to their reduced relevance in the modern printing industry. To this day there are many private presses across the globe that keep the Book Beautiful flame alive, but the small numbers mean that few people ever come across such books. The traditional method of letterpress is on life support powered by motivated, impassioned individuals and institutions. Although there will always be people who maintain the tradition, they physically cannot produce enough books at a competitive enough price for the Book Beautiful to thrive. However the Book Beautiful is a medium which is necessary in the digital age as it is unique; the pinnacle of the printed word which conveys more than words and connects with readers on an exclusive emotive level.

Probably to the dismay of the ghost of Cobden-Sanderson I propose that the Book Beautiful be revived by technology and its machines. These are not the machines that Cobden-Sanderson fought against, but a highly-evolved set of machines that are increasingly doing away with the division of labour, the central motivation for the Arts and Crafts movement. Digital manufacturing machines can produce a line of products one after the other, but with each being unique, as opposed to mass manufactured products which have to be identical to fulfil economy of scale. This heralds a shift in production and economies that will bring about new possibilities. More importantly it allows us to revisit crafts and techniques that were

1 Tidcombe, Marianne. *The Doves Press*. London: The British Library, 2002: p.7

outdated but can now be viably produced.

Although we now have machinery that can be used to produce Books Beautiful, the question must be asked, does the use of a machine at all create a Book Sacrificed? This is not an easy question to answer, as theory and speculation alone cannot ascertain whether this would destroy the definitive element of a crafted object, the aura. In order to understand whether books produced with the help of digital manufacturing machines can possess aura we must better understand what the aura actually is.

The Aura of the Crafted Object

The Book Beautiful is created by both craft and the intent of the craftsperson to make something beautiful. The quality that separates Books Beautiful from mass printed books is the quality of aura. If the Book Beautiful is to be recreated today using digital manufacturing machines then it must possess an aura. The aura is the sense that there is something more to the object, a deeper underlying meaning. Walter Benjamin describes this as 'a remoteness', a quality that we interact with beyond the object.[2] His example is that of natural forms; we breathe in the mountains or gaze upon a tree without possessing the actual aura.[3] With crafted forms we see a similar phenomenon, and although we can own the object it is shrouded in the sense that aura is beyond possession.

Benjamin cites three processes for the engenderment of aura; history, tradition and genuineness. History happens to an object, and the passage of time also affects the perception and interpretation of it. Benjamin elaborates, "Within major historical periods, along with changes in the overall mode of being of the human collective, there are also changes in the manner of its sense of perception. The manner in which human sense is organized, the medium in which it occurs, is dictated not only naturally but historically."[4] We find this facet of aura present in older books that have witnessed either major historical events or personal historical events. Books such as the family bible or the hand-me-down of a grandfather's favourite book carry with them an aura. That aura however shifts over the passage of time

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2   Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Translated by J.
        A. Underwood. *In One-Way Street and Other Writings.* 228-59. London: Penguin, 2009:
        p.232
3   Ibid
4   Ibid: p.234

as the grandfather's book was cherished for its content, but to the grandchild it is cherished because of its previous owner. Although we have little or no control over the passage of time that a book will travel through, we can produce a book that will withstand time as much as possible. The employment of durable materials increases the likelihood of a book's propensity to gain this aura of history.

The aura of tradition is, as Benjamin states, a cultic value. Consider a sculpture of Bacchus, made to be placed within a temple of Delphi; tradition dictates the subject, its posture, and the details, such as the wine cup or grape leaves that adorn it. The depth of the tradition that dictates the form and details of a work are mutually agreed upon within a society, however over time the very same statue of Bacchus now sitting in London or France will no longer has the original cultic aura attached but instead a historical one. "The singularity of the work of art is identical with its embeddedness in the context of tradition. Tradition itself is of course something very much alive, something extraordinarily changeable."[5] In the process of letterpress printing, tradition has a strong part to play. As the decline of the letterpress was technological rather than social, the letterpress method did not develop with time. Today many private presses employ much the same techniques, tools and machinery that were used a century ago in order to keep the tradition alive. However, as Benjamin states, tradition is very much a living thing. If the use of digital manufacturing machines can revive the process then I believe that an aura of tradition could be retained, as whatever process or machinery is used could reference the older technique, but in a way that is relevant to a modern context.

The third process for the generation of aura is genuineness, which I believe is critical to the producing of a Book Beautiful, as it is what sets it apart from the mass-produced books and digital textual forms. "The genuineness of a thing is the quintessence of everything about it since its creation that can be handed down, from its material duration to the historical witness that it bears. The latter (material duration and historical witness) being grounded in the former (the thing's genu-ineness), what happens in the reproduction, where the former has been removed from human perception, is that the latter also starts to wobble."[6] Genuineness is the foundation for the aura of an object and the effect that genuineness has allows the owner to gain a closer relationship with the object and its aura, unlike a mass-produced copy.

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5 Ibid: p. 236
6 Ibid: p. 233

Genuineness and its relationship to uniqueness are intrinsically linked to the craft process, because unlike machines the craftsperson never makes two objects alike. Even when the two look almost identical the craftsperson (or educated observer), continually on a path of refinement, will notice the smallest of details which show improvement or failure. The trait that creates this genuineness is the gap between the ambition of the craftsperson and their ability, which follows closely behind their ambition but never quite matches it. Martin Heidegger's idea of the *void* illustrates how this is produced and how it differs from mechanically produced objects.

The Void and Craft

In his essay *The Thing* Heidegger discusses the *thingness* of an object by sneaking up on the existence of the object from behind through nothingness. With his analysis of a jug, Heidegger question the object's thingness, analysing what makes the object a thing. By object he refers to the phenomenological presence that is outside ourselves. We are able to move around an object, gain different perspectives, and when we close our eyes the object is still there. The thingness that he refers to is how that object becomes a jug, the jug being a thing. "The thingly character of the thing does not consist in its being a represented object, nor can it be defined in any way in terms of the objectness, the over-againstness, of the object."[7] The object is inherently a jug, not simply an object that is perceived as a jug. The jug is made from clay and so if we were to describe the object we would call it a clay object, the function however of the jug is not assumed with the object but rather the thing must be formed before the clay.

 The jug is made to be a self-supporting vessel; it was formed by the potter to serve a function. "The making, it is true, lets the jug come into its own. But that which in the jug's nature is its own is never brought about by its making. Now released from the making process, the self-supporting jug has to gather itself for the task of containing. In the process of its making, of course, the jug must first show its outward appearance to the maker. But what shows itself here, the aspect (the *eidos*, the *idea*), characterizes the jug solely in the respect in which the vessel stands over against the maker as something to be made"[8]. The idea of the jug which appears to the maker forms a void in which the potter forms the clay into. The

7 Heidegger, Martin. "The Thing." Chap. 51 In *The Craft Reader*, edited by Glenn Adamson. Oxford, New York: Berg Publishers, 2010: p.406
8 Ibid

thingness of the jug comes from the potter, from the void he creates and then with his hands forms the clay. "...he shapes the void. For it, in it, and out of it, he forms the clay into the form. From start to finish the potter takes hold of the impalpable void and brings it forth as the container in the shape of a containing vessel. The vessel's thingness does not lie at all in the material of which it consists, but in the void that holds."[9]

Although Heidegger's thoughts are at first seemingly convoluted he clarifies a major point which is crucial to the understanding of craft and the development of a digital craft. This is the identification and separation of the object from the thing, and the void which the thing is formed within. The maker must first start with an idea; this idea creates the void in which the material is shaped. However, how that material is shaped is important as it defines whether it is a crafted object or not, and this is where the process of craft gains its aura of uniqueness.

The void is formed by an idea. An idea is an ideal form as it exists in the mind, and has no body; once made or spoken it loses that idealness, but while it is still in the mind is remains perfect. Once the maker decides to create that idea, it creates ambition. In the case of the potter's jug the ambition is made real with the forming of clay, and it is the skill and knowledge of the maker that dictates how closely that clay is formed to the void which it attempts to fill. This set of skills and knowledge are the craft of the craftsperson, becoming refined through education and experience. The use of tools, the knowledge of material and the skills to manipulate them, separately and together, are the craftsperson's palette; the catch being that the void can never perfectly match the object formed within. This is because humans are imperfect and no matter how often we imagine perfection we can never arrive there. This is what motivates a craftsperson: the constant denial of that perfection and the joy of pursuit, epitomised by the famous saying 'the joy is in the journey, not the destination'.

Therefore in this constant pursuit of perfection every crafted object possesses a gap between the form of the object and the void that it fills. It is from this gap that the crafted object gains its uniqueness, its auratic presence as shown below.

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9 Ibid, p. 408
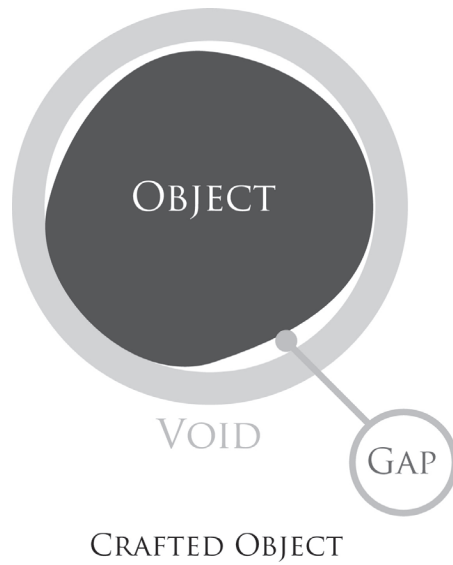
CRAFTED OBJECT

