Blind maps and blue dots: the blurring of the producer–user divide in the production of visual information

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2 Positioning

In this chapter I will try to gain an understanding of the transformations that graphic design has gone through in the digital age. I propose a 'model of technological thresholds', a sorted timeline of design tools, to better understand the ever-evolving transformation of the field. Building on experiences from my design practice and applying theories on graphic design and cartography, I will draw parallels between shifts happening in both the design of graphic information and in map-making that I believe to be fundamental. Using ideas from post-representational cartography, I will introduce the concept of the blind map to describe the blurring of the producer-user divide in the production of visual information. I will conclude the chapter by outlining methods and criteria for further research.

This chapter's title refers both to technologies that enable the identification of geographical locations, such as in the Global Positioning System, and to the general question of this research to determine my own position in various fields.

Graphic Design as Activity, Output and Field

The term design is used both as a verb to describe an activity and as a noun to define its output. Accompanied by an adjective it can also outline a field: industrial design, for instance.

Designers tend to give very open definitions of the output of their activities. 'Design' is usually understood as the output, any output according to some, of the designer.[1] British graphic designer and author Richard Hollis states that 'not only is the activity called design, but design is the outcome and the expression of what a designer does'.[2] At the Design Academy Eindhoven, the school where I teach, 'a' design is regarded as any work created by a designer: a strategy, a system, a book, an installation, a film, clothing, a fabric, a machine and more.[3]

As a designer, I find these definitions of design both too limited and too open. To me, design is not a field restricted to those with a specific training or specialized professional practice, in other words, design is not the exclusive domain of designers. The democratization of design tools in the digital age has opened up the field to virtually anyone and resulted in designers no longer being the sole creators, editors and producers of design. At the same time, I think there are certain limitations to what design can do.

Design is not one of the so-called autonomous arts. Traditionally, the impetus for a design comes from an outside source. And although nowadays we may consider design more broadly to also initiate a design process and speculating without a direct question or commission, it remains the case that design responds to changes in production technologies, economic conditions and insights about concrete use or application. Design will therefore never be completely autonomous.

In this research project I will concentrate on graphic design, a field that focuses on the editing and production of visual information that is multiplied by reproduction methods. Information here is understood as transformed, edited or organized data. Data are things known or assumed as fact that do not have a built-in visual form, like a text, list or database. Once given form—shape, colour, typeface, size, composition—this data can become information. I regard knowledge as the understanding and interpretation of information through experience or education.

1 In this dissertation I will use the pronoun 'she' to designate graphic designers to express that graphic design has a diversity of practitioners. This is something I see in my working environment: the majority of design students I teach are female, and so are most of the collaborators in my studio. More importantly, I want to recognize the gender imbalance in the descriptions and historiographies of graphic design. This is an insight that I obtained from reading Catherine De Smet's article 'Pussy Galore and Buddha of the Future: Women, Graphic Design, etc.'

2 Hollis, 'Have you ever really looked at this poster?', 73.

3 Knowledge Circle Design Academy Eindhoven, 'Lexicon of Design Research', definition of 'design', accessed 5 October 2018, http://www.lexiconofdesignresearch.com/lexicon/texts/design.

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Quantitative research has been carried out into recent historical descriptions of graphic design. To this end, descriptions have been selected that describe a general global history, and not a particular area or period. For practical reasons, English-language books were chosen. This resulted in a selection of five books on the history of graphic design that not only differ in terms of the definition or approach of the field, but also in terms of the format and size of the book as shown by these scans of the book's bottoms. They are: Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013 (1); Eskilson, *Graphic Design: A History*, 2nd edition, 2012 (2); Hollis, *Graphic Design. A Concise History*, 2001 (3); Jubert, *Typography and Graphic Design: From Antiquity to the Present*, 2006 (4); Meggs & Purvis, *Meggs' History of Graphic Design*, 5th edition, 2012 (5).