When an object is produced by a machine (or a worker on an assembly line with
no input into the final product), there is a lack of gap, as the void is not formed
by them but rather designed to a template. Machine-produced objects fill the void
perfectly; the finished objects are complete and identical. In a boolean way the
product is either complete or incomplete, depending on criteria such as procedure,
quality analysis criteria and the technical drawing. The industrial age and the ensu-
ing modern age developed technology to reduce the incompleteness of a product
as a way to maximise efficiency.
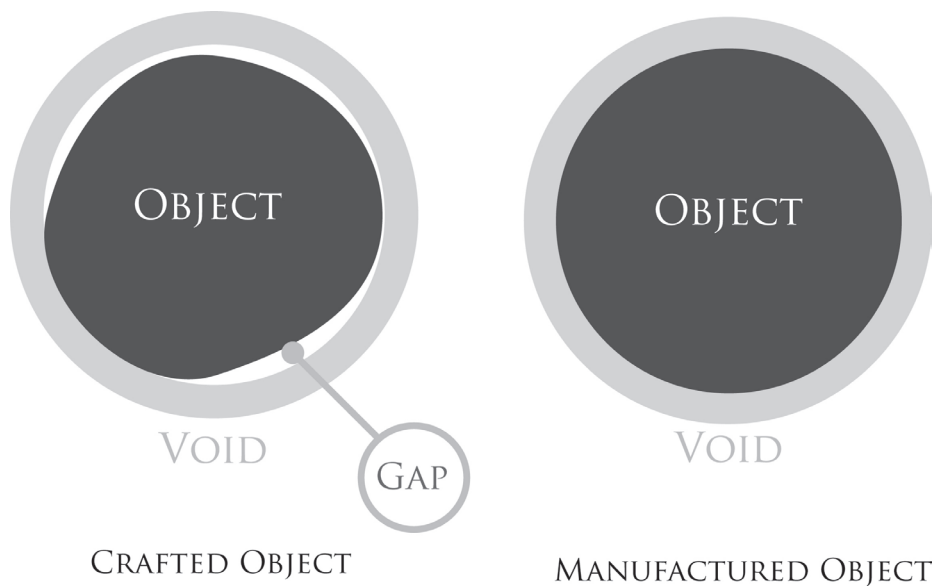
CRAFTED OBJECT   MANUFACTURED OBJECT
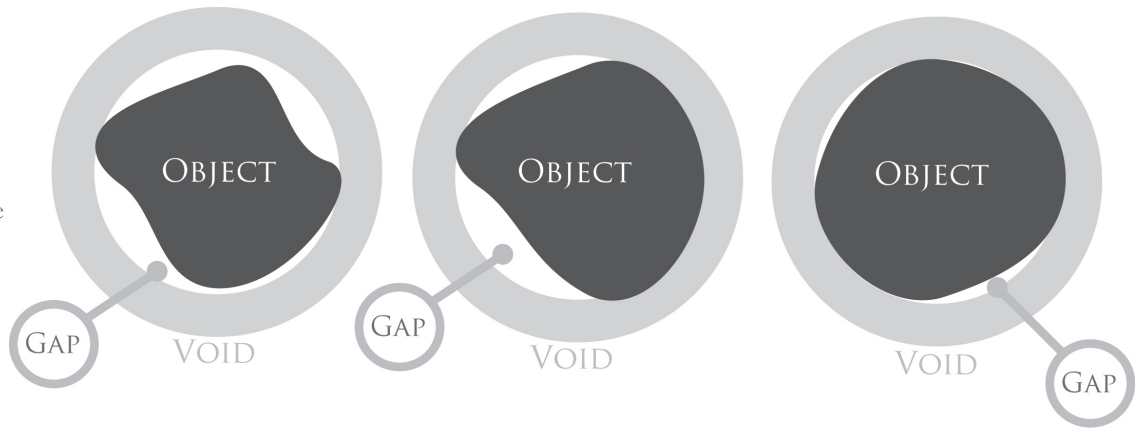
Increasing Craftsmanship

Richard Sennet suggests that like Hephaestus, the lame god who through his craft abilities is able to forge objects that better his imperfect self, the craftsperson continually refines their craft to produce something beyond themselves. The ambition or passion that drives the craftsperson puts them on a path for continual improvement, as in craft there is a constant feedback loop, facilitating the formation of the object to the craftsperson. As the craftsperson continually develops their skill the void and the object, like a hyperbolic curve, become closer and closer but without ever fully contacting. This refinement is the progression and acquisition of greater craftsmanship. Through time, experience and knowledge the craftsperson is better able to create an object that reflects the void that contains it.

The concept of the void and the gap that exists around crafted objects creates a criterion for the development of digital craft. If the gap, the uniqueness of the object, can be retained through the use of digital manufacturing machines then this fulfils the requirement of the foundation aura that Benjamin refers to. If the object is created durable then it may acquire the aura of history, whether personal or social.

In terms of the Book Beautiful the three auras that Benjamin outlines are all necessarily satisfied: the *historical aura* that comes with durability; the *traditional aura* that is addressed by the centuries-old process of letterpress printing; and finally the *uniqueness aura* that is fulfilled by the act of crafting the Book Beautiful. The hand-crafted Books Beautiful of the Kelmscott Press or the Doves Press are works that possess aura, but the critical question is can the Book Beautiful be produced with revised direction using technology, or does the use of technology simply negate any claim to craft and beauty by eliminating the gap.

Towards a Theory of Digital Craft

Digital craft is the idea of using technology to create objects and experiences that possess similar qualities to traditionally crafted objects, in particular the qualities of presence and aura. Nonetheless the idea of digital craft grates against the common concept of craft. The word 'craft' brings with it connotations of working hands and dusty workshops lined with tools, which contrasts directly with technology: in fact society's idea of craft is generally everything that is not technological. However this is not accurate, and even in the most extreme of opposition, namely the Arts and Crafts movement, we see allowances for the use of machinery providing it did not enslave the worker. The idea of digital craft hinges on the notion that as long as technology is used by the worker, and not the worker working for the technology, then craft can exist. There are three overriding concepts that are common across all forms of craft: *control* of the tools, whether it be hand tool, machinery or computer; *feedback* from the process to the craftsperson; and thirdly the *passion* or free will of the craftsperson in order to craft what they consider beautiful and fulfilling.[10]

Genesis of Craft

The genesis of the modern idea of craft came from the Arts and Crafts movement, and with it also came the prejudice against machines.[11] The movement, as David Pye points out, was directed towards resentment for machines and new technology.[12] It was the division of labour that the movement railed against, and saw that craft was the answer to this problem. Wearing rose-tinted glasses William Morris and his compatriots saw the medieval age as ideal, where men and women were merited on their skill and not reduced to working in factories for capitalist owners. The movement was a very social one that sought to preserve historic buildings and promote the aesthetics of the handcrafted object, a movement where hand was king and machinery was the enemy.

Yet all was not as it seemed as even Morris acknowledged that there was a place

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10 Lucie-Smith, Edward. *The Story of Craft: The Craftsman's Role in Society.* Oxford: Phai don, 1981: p.11

11 Ibid: p.15

12 Pye, David. *The Nature and Art of Workmanship.* Cambridge: Cambridge University Press, 1985: p. 67

for machinery; it was simply how the machinery was used that he disagreed with. He acknowledged the use of machines as tools: "There was little or no division of labour, and what machinery was used was simply of the nature of a multiplied tool, a help to the workman's hand-labour and not a supplanter of it."[13] This gave him license to utilise machines providing that the craftsperson was in control of them rather than the inverse. When Morris was composing the type he designed for the Kelmscott Press he used photographs of old type to garner his style. Furthermore the press itself is a machine; Gutenburg's printing press process is similar to modern mass production. The use of a mold to form the type, the screw mechanism to leverage pressure and the ability to create many copies are the predecessor of the modern process of design, setup and then manufacture.

Craft therefore cannot be so clear-cut as to say that what is made by hand is craft and what is not is not, as there are many cases that belie this. There are greater overarching trends that are present, and of these what becomes apparent from the Arts and Crafts movement is not the all-important use of the hand, but the control of the process.

Control

One of the defining elements in craft is the control that a craftsperson can exert on their work. It is in fact a fine line between controlling the process and being controlled by the process, the difference being that between manipulation and collaboration. In cinematic theory the auteur is the idea that the finished film is the vision that is guided, co-ordinated and made real by the director. The theory, rising from 1950s French cinema, came initially from an argument between the screen writers and the directors as to who was to credit for the film, but over the years the term has extended beyond film and come to represent the mind that guides the making process to create a single work envisioned by the director.[14] This notion is important to craft as it helps to explain the craftsperson's role in the crafting process.

The modern concept of craft was born in opposition to the division of labour, the dividing of a process amongst workers to enable more efficiency. The effect of this was that it reduced the role of the worker, from someone who needed to possess skill in order to accomplish the task, to anybody who can perform an

13 Morris, William. "The Revival of Handicraft." Chap. 20 In *The Craft Reader,* edited by Glenn Adamson. 146-55. Oxford, New York: Berg Publishers, 2010: p. 150

14 Staples, Donald E. "The Auteur Theory Reexamined." *Cinema Journal* Vol. 6 (1966-1967): p. 4

operation. This took the decision power from the individual who was instead given commands. The process to create the entire product was divided up into manageable tasks so that there was no skill required to complete the product. Yet in a craftsperson's workshop the process is often divided up as well. In the Kelmscott Press there would be Pressmen to work the press; Inkers who would soften the paper, ink the type and then remove the paper after the impression was made; and Compositors who arranged the page and the type. Morris was not actually involved in the production of his books at a hands-on level, but instead he designed, planned and coordinated the whole process.

Morris's role in this can be likened to the modern industrial designer who designs the product and controls (to an extent) the processes used to create that product. However the similarities end there, as the industrial designer may be overruled by management and the resulting product, in most cases, goes beyond the designer's control and becomes something that was unintended. In the case of Morris however he was the *auteur*, the director of the process, and had a powerful say over the end result of the product. This element of control allows for artistic integrity and also for self-betterment. In regards to his workers in the printshop, they were not only workers, but collaborators (including Cobden-Sanderson and Walker) who were able to have opinions and a say in the final outcome. In the binding of his Kelmscott Chaucer Morris employed Cobden-Sanderson to bind it to the best of his abilities, and allowed him to bind it and decorate it in a way he deemed fit.

For a crafted object to be created it needs the control, or auteurism, of the craftsperson (or master craftsperson) in order to gain the crafted quality. Whether it is printing books, writing a computer program or forming clay, where there is control there is a sense of craft. When it is absent there is often a weakened motivation as the process becomes detached.[15] Nevertheless, it is important to distinguish that just having control of a making process does not make it a craft. A CEO has complete control over the outcome of the final product, but they lack something that is possessed by the worker: immediate feedback from the process and the material.

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15 Sennett, Richard. *The Craftsman.* London: Penguin Books, 2009: p.56-8

Passion

Why do craftspeople work so hard for so long on a task? As Anders Ericsson states, it takes 10,000 hours to gain mastery of a task, [16] but what drives people to invest such time in mastery? Sennett argues that craftspeople do so not for profit or acclaim, but for the work itself, to take pride in what they have made.[17] This pride and continual self-betterment is characterized by one of the oldest representations of craft, that of Hephaestus the Greek god of crafts.

Hephaestus was the only lame Greek god. Yet despite his disability he held a prominent place on Mt Olympus, the home of the archetypal perfect beings. We would expect the god of craft to be a muscular, perfect being with the physique of a blacksmith who created works of magnificence with a glare, yet the legends created Hephaestus and for good reason. His imperfection represents a facet of the craftsperson that is often overlooked, that of self-improvement. The works of Hephaestus were renowned and legendary; they were extensions of the god himself made real (at least mythically real). His works, such as Achilles' armour, were not works of compensation for his disability but a symbol of his determination to surpass himself through his work. How could a perfect god represent craft if there were no self to surpass? In his closing statement for his book The Craftsman Sennett summarizes this position in one sentence: "The clubfooted Hephaestus, proud of his work if not of himself is the most dignified person we can become".[18]

One of the prime factors in craft is the desire to do the work well for the sake of it; it is the driving force that pushes people to mastery. Without this quality the work is just work. This desire fuels not only pride in the work, but the motivation for improvement that is also linked to the self, as the works produced by a craftsperson are parts of themselves. Artists, writers, musicians and craftspeople alike all take criticism of their works very emotionally because their work is not just an external object that they created, but a fragment of themselves.

Although a craftsperson may have the control and the passion, there still needs to be a mechanism of sorts that feeds and guides the continual improvement of the craft process. This is the direct feedback from the craftsperson to the work, the

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16 K. Anders Ericsson, Michael J. Prietula, Edward t. Cokely. "The Making of an Expert."
    Harvard Business Review: p. 4
17 Sennett, Richard. *The Craftsman.* London: Penguin Books, 2009: p.21
18 Ibid: p. 296

tool to the material and the craftsmanship to the tool.

Feedback

While control and passion are both concepts that are easy to grasp, feedback is the more detailed part of the craft trifecta. Feedback is when the craftsperson strikes the wood with their chisel and not only sees the result but also feels the impact, learning the small differences in sensation and trying again and again, refining the movement to achieve the desired result. Unique to the craftsperson is this cycle of feedback that responds immediately. This cycle is made up of three parts; craftsmanship (the combination of skill, knowledge and ambition), the tool, and the material.

CRAFTSMANSHIP

MATERIAL

TOOL
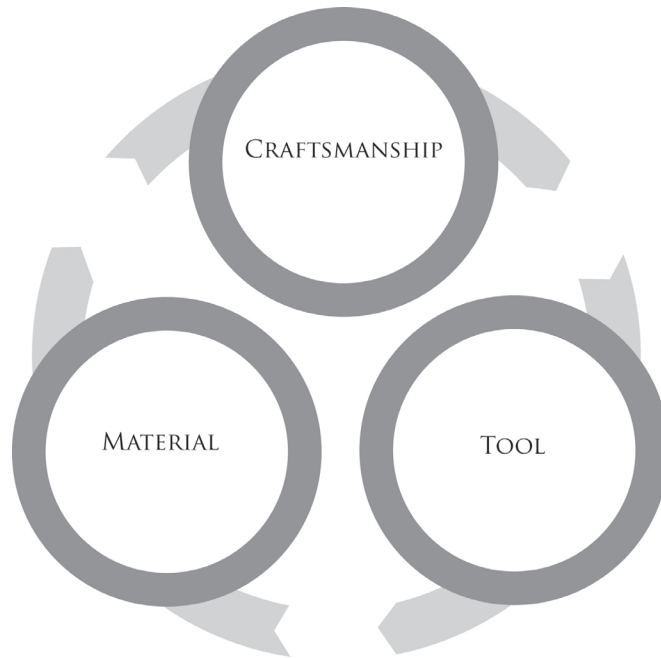
fig. 38
Diagram showing the flow of the craft trinity

It is the interdependent relationship of these three aspects which creates the crafts process:

- **Craftsmanship:** This is the set of skills, knowledge and ambition that are used to work on the material and effectively use the tools required. Craftsmanship is added to and refined through experience and education, in particular the experience of using the tools and materials. Sennet divides craftsmanship into two categories: "The first is the desire to do good work; the second lies in the abilities required to do good work."[19]

- **Material:** There must always be a material to be worked on in the craft

19 Sennett, Richard. *The Craftsman.* London: Penguin Books, 2009: p.241

process, as this is how the ideas are manifested. Whether it be stone, paper or a digital material there is always a material that gives resistance when worked on. This resistance is the 'language' of the material and combined with the tools and the craftsmanship creates a statement. The knowledge and selection of the material is affected by the purpose for which it is to be made as George Nakashima relates "The selection of timber is made in the shed, brought into the workshop and marked out for cutting. As far as possible, all elements are from the same tree. However, for some purposes, such as the need for strength, a different material may be used – for instance, hickory for spindles in a chair."[20]

🎜 **Tool:** Within the cycle this is the crucial element when discussing the idea of digital craft. The tool, whether it be a chisel, a hand, or a glass blower's blowpipe, is the means to form the material into the desired form. How the tool is guided and manipulated is dictated by the craftsmanship and the characteristics of the material. Often the hand is mentioned as the driving force for the craft process, yet the hand is simply a tool; a tool that just happens to be part of our sensory system.

This process of feedback does not exist in industry for the simple reason that once a product is designed and the setup done (mold, program or tooling) then it is too costly to change, whereas in craft there is constant refinement and improvement throughout the process.

Sennett displays an excellent example of these two mind-sets in a case study of Adolf Loos (1870-1933) and Ludwig Wittgenstein (1889-1951) who both set out to design and build a house. Wittgenstein, who had disposable wealth, built a house for his sister in Vienna. The design and construction spanned from 1927 to 1929 and he was set upon it being perfect and exemplary. He was very thorough about the design, paying special attention to the proportions of the rooms and using the finest materials. He designed the house and stipulated that the construction was to follow the design specifically; he was very concerned with the building matching the design. Wittgenstein left no room for improvement: when something went wrong in the construction he simply threw money at it to resolve the problem, so

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20 Nakashima, George. "The Soul of a Tree." Chap. 31 In *The Craft Reader*, edited by Glenn Adamson. 219-25. Oxford, New York: Berg Publisher, 2010: p.219

that his overall design was not marred. In a note he wrote in 1940 after the building was completed, he severely criticised his own work stating that though the building had good manners, it had no "primordial life".[21]

Loos on the other hand was building the Villa Moller in Prague. Loos was restricted by a budget, so when the construction of the building reached a problem he would rework the design to make allowances for it. He also experienced the building as it was being built, and his proportions and the placement of door handles and window latches was human, rather than Wittgenstein's idealism. The result was a house that felt sparse, but not lacking as Wittgenstein's did, and was all in all a comfortable human home (as much as you can get with a modernist).[22]

The difference between the two approaches was that Loos understood that a sketch was a sketch and that blueprints are only advisory rather than law in the construction of a building. By addressing each problem as it came along, Loos was able to see it as an opportunity, rather than a hindrance as Wittgenstein had. Loos was in a feedback loop with the work, and he was continually improving the design of the building, as a craftsperson does. The secret of Loos' success was that he was in conversation with the materials and approached each problem from a positive perspective, always learning from his errors and making better judgements.

When a product is designed for industry the designer may be seeking perfection but this never comes about. The workers in the factory simply receive the drawing for their part in the process and care little about the finished product. In this situation there is no feedback or any ability to learn from the experience of making as it is divided up. This difference between industry and craft is the crux of the argument for a theory of digital craft.

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21 Sennett, Richard. *The Craftsman.* London: Penguin Books, 2009: p.254
22 Ibid: p. 254 - 63

DIGITAL CRAFT

Digital Craft is the use of digital manufacturing machines, computers and other technology to produce a crafted object that has all the presence and aura that we expect from something that has been crafted by a craftsperson. Yet within the flow of craftsmanship to tools to material, if we simply replace the tool with a machine then we destroy the craft process, as we remove the feedback from the material to the craftsperson. The difference between a tool and a machine as stated by Malcolm McCullough as "A tool is for serving intent, whereas a medium might create intent, and a machine might work on its own."[23]

This would imply that the difference between a machine and a tool is simply perspective, or how we use the machine. Nakashima makes a similar statement: "The reality of the age, however, brings up the question of machinery. As much as man controls the end product, there is no disadvantage in the use of modern machinery and there is no need for embarrassment. Ghandi and his spinning wheel were more quixotic than realistic. A power plane can do in five minutes what might require a day or more by hand. In a creative craft, it becomes a question of responsibility, whether it is man or the machine that controls the work's progress."[24] However, a machine like a power plane is quite different from a computer or CNC machine, which are more complicated pieces of equipment that require a program to make use of their functionality.

What Sennet argues against and McCullough argues for is the perception that a computer is simply another tool which merely needs to be treated as a tool for it to be a craft. Sennett takes the stance that it is the computer which receives the feedback from the material, the danger in this being that it is the program which is learning from the experience rather than the user. The user is simply witnessing the process, not participating, and in the end is only a consumer.

However McCullough asks us to abstract the idea of craft, from that of traditional craft towards a closer relationship between the mind and the material. He states that the computer is a tool that we have never had before and so to disregard it as a machine incapable of craft would be to misunderstand it. He asserts that "Ultimately the computer is a means for combining the skilful hand with the reason-

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23 McCullough, Malcolm. *Abstracting Craft*. Cambridge, MA: MIT Press, 1996: p. 78
24 Nakashima, George. "The Soul of a Tree." Chap. 31 In *The Craft Reader,* edited by Glenn Adamson. 219-25. Oxford, New York: Berg Publisher, 2010: p.220

-128-

ing mind. We never had such a tool."[25] Software engineers, designers and other computer users do have a definite claim to craftsmanship (this statement Sennett also supports),[26] but the question is does the computer allow for a feedback cycle from the worked material as a necessary condition for it to be called craft, or more specifically digital craft?

These two contrasting views are in tension with each other as both have merit, yet they directly contradict; something must break. That something that must break for digital craft to exist is the machine. You must either make a creature of the machine or a tool of it, you cannot make both. McCullough is trying to say that the abstract processes of a computer are a closer relationship between the mind and the hand. When the computer manifests the design physically it is simply a tool. On the other hand Sennett says that the computer is completing the tasks outlaid by the user, while the user remains a witness not a participant, as the creature-like computer enacts its own form of craftsmanship feedback. The machine must therefore be broken so that it does not have control of the finished product, but rather bends to the whim of the craftsperson, the auteur who has the vision and must orchestrate the final product.

By 'breaking the machine' I do not mean destroying it, but rather taking the complete process away from it. In both cases McCullough and Sennett are arguing from the position that the computer has complete control of the process and is fed information from the user as the user's sole contribution, the difference being that McCullough argues that the input from the user constitutes a craft. It is important to remember that a machine is a machine so long as it is used for its designed purpose. A computer is a machine if it is used to type or email from, but it can be a tool if used as a surface to mold clay on. Odd as it may seem this is the reasoning we must follow to reach a theory of digital craft.

Hypothesis

The crafted object is identified by the aura and uniqueness that the process gives to it. If a machine has control of the making process to the extent that these qualities are not present, then its output does not meet the criteria for a crafted object, and therefore cannot be digital craft. Technology such as 3D printing allows for each item to be produced unique, but as long as the 3D printer has control of the pro-

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25 McCullough, Malcolm. *Abstracting Craft.* Cambridge, MA: MIT Press, 1996: p. 81
26 Sennett, Richard. *The Craftsman.* London: Penguin Books, 2009: p.24

cess from start to finish the object will not have an aura, because the 3D printer is simply making it to a flawed design. Regardless of McCullough's craftsmanship that took place in the modelling of the file, the emotive intent of the object does not carry through to the final object. Furthermore by letting the 3D printer do the work there is little material feedback, as a 3D printer is designed for consistency.

However if the 3D printer is used to create a tool or a jig to aid in the craft process, the machine is broken and becomes a tool. There are critical points in the craft process that require a human hand, but there are also points where the overall task can be minimised by using technology, thus allowing more complexity in a work. The ambition of the craftsperson also is paramount, and any craft process must be rewarding to the craftsperson; simply pressing print offers little reward.

It is this thinking that is used to experiment with digital craft in making a Book Beautiful for my design research. Adhering to the following guidelines I attempt to create processes that retain aura and uniqueness while utilising the advantages of technology:

- Do not allow the machine to control the process.
- Break up the process to gain the benefits from the technology, but use the hand for critical and rewarding steps.
- Use the machine to create jigs and tools for the process.
- The craftsperson's *ambition* must always exceed their *ability,* to create the gap between the object and the void; machines make no distinction between the two.
- There must be a feedback cycle between craftsmanship, the tool and the material.
- The craftsperson must have control of the entire process as an *auteur* to have creative integrity.