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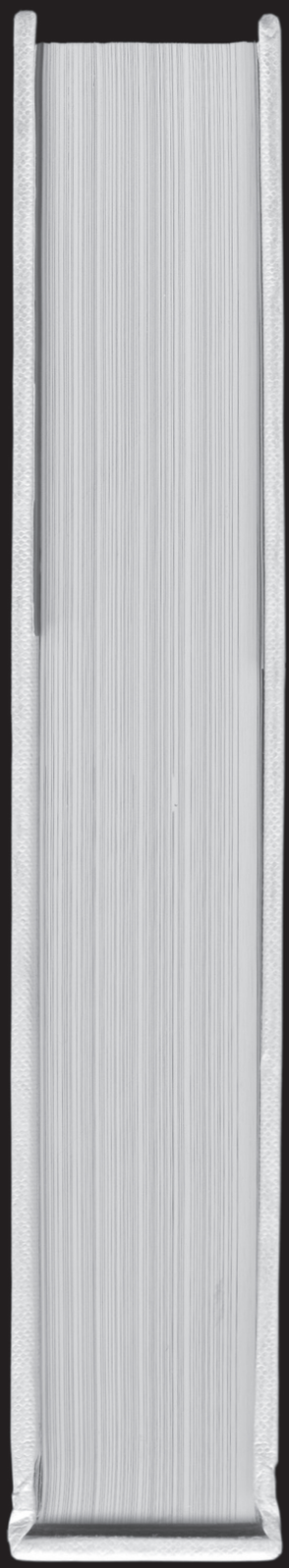

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Using typography, illustration and layout, graphic designers create, edit and combine symbols, images and text to visually represent ideas and messages.

Recent attempts at new names for and definitions of activities of designers include relational design and critical design.[4] They appear to be based on the assumption that terms like industrial design and graphic design are too limited and merely indicate a simple service-oriented industry. British/Australian graphic designer, educator and author James Goggin argues that designers, design critics and historians should broaden their perception of what exactly graphic design encompasses, and that they should be aware of the unique position it occupies between reading, writing, editing and distribution.[5] As a discipline it is nuanced and expansive enough in its everyday activities and processes to make renaming unnecessary, according to Goggin.

Goggin's argument is valid, in my opinion. The term graphic design is appropriate for the activities it covers. The term graphic design is appealing because it refers to the industrial production of visual information. I would find it problematic if the term design were to suggest a certain exclusivity in terms of training or professional status. If design is what designers do, than this does not automatically imply it can only be done by those with a specific education or specialized practice.

The origins of graphic design date back to the nineteenth century. A proto-version of the profession emerged as part of the activities of printing and publishing houses. With the invention of colour lithography, illustration and text drawn by hand could be joined on the same printing surface. This innovation gave a boost to the artistic and technological development of colour lithograph posters, printed separately for each colour and in multiple editions, which were simultaneously distributed throughout the urban environment.[6] The producers of these posters identified themselves as commercial artists or graphic artists, who were responsible for each element in a design intended for reproduction by machine. They were practicing what was later recognized as graphic design.[7] A further evolution of the field came with the development of black-and-white photography. Flashbulbs, faster film emulsions and lenses made photography the dominant pictorial technique, replacing drawn and painted illustrations.[8]

In Europe, commercial artists were joined by avant-garde artists who regarded graphic design as a means of extending art into modern life. These 'artist-designers' or 'painter-graphic designers', as they called themselves, exploited photography and exposed new meanings by juxtaposing images. At the same time they subverted it, destroying and reassembling its images through montage, which was to become a new expressive and critical device. Informed by the ideas and works of futurism and its disdain for tradition, the artists of the Dada movement—anti-establishment, anti-military, anti-art—continued the revolution in the use of words and images, as they mixed all kinds of letterforms and printers' ornaments in typographic compositions.[9] The developments from expressionism to functionalism, and from handicraft to design for machine production, mark the end of the process of specialization and emancipation of graphic design. In my view this is the beginning of graphic design: when it describes both a specialized activity, distinct from production and a field of autonomous professionals constituting a network.[10]

From the early days of graphic design until the digital age, the position of the graphic designer in the information chain, and the successive steps in the process of creation, production, dissemination as well as the use of graphic information have basically remained the same. The graphic designer was a specialist who edited visual information and prepared it for reproduction. The advent of the computer and design software fundamentally changed the position of the designers and users of graphical information.