Making of the Book Beautiful

The Book Beautiful is an ideal that uses the traditional letterpress method to create works of uniqueness and aura. As Cobden-Sanderson stated, it is the consideration and elevation of all elements of the book towards the goal of beauty that creates the Book Beautiful.[27] The process can be summarised as such:

Design	Compositing	Building the form	Printing	Binding
Typography illustration layout	Arrangement of elements	Setup for printing	Preparation inking pressing	Finishing Book Binding
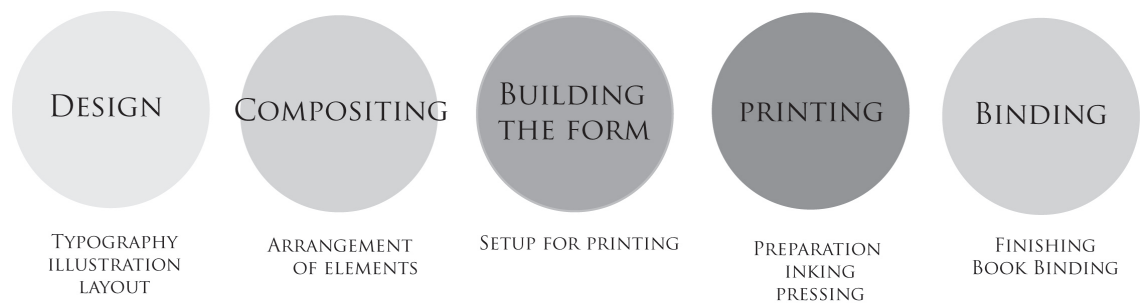
Traditional Process

In the workshop of the Doves Press the cast iron Albion Press was used, which takes a lot of skill, experience and mastery to achieve the desired results. Below is a summary of the process that is used in the traditional handpress process taken from Rummond's comprehensive guide *Printing on the Iron Handpress*:-

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27 Tidcombe, Marianne. *The Doves Press*. London: The British Library, 2002: p.7

Components of the handpress

Frisket

Frame

Platen

Lever
Mechanism

Tympan
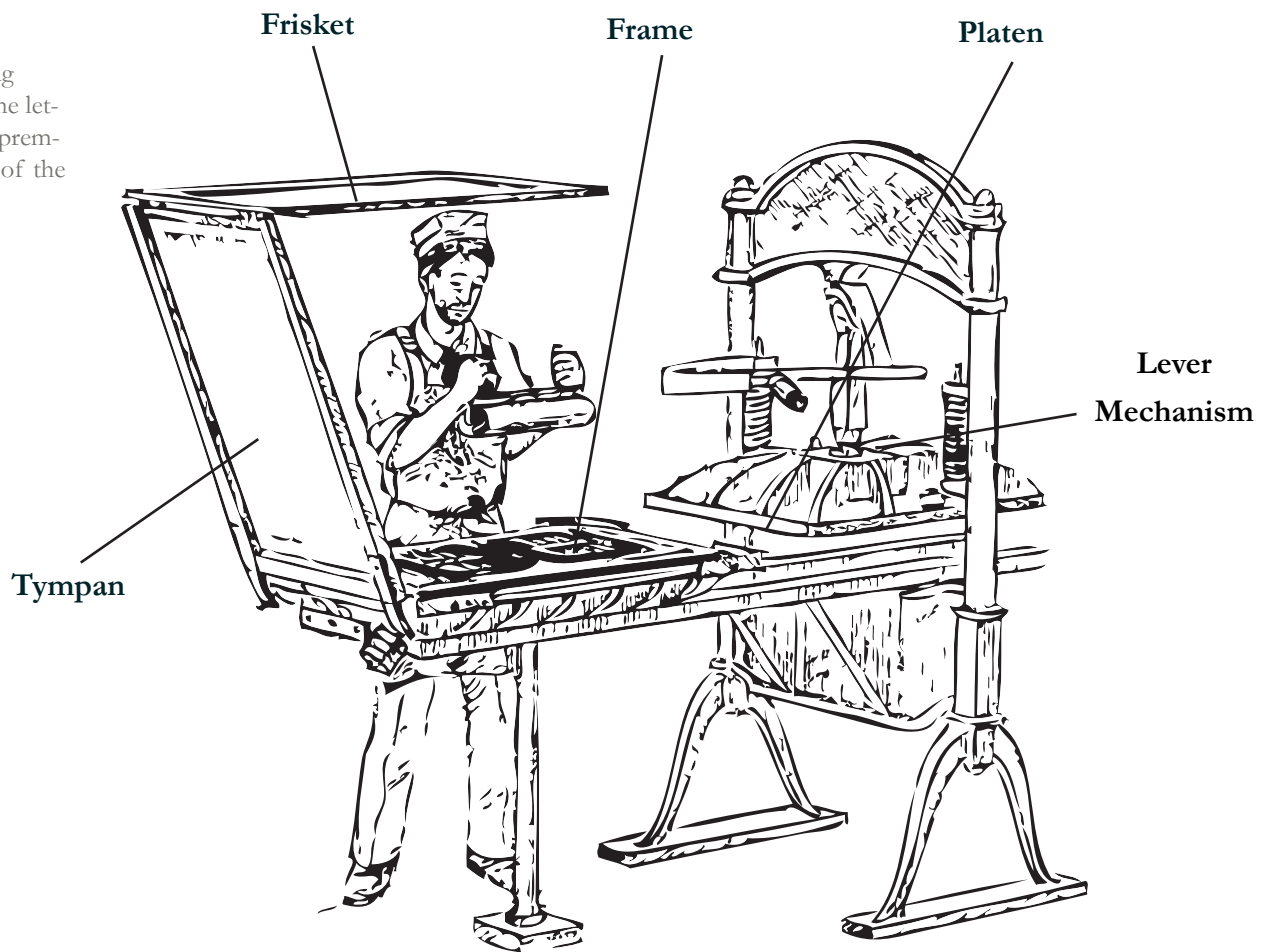
The Type

The *type* is a single letter that is used in building a page of text. The type is part of a family of a similar style and varying sizes called a font. The type is cast within its negative from the *matrix*.

Compositing

The type is placed within a specially arranged cabinet that has cubbyholes for each sort of type. This allows the compositor to easily select the correct type and arrange them on the *compositing stick*. Each line is arranged and measured to length before adding it to the composition and starting on the next line. [28]

Building the Form

Once the page has been composed by the compositor the page is then set on the press bed amongst the frame skeleton that sets out the margins. Various test runs, usually on a proof press (a press with a cylindrical roller that is easier to set up), are made on the frame to pick out any errors in the compositing. The *form* (the negative image that makes the impression on the page) is then locked and set for its print run.

Preparing the Paper

In letterpress printing the paper used requires certain characteristics to let the ink adhere effectively, to allow the type impression to bite into the page, and also for aesthetics.

Dummy Run

The Tympan is set incrementally to fine-tune the impression details and also frame by layering backing paper. The Frisket masks off the paper from the form so that ink is not printed where it is not wanted when the impression is made.

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28 In some contemporary workshops photopolymer sheets are used in place of images or even text as they are quicker to create. They are made by applying light to a photosensitive sheet that removes exposed material.

Inking

The inking is where the ink is applied to the form, using rollers the ink is applied to the surface of the type, *roller bearers* help avoid the inking of other areas of the form. Ink is usually applied using a *roller* but *ink balls* are could also be used.

Presswork

Once all the setup is complete and the form is ready for the impression the presswork commences. The Inkman will ink the form and then the Pressman will place it under the platen and pull on the lever to create enough force to make the impression. This process lasts only a few seconds but makes all the preparation work worthwhile. Intuition and craftsmanship are in full play here as the amount of pressure to apply and the amount of ink to use are critical to a good impression.

Binding

Once the pages have been printed they are folded into text blocks and sent to a bookbinder who will bind the books. Bookbinding in itself is a craft and uses various techniques and tools to achieve the end result.

Design Research

My research was carried out by reinterpreting the traditional process and integrating digital manufacturing, with the goal of finding a path that brought aura and presence to the finished piece. The focus for the research was on the impression of the text on the page. Through initial experiments to select the type of machine to use, the laser cutter was selected as it was the most appropriate. Time was spent refining the techniques being developed and observing the interactions between myself and the process.

Methodology

The approach to this research was from a phenomenological perspective that examined the aspects of craftsmanship not obvious to the casual observer. These are the inner emotions that are present when crafting. So much of the quality of a crafted object lies with the craftsperson, as opposed to the methods and tools they use. The emotional exchange between the craftsperson and their craft, such as the making of a Book Beautiful, is complex but important as this is where the ambition, idea and void exist; this is what sparks the craft process. The process is examined from within, as to observe in a scientific function would be to distance myself from the subject, as science forbids the observer to consider their subjects to be like themselves.[29] Craft is very much an internal process; the undertaking of work is done for the journey, not the finished product. Once it is the finished product that is paramount, craft loses its uniqueness.

Dedication to a process and machine, once selected, was important for the research as it allowed a form of craftsmanship to evolve. Spending time switching between different machine sets makes the accumulation of experience difficult. After an initial examination of the most appropriate machine the laser cutter was selected and the research remained with this machine throughout.

29 Sartre, Jean-Paul. *Sketch for a Theory of Emotions.* London: Routledge, 1994. 1964: p.3

The results sought from this research were to find:

- ❧ Whether the idea of a digital craft is possible
- ❧ If digital craft can be used to make the Book Beautiful making process more accessible to ambitious makers and offer opportunities in the process
- ❧ What the exchange is between the digital craft process and the craftsperson's craft process
- ❧ Whether the statement "breaking the machine" is relevant

Scope

Due to time and resource constraints the amount of craft research conducted represents only a fraction of the time needed to refine the process. If mastery is ten thousand hours then this masters consists of only four hundred hours, and for this reason the research was focused on the impression of the type and the validation of the hypothesis for digital craft.[30] The areas of design and binding were left aside as the crucial element was the impression of the type.

fig. 43
Diagram showing scope of craft research within the flow of traditional letterpress

DESIGN	COMPOSITING	BUILDING THE FORM	PRINTING	BINDING
TYPOGRAPHY ILLUSTRATION LAYOUT	ARRANGEMENT OF ELEMENTS	SETUP FOR PRINTING	PREPARATION INKING PRESSING	FINISHING BOOK BINDING

SCOPE
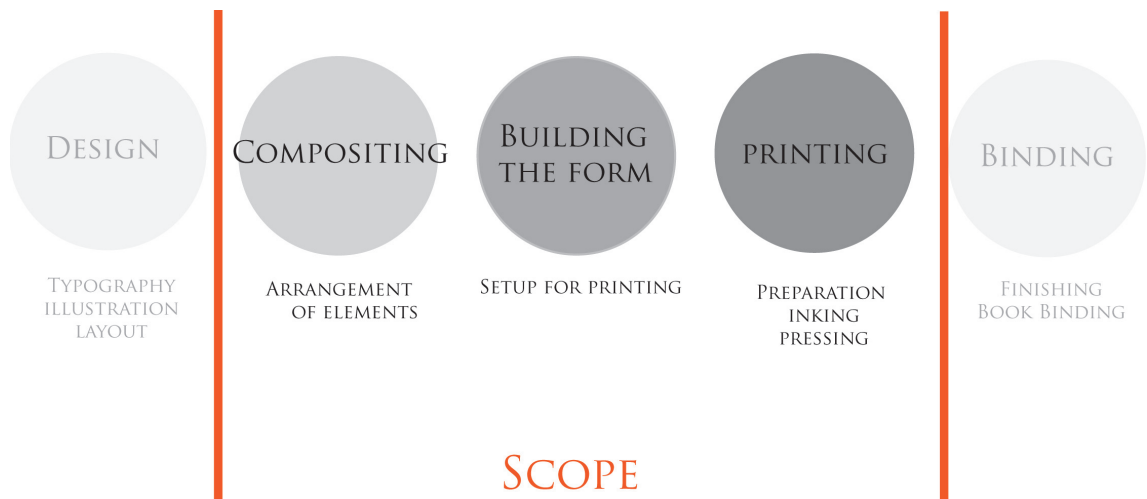
The selection of machines, materials and processes were chosen to be as inclusive as possible, making use of resources in close proximity and solving problems in a similar way to the Loos example thereby forcing opportunity and innovation.

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30 K. Anders Ericsson, Michael J. Prietula, Edward t. Cokely. "The Making of an Expert." *Harvard Business Review:* p. 4

Digital Manufacturing Machines

Digital manufacturing machines are split into two categories: additive and subtractive. As suggested by their names the former adds material to the form while the latter removes it. Additive machines are made up of a family of 3D printing machines that specialize in different techniques and materials for different purposes. Subtractive machines consist of lathes, mills, routers and planar cutters.

Below is a selection of machines relevant to the purpose of this research and their characteristics. Focus is on the suitability of the machine for the task, its affordability either now or in future, and the materials it is able to work with.

Additive Machines

Additive machines work by taking a 3D model, digesting it into horizontal slices, and then building the model up slice by slice by increments.

Fuse Deposition Modelling (FDM)

FDM is a simple and widely applicable process that lends itself to direct digital manufacturing (DDM), meaning the finished products can be ready for use, as opposed to the prototyping purpose of a resin machine.

- **Suitability:** FDM machines in the lower end of the market do not have the ability to detail text at sizes required for books. Although this is sure to change in the future, as development of FDM machines is growing more than other forms, it is not currently the case. The FDM in high-end machines such as the Stratasys range are capable of very fine detail but these machines are significantly more expensive, and subcontracting the work is also expensive.
- **Affordability:** FDM machines such as the Makerbot or the Reprap are 3D printers that are affordable, ranging from $1,000 to $5,000 (NZD), and their increased popularity is sure to bring this price down further. Higher end machines can range from $50,000 to three million.
- **Materials:** Plastics (ABS, PC, Special Composites) and other thermoform material (such as sugar and wax).

Selective Laser Sintering (SLS)

SLS is a method that competes with FDM, with a greater market in the high end of 3D printing. An SLS 3D printer works by using a laser to fuse together a form from a layer of powder. The powder can be a wide range of materials.

- **Suitability:** SLS are capable of fine details and in a wide range of materials. The machines are expensive, and the material is specially formulated

for the specific machine and is therefore also expensive. Although there are many high end applications for this technology, such as aeronautical or medical industries, it will not become available to the general populace any time soon.

- ☙ **Affordability:** These machines sell from $500,000 upwards with no low end options.
- ☙ **Materials:** SLS machines can process any material that can be formed into a suitable powder; these include stainless steel, titanium, aluminium and plastics.

Subtractive Machines

Subtractive machines work by removing material from the form as prompted by a program. The 3D model is digested through a computer-aided manufacturing program, turning the form into G-Code which gives the machine its commands.

Laser Cutter

A laser cutter is capable of cutting or etching into the surface of sheet material with the use of a laser. It can also remove material by pulsing over the surface of the material, and sinter the material.

- ☙ **Suitability:** Laser cutters are able to work in fine detail and create relief forms. Large industry machines are able to cut metals, but metals can only be cut through completely, not partially.
- ☙ **Affordability:** Desktop machines are now being marketed for home ownership. Their versatility make them a popular choice and easy to use.
- ☙ **Material:** Most flat materials; in the low end machines, plastics, wood, chipboard and even stone. High end machines can work with steel, aluminium, stainless steel and copper but are often too powerful to work fine details.

Mill

A CNC mill uses the G-Code to remove material with a tool bit which is specifically made for detail. These are versatile machines that can cut into anything that is softer than the tool, which is usually made of an extremely hard tungsten carbide.

- **Suitability:** Able to work very fine details but inside radii are limited to the diameter of the tool. This brings a bottom scale to the size of text producible.
- **Affordability:** These are commonly used in industry. There are small machines that can be purchased but they lack accuracy. DIY makers have made their own CNC mills as they are essentially a drill on a CNC controlled arm.
- **Material:** Metals, plastics and wood.

Machine Selection

For the purpose of this research the laser cutter was selected as there are a couple of machines available within the university that are easy to access, and also capable of the fine details expected when working with books. The laser cutter can work with most flat materials, meaning that cheaper, non-specific materials can be used.

fig. 45
Image of laser cutter similar to the one used for research

Experiments

The research experiments follow no pre-planned path, but rather were led by the intuition of working toward the goals of making a letterpress type impression on the paper. Below is the progression of experiments towards their culmination:-

The diagram contains the following labeled boxes: Initial Experiments, Refining the Impression, Cutting Depth, Software, PDM: The Random Book, DDM: Hunting of the Snark, PDM: G. Orwell Books vs Cigarettes
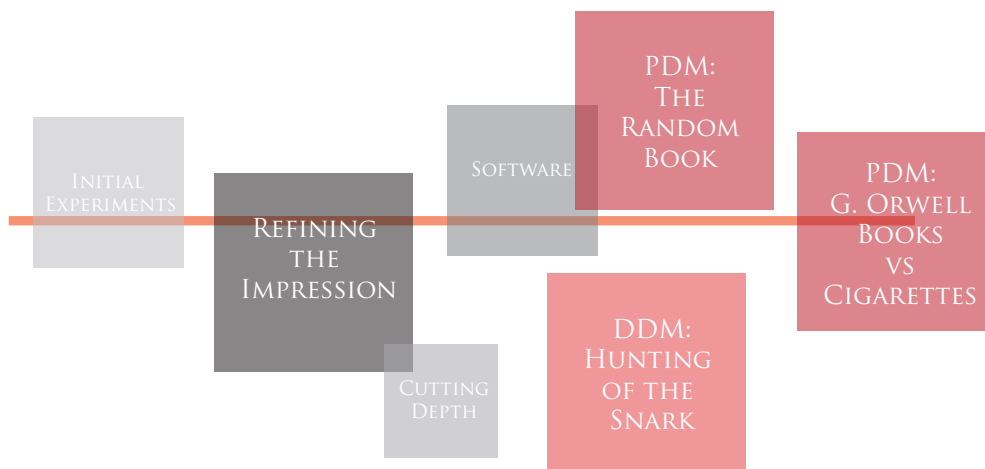
Initial Experiments

The goal of these experiments was to gain grounding for the work to come in getting acquainted with the process and the equipment. A test plate was [image] designed to test certain aspects of a print; its detail, adherence to ink, font size and depth of cut.

The experiments became interesting when I started playing with the laser cutter's settings by reducing the dots per inch (DPI) ratio, which had the result of the laser cutter digesting the program and then simplifying the information. This process revealed a side of the laser cutter not normally seen, that of how it interprets the information from the CAD file. The common conception is that the machine takes the information and translates it directly, but I discovered that in the machine there is another process occurring that is usually hidden.
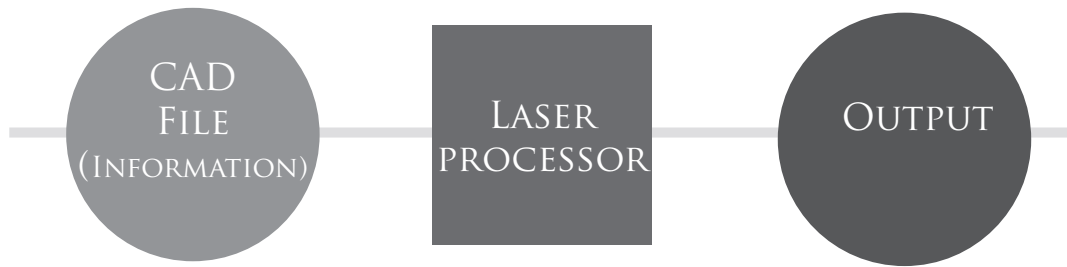
The first plates made their first impression onto paper with an old star etch press which occupied a lonely corner of the workshop. The result was a realisation that the traditional compositor had to work backwards when composing a page. When setting the plate for printing it must be in the reverse, so that the impression is the correct way around. It takes some getting used to initially but eventually becomes second nature.

Suitable materials were also tested; in particular acrylic, MDF and plywood because of their availability and price. MDF and plywood were more responsive to the laser but the intensified heat caused them to burn or curl. The plywood was good for larger texts, as when sintered the glue would settle on the surface and make inking very easy. However smaller texts became messy. Acrylic dealt with the heat ideally and didn't deform. Fine details could be achieved with the only setback the depth of the cut. After finetuning the laser setting I was able to remove close to a 1.0 mm of material, as opposed to 1.2mm from the wood, but this meant boosting the laser power and increasing time.

Conclusion

These experiments gave a good basis for proceeding to develop the process slightly. Acrylic was the ideal material to proceed with and familiarise myself with, and the star press was the ideal piece of equipment to create the impression. Compared to a handpress where the platen falls straight down, this press rolls, which causes shifts on the transfer of ink.
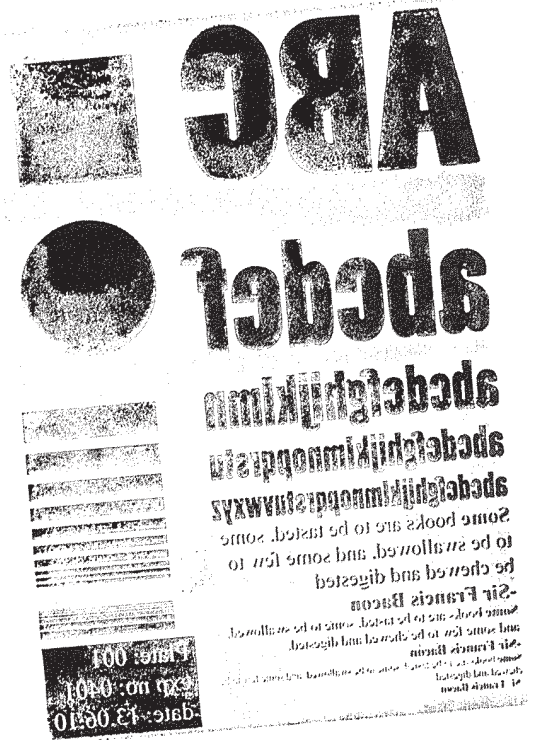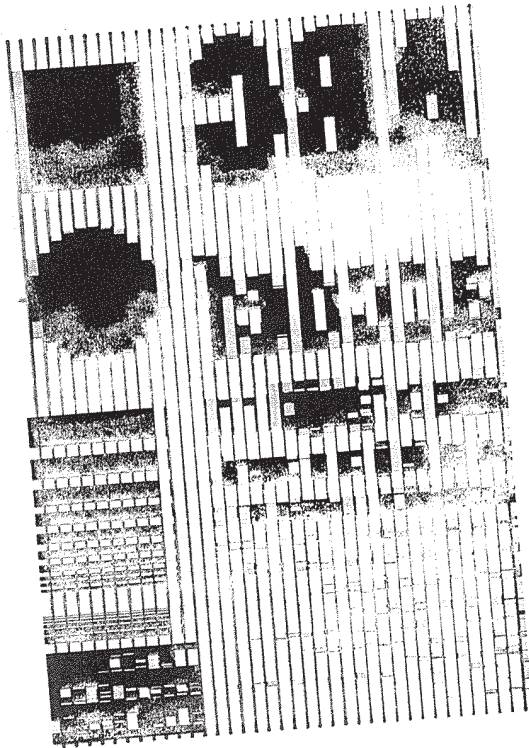
Refining the Impression

The next step was to proceed in developing a technique that created a clear text print, and that could simultaneously retain the individuality required for a crafted object. I began experimenting with the raster function of the laser, and etching gradients into the acrylic to see what opportunities were there. Layering text atop an image was another interesting experiment that had potential. Another interesting experiment was the cutting of a movable form. Lasercut forms have the potential to become dynamic and to move, so unlike traditional forms that are static, it is possible to create a mechanised form that would move and therefore each print would be different.

fig. 51-56

(Opposite) Examples of prints made with test jig

However, the goal of this step was to refine the process and thus to get a clear impression on the paper from the form. I learnt quickly that inks and the surface of the acrylic do not adhere particularly well. I attempted sanding the surface before etching but the residue from the sanding process made adherence even harder. The solution through experiments was to increase the pressure on the press.

In order to do this I had to create a jig that would allow fine tuning by adding paper backing to what was effectively the tympan. The jig also served another purpose: that of eliminating the shift experienced when using the star press. The jig was passed through the press as a self-contained unit, exerting its own specific function while concurrently harnessing the power of the press.

Conclusion

These numerous experiments were satisfying and useful as they reassured me that a clear impression can be made following this process. From this a rough sketch of a process began to establish itself.

fig. 57

Diagram showing research process

The steps marked by triangles are hand-processes. I discovered that there is a knock-on effect through this process; what happened at the CAD step and the laser step had consequences when the form went through the press. This is one type of feedback from the digital machines which affected the craft process.

A couple of years ago a friend of mine, a newspaper editor, was firewatching with some factory workers. They fell to talking about his newspaper, which most of them read and approved of, but when he asked them what they thought of the literary section, the answer he got was: "You don't suppose we read that stuff, do you? Why, half the time you're talking about books that cost twelve and sixpence! Chaps like us couldn't spend twelve and sixpence on a book." These, he said, were men who thought nothing of spending several pounds on a day trip to Blackpool. A couple of years ago a friend of mine, a newspaper editor, was firewatching with some factory workers. They fell to talking about his newspaper, which most of them read and approved of, but when he asked them what they thought of the literary section, the answer he got was: "You don't suppose we read that stuff, do you? Why, half the time you're talking about books that cost twelve and sixpence! Chaps like us couldn't spend twelve and sixpence on a book." These, he said, were men who thought nothing of spending several pounds on a day trip to Blackpool. A couple of years ago a friend of mine, a newspaper editor, was firewatching

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Cutting Depth

The lack of depth from the etching process was causing concern, as in the test prints from the previous experiment this lack of depth was creating shadowing whenever ink (somehow) came in contact with the forms lowered surface [image]. I performed a series of test cuts on the acrylic to see which settings gave the most preferable results. The test samples were then magnified on a calibrating device for CNC tooling to view the results.

fig. 58-59
(Opposite) close up of profile of laser cut MDF

Software

Software plays a major role in the developing process, below are the programs used in the process.

- **Bitmap / Vector:** There are two forms of graphical information, bitmap and vector. Bitmap is an image where points of colour create the whole image. The finer these points are the greater the resolution. These result in a grainy texture when put through the laser.
  Vector graphics are created in a language that the laser understands, and the laser creates a crisper outcome as a result. They are made up of geometrical equations which plot a line or an element. Vector graphics should be used where possible as they are both easily scalable and clear.

- **Illustrator:** Adobe Illustrator was my program of choice for manipulating the form before it was sent to the laser. It is a vector based program that communicates well with the laser. One particularly useful function is live paint, which translates a bitmap into a vector, but this requires some tweaking to get just right. Pages created in Adobe Indesign are dropped into Illustrator and then reversed and arranged for the required outcome.

- **Indesign:** Adobe Indesign is a formatting program which easily sets out the pages. It is very useful, as you get an instant visual of what the finished product should look like, as well as easy manipulation to get things faultless.
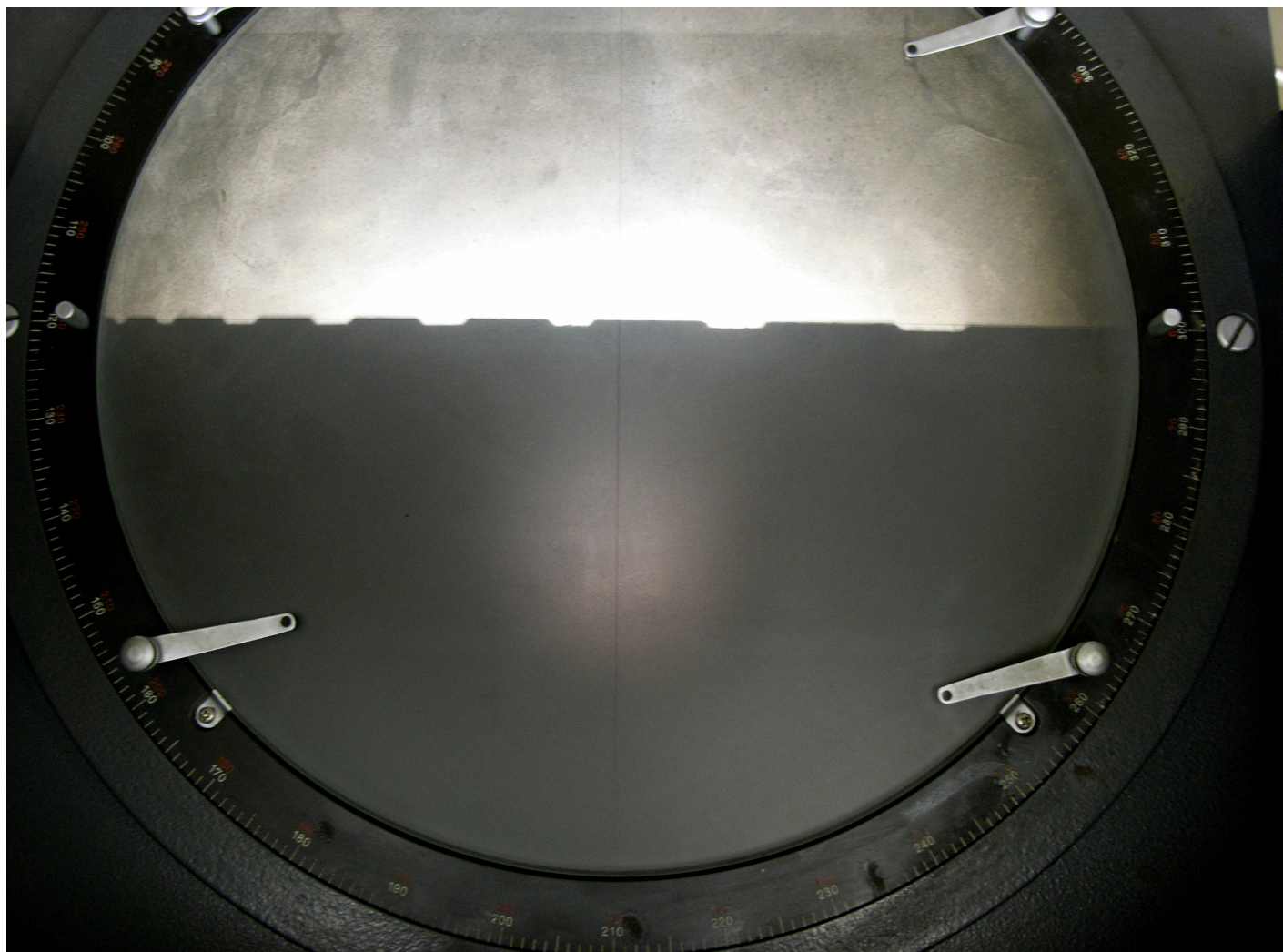
❧ **Rasterbator:** Despite its peculiar name Rasterbator is a very handy web application that will translate any bitmap image into a raster image of vector dots. When seeking to scale an image it is this that I use to create a unique result. Although not very good for fine details, it is an alternative option to the live paint function of Illustrator. [image]

❧ **Solidworks:** This is the industry-standard 3D modelling program for product design. I used it to model the jig in 3D space, and then outputted the part information into a vector drawing which could subsequently be sent to Illustrator.

❧ **Processing:** This is used in the study of *The Random Book* as it is in an accessible java language devised for artists and designers to create programs. I tweaked an example setting for a random form generator to create nonsense content for the book. Programming has potential in the process as it removes the guiding hand of refined applications like Illustrator.

Conclusion

There are a great many computer programs to aid in the CAD process. These programs were used to generate content and the information for the laser cutter, but in the process as a whole had little impact on the final print.

Studies

From the initial experiments three studies were compiled to observe different approaches to the printing process; one to examine if aura is present when the hand is not, another to see if content mattered to the sense of aura, and a third study to refine and wrap up the research.

DDM: The Hunting of the Snark

fig. 61

(Opposite) Finished laser cut acrylic book of 'The Hunting of the Snark'

The study for *The Hunting of the Snark* was an experiment into observing the results of direct digital manufacturing (DDM), which is where the end result comes straight from the laser cutter without any post processing. Etching onto acrylic as the medium, I hoped to see if there was any presence of aura or uniqueness when the hand steps were removed.

The concept was to use the transparency of the acrylic to create a book out of *The Hunting of the Snark,* with the bellman's famous blank map on the cover and the text of the story filling it in as nonsense, the very theme of the prose.

The result was frustration and disappointment as the laser needed high resolution to print the text clearly and this consumed many hours on the laser cutter: eight hours for each copy. The material, although great for making the form, makes a terrible page and attempting to bind it proved messy and unattractive.

The removal of the hand from the process created frustration and disconnected me from the result. There was a notable lack of achievement or pride when finished.

fig. 62

Diagram showing processes used in the making of 'The Hunting of the Snark'

This study highlighted the control a machine can have when allowed. There was a definite sense of *Input -> Output* from this process, and although there was enthusiasm for the subject the result failed to connect at all with myself. The removal of the hand from the process had a definite and negative impact upon the result.
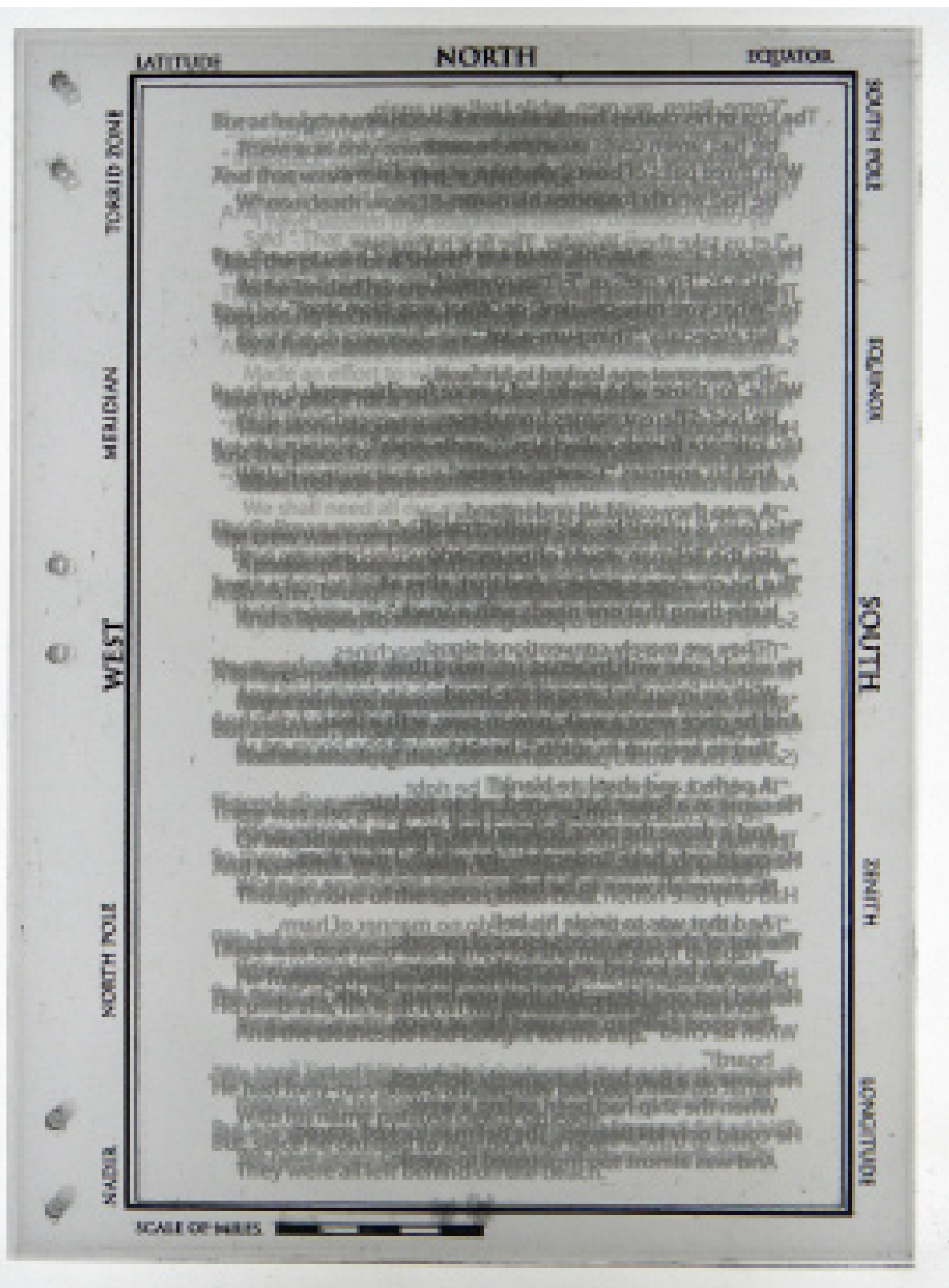
fig. 63
(Opposite) Handprinted
example of page from
'The Random Book'

This study was an exploration into using post digital manufacturing (PDM) with no meaningful content. The objective of this was to separate the meaning of the text from the elements of craft and then examine the results.

A program was written within Processing to create a random vector graphic within a specific size. This was then outputted into Illustrator, arranged and sent to the laser cutter. The developed form was subsequently inked and printed.

fig. 64
(Over Page) Handprinted
example of 4 page spread
from 'The Random Book'

The result was a work that contained all the same qualities of the crafting process experienced with the earlier experiments. The random forms of the page took on their own characteristics when printing the page. Although there was no text, there was still a connection between myself and the work.

PDM: Books v. Cigarettes

All previous experiments culminated in the attempt to produce a print of George Orwell's essay *Books v. Cigarettes*. The jig from earlier experiments, dubbed "The Beardy Press", was revised twice and enlarged to accept A3 sized paper. The laser etching of the forms was refined also to allow for better inking. All was on track to create a small copy of the essay until bureaucracy intervened and access to the laser cutting machine was severely restricted so that all research was adjourned. The irony of working on craft-based research and then being restricted by modern bureaucracy was not lost and highlighted an important aspect of digital craft: you cannot borrow or lease your tools. You must own them.

The Beardy Press

Having adjusted to the star press I pursued the development of a jig that would give me the result I wanted. There were two versions of the Beardy Press; the first was smaller in size and had some design flaws so that the pressure from the press took its toll, the second a slightly larger version which incorporated a load bearing design to take more pressure.

Emotional Engagement

At some point the experiments became more than just research. Once started countless hours were spent refining and honing the techniques to get the desired results. The statement that "the craftsperson's ambition always exceeds their ability" rang true in this study as there was always a way to improve on what had been accomplished. There was continual feedback from the process, revisiting different options at the beginning in the software to alleviate issues further down the process.

The Little Things

Throughout the process, from beginning to end, there were certain processes that were sensual and rewarding. The steps of inking and pressing were repeated hun-

dreds of times, and each time tiny lessons were learnt. There were certain creaks from the Beardy Press that were expected and others that caused concern. To an observer these noises would have meant little, but as a consequence of being so involved in the process the little things mattered a lot. Minor details that were overlooked in the initial experiments were given heightened importance when their role in the process became clear. Residue from the laser process, a screw not fastened tightly enough, adding enough backing sheets to the tympan to get the right bite, the type of paper; all were very important yet so easily overlooked if unfamiliar with the process. After seeing the traditional letterpress machines and originally thinking that some of the minute details were excessive, I now understand that these are all important to the craftsperson who knows the process. As craftsmanship increases, the little things only matter more.

A Craftsperson Owns their Tools

Earlier I quoted Benjamin as saying that ownership is the closest relationship one can have to things; this can also be applied to the tools a craftsperson uses. Crafting is not a nine-to-five job, but rather an inspiration that strikes when you least expect it. Once started on a crafting journey restricting the time you spend on it seems ridiculous. Working in the early hours trying to refine a minor detail feels very natural as long as the motivation is present.

Due to insurance reasons my access to the laser cutter was restricted to hours that were unavailable to me. This caused not only serious disturbance for the research, but also affected me emotionally. When so involved in a process being told that you can no longer continue researching is difficult. The original intent of this thesis was to hand-print the entire book, a goal that was within sight.

This experience revealed a phenomenon that I had previously overlooked: the relationship between the craftsperson and their tools. For digital craft to exist, the digital manufacturing machines will need to be affordable so that the craftsperson can own them. Renting or subcontracting vital equipment detaches a whole dimension of the craft process, as the control of the process is removed.

fig. 67-68
Photo of 'The Beardy Press' placed in the star press used

fig. 69
Photo of a plate from an earlier revision of 'Books v. Cigarettes'

fig. 70-73
(Opposite and over Page) Photos showing progression of work on 'Book v. Cigarettes'

A couple of years ago a friend of mine, a newspaper editor, was firewatching with some factory workers. They fell to talking about his newspaper, which most of them read and approved of, but when he asked them what they thought of the literary section, the answer he got was: "You don't suppose we read that stuff, do you? Why, half the time you're talking about books that cost twelve and sixpence! Chaps like us couldn't spend twelve and sixpence on a book." These, he said, were men who thought nothing of spending several pounds on a day trip to Blackpool.

This idea that the buying, or even the reading of books is an expensive hobby and beyond the reach of the average person is so widespread that it deserves some detailed examination. Exactly what reading costs, reckoned in terms of pence per hour, is difficult to estimate, but I have made a start by inventorying my own books and adding up their total price. After allowing for various other expenses, I can make a fairly good guess at my expenditure over the last fifteen years.

pamphlets, or magazines, unless bound up into book form. Nor have I counted the kind of junky books — old text-books, and so forth — that accumulate in the bottom of cupboards. I have counted only those books which I have acquired voluntarily, or else would have acquired voluntarily, and which I intend to keep. In this category I find that I have 442 books, acquired in the following ways:

Bought (mostly second-hand) 251
Given to me or bought with book tokens 33
Review copies and complimentary copies 143
Borrowed and not returned 10
Temporarily on loan 5
Total 442

Now as to the method of pricing. Those books that I have bought I have listed at their full price, as closely as I can de-
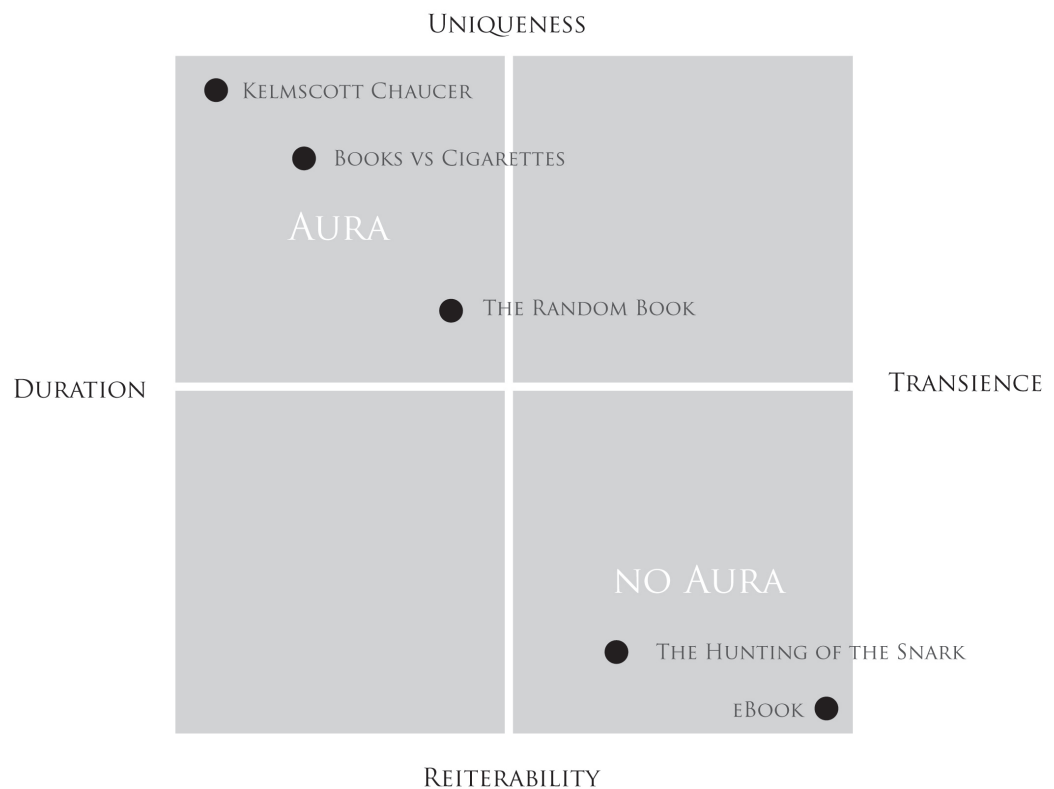
The Laser Cutter

There were two laser cutters utilised during the course of this research, with each comprised of their own unique characteristics. It seems that the more complex a machine is the more that can go wrong. These small faults may not stop the machine from performing but they create little nuances which give the machine character. The two machines were identical models but still had slight differences. Laser no. 1 was better at etching the acrylic surface and left fewer residues. Laser no. 2 was better at cutting thicker materials, such as the MDF for the Beardy Press, and for some reason left less draft lines. I attribute these differences to the laser lens that focuses the beam.

There were also the unique noises each machine made. They each made the same "beep" when finished, but when operating they had different tones for different functions. These characteristics are lost on one-time users, but after spending over 40 hours with the machines their characteristics became familiar.

Conclusion

This study was mostly a success, as I feel I have proven that using the tools I had chosen, crafting a Book Beautiful was possible; but potential was where it stopped. The bureaucratic blow dealt had a debilitating effect, but nonetheless a lesson was learnt. Throughout this experience knowledge and skills have been acquired which showed the presence of a feedback loop. The crack of the press, the slight difference felt with different papers and the overall experiences are poetic qualities of the process that should not be overlooked. Crafting, like life, is always a journey and not a destination.

pamphlets, or magazines, unless bound up into book form. Nor have I counted the kind of junky books-old school text-books and so forth--that accumulate in the bottoms of cupboards. I have counted only those books which I have acquired voluntarily, or else would have acquired voluntarily, and which I intend to keep. In this category I find that I have 442 books, acquired in the following ways:

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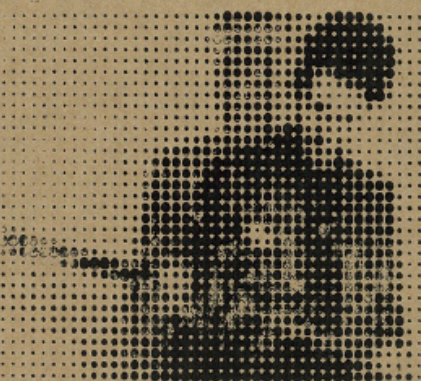
Findings

To ascertain whether the results were successful crafted objects, the criteria of Benjamin's aura has been turned into a quadrant, and the experiments and controls have been placed within the graph to attempt to determine success. The controls were *The Kelmscott Chaucer* and an eBook. Each item is placed somewhere on the two spectrums Benjamin identifies as uniqueness & duration vs. reiterability and transience.[31]

fig. 74

Quadrant showing level of aura within research projects

UNIQUENESS

● Kelmscott Chaucer

● Books vs Cigarettes

AURA

● The Random Book

DURATION

TRANSIENCE

NO AURA

● The Hunting of the Snark

eBook ●

REITERABILITY

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31 Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." Translated by J. A. Underwood. *In One-Way Street and Other Writings.* 228-59. London: Penguin, 2009: p.232

I deem based on these criteria that the studies of *Books v. Cigarettes* and *The Random Book* had sufficient auratic qualities for them to become Books Beautiful had the research been allowed to run its course.

The Hunting of the Snark, although its content was meaningful, lacked the qualities that would make it unique and durable. The choice of acrylic made the work feel transient and foreign.

Process Analysis

The process that was formed early on in the experiments proved to be the basis for the rest of the research. Of the five major steps undertaken there were two types of processes; *removed processes* and *critical processes*. The removed processes directly involved the machines, and regardless of how well acquainted I became with the machines they were always slightly removed from myself. Critical steps were where direct interaction existed with the senses, in particular the hand.

REMOVED PROCESSES

CAD   LASER   INKING   JIG SETUP   PRESS
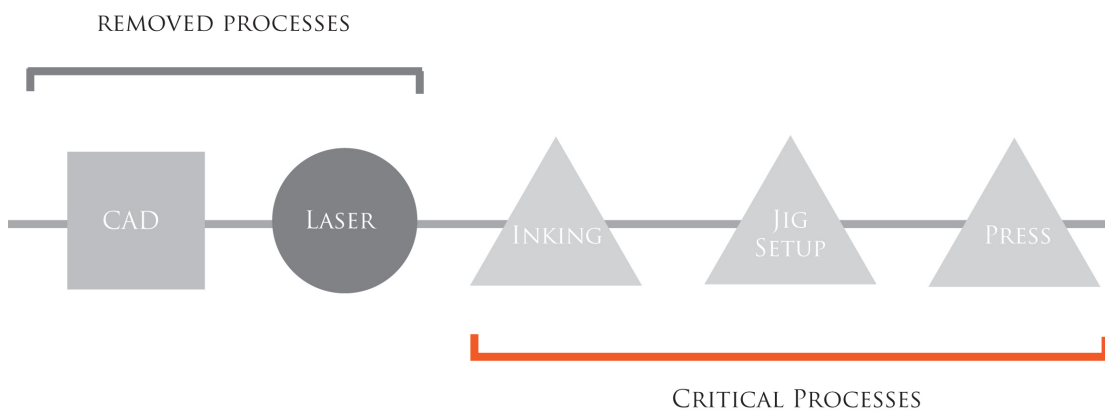
fig. 75
Diagram showing critical aspects of the printing process

CRITICAL PROCESSES

-171-

Conclusion

The research conducted both into the theory of craft and the craft process itself have returned results that I feel have a positive potential for the future of the Book Beautiful. In weighing up the different arguments I have demonstrated that craft is not restricted solely to the hand; although despite thinking that computers have a place in the future of craft I believe that to create crafted objects they must be used as part of a larger process where hands are involved, as opposed to simply manipulating digital files and sending them to a machine to create the finished product. As Nakashima declared in regards to digital tools "…A power plane can do in five minutes what might require a day or more by hand. In a creative craft, it becomes a question of responsibility, whether it is man or the machine that controls the work's progress."[32] The actuality of digital craft is a matter of how the machine is used, rather than the assumption that the machine automatically takes away control. As machines have become more powerful and versatile it has become easier for them to assume control and responsibility, and balancing this is the challenge aspiring digital craftspeople have today.

Ownership of the Tools

This is an element that took me by surprise; that the relationship between a craftsperson and their tools is sacred. Traditional craftspeople spend decades with a trusted tool and it becomes an extension of themselves. In part it becomes the means to create with pride. If there was no such relationship I believe the finished result would seem somewhat foreign. As I experienced with the laser cutter in my first experiments the results felt distant, but as I grew to know the machine it became familiar to me and thus simply another tool to attain my goals.

Machine Intimacy

This leads onto another subject: that of machine intimacy, where an operator through time and experience learns about the machine, regardless of complexity.

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32 Nakashima, George. "The Soul of a Tree." Chap. 31 In *The Craft Reader*, edited by Glenn Adamson. 219-25. Oxford, New York: Berg Publisher, 2010: p. 220

Given the combination of ownership of a laser cutter and enough time, I believe that there is another dimension to the concept of digital craft that could be explored. A machine is a device that we do not fully understand, yet if the craftsperson were to invest time into understanding the inner components and the machine's intricacies then it could become broken, as the learned craftsperson is thus able to make the machine exceed its manufactured capabilities and create results for which it was not intended.

Breaking the Machine

I believe that the statement of "breaking the machine", as vague and open as it is, is an important guideline for the pursuit for digital craft. It means taking the control from the machine for yourself, utilising the machines affordances and tweaking them to your own needs. We see a similar phenomenon happening with the maker movement where hacking of machines for unique purposes has become increasingly popular.[33]

By breaking the machine and removing the complete printing process I have added another human element, myself, into the mix. This is where the printed pages gained their aura from; my own imperfection that created a gap between the object and the void that it contains.

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33   Campbell, MacGregor. "Make Yourself at Home." New Scientist, 2012: p. 44-47.

IV

Conclusion

This research has spanned three areas concerning the Book Beautiful to place it into a contemporary context. Following the Book Beautiful from its crafted creation, to the examination of its inherent qualities and what makes it relevant, to its final destination of the collector, a picture of relevance begins to emerge. This relevance is that there are aspects of the book that cannot be digitised without the loss of an emotive human relationship. The relationship we have with objects is not necessarily rational, and the book facilitates a wide variety of emotional interactions. Digital technology is built upon logic but we are not. We suffer from romanticism, sentimentalism, nostalgia, beliefs and idealism. While books we collect allow us to visualise these traits, the Book Beautiful goes beyond this. The Book Beautiful is formed within the mind of a craftsperson, whose hands mold the book into being. The irregularities and consideration are what characterizes the Book Beautiful, and it is these imperfections that resonate with us. To be human is to be irregular as well as unique, and a book that embodies this we embrace as genuine, as opposed to the mass-printed books that are impeccably straight and bound perfectly. If books we collect are a reflection of ourselves, then a mass-printed book is an idealised reflection, whereas a Book Beautiful is honest in its reflection. In this digital age of perfection we need books to hold texts which remind us that we are human and imperfect, and that we are beautiful precisely because of that.

During my research into craft the statement 'breaking the machine' became embedded in my mind while working with the laser cutter. It is deceptively easy to allow the computer to navigate the process as the computer programs control the complicated background tasks which are beyond our comprehension. I found that it was easy to believe that I was in control when in reality I was only a witness. Malcolm McCullough's idea of an abstract digital craft is relevant in terms of the craftsmanship of manipulating the program, but the outputs are refined by the computer. By taking complete control of the process away from the machine the human element is given reign.

In a reinterpretation of John Ruskin's quote I stated that "You must either make a creature of the machine or a tool of it, you cannot make both". Besides a play on words this has serious connotations in that a machine, or rather a computer, has become creature-like and will think for itself within its programmed parameter. Therefore instead we must make a tool of the machine for digital craft to exist, and this can be done by breaking its control over the process. In the case of the

Book Beautiful this must be done to create a book that not only contains texts but also embodies them.

In my investigation into what a book is beyond bound paper I discovered that there are a series of complex processes that occur when we read. The reading of physical text has several fundamental differences in comparison to digital text. The physical embodiment of a text adds much to the reading process, and more to the anticipation of reading. A book affects how we interpret a text by its expectation horizon, and that expectation is influenced by the book's appearance. However, building an emotional relationship with a text requires physical presence as this facilitates permanence and trust; not so much in the content of the text, but trust that the physical book will remain, along with the emotions and ideas contained within.

These traits are not specifically possessed by regular books but in the Book Beautiful they are celebrated and engaged with. The impression left on the page of the Book Beautiful literally weaves meaning with material to create a text that is more real than mass-produced books. Its genuine nature exemplifies the traits of presence and trust. The impression left emanates a physical quality that can affect the reader's expectation of the text, but more than that the Book Beautiful retains meaning and memories. The Book Beautiful embodies everything that digital text does not; exemplifying why it is an important textual medium for the digital age. It allows an emotional connection between the reader and the text, calling for ownership.

The final destination of the Book Beautiful should be within somebody's collection. It needs to be owned for full appreciation of its qualities, as opposed to sitting in a public library. Ownership is indeed the closest relationship we can have to books; ownership is where emotional attachment takes place, creating the Book Irreplaceable. As seen within J.C. Beaglehole's collection the Book Irreplaceable embodies more than just information, embodying also meaning beyond the text. Although the path to irreplaceability can be attained either through chance or the qualities a books is produced with it is nonetheless an important relationship. The books that adorned Beaglehole's shelves forty-one years after his death still reflect his image in their cohesion. Books are bricks that we use to build a house of meaning for ourselves. The relationships we have with objects are extremely important in the digital age, as they are a part of us beyond our genetic makeup. We collect

books for many reasons, but their inherent relative permanence means that they can remain companions all our lives and still represent us beyond death.

The three areas that were researched within this thesis build an understanding of what the Book Beautiful is and what it means to us today. It is not a book of specific criteria, but rather an ideal of what a book should be. Digital craft can be used to create such books of intended beauty that will eventually find their way into somebody's shelf, closest to their emotions. It is a relationship we need when digital technology is creating a transient world around us. Beauty is the reason that Thomas James Cobden-Sanderson threw the Doves Type from Hammersmith bridge in London, and it is for beauty that I propose that digital technology be used to create.

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