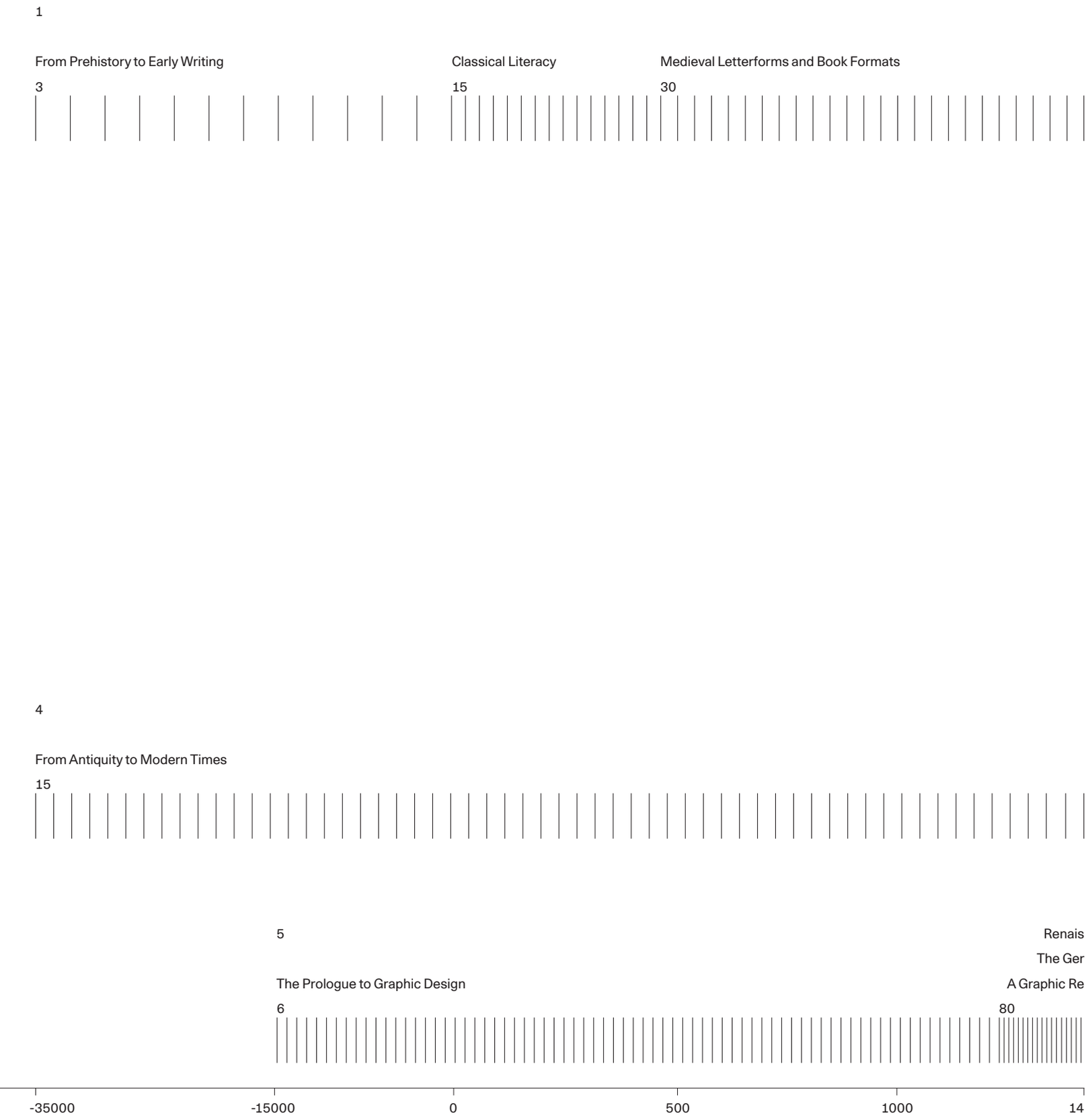
Hollis has described the history of graphic design as the history of the designer taking control of the craftsman's process.[11] That trend culminated in the introduction of the Apple Macintosh Computer (1984) and desktop publishing. The industrial production of graphic information had established a series of specialist activities like layout, typesetting, lettering and colour separation. The desktop publishing revolution brought these activities into the practice of graphic design, discarding many production jobs in the process. As it did with other professions in the information chain, the computer as a tool changed the practice of graphic designers, adding production tasks to their conceptual responsibilities. On the one hand this gave them more control than ever before, but at the same time it increased the workload considerably, as they now had to do more and different kinds of work. American graphic designer, curator and author Ellen Lupton, referencing Walter Benjamin's 1934 text 'The Author as Producer', has described this shift in practices as the 'designer as producer'.[12]

Walter Benjamin claimed that the borders between writing and reading, authoring and editing were dissolving in new forms of communication like film, radio and the illustrated press. To bridge this divide is a revolutionary act: 'The barriers imposed by specialization must be breached jointly by the productive that they were set up to divide.'[13] Benjamin condemned the model of the writer as an expert who only creates texts and is not aware of the physical life of the work. Instead, Benjamin proposed the model of the producer who questions where a work will be read, by whom, what other information will surround it, and how it will be manufactured. All with the goal of turning users 'into producers—that is, readers or spectators into collaborators'.[14]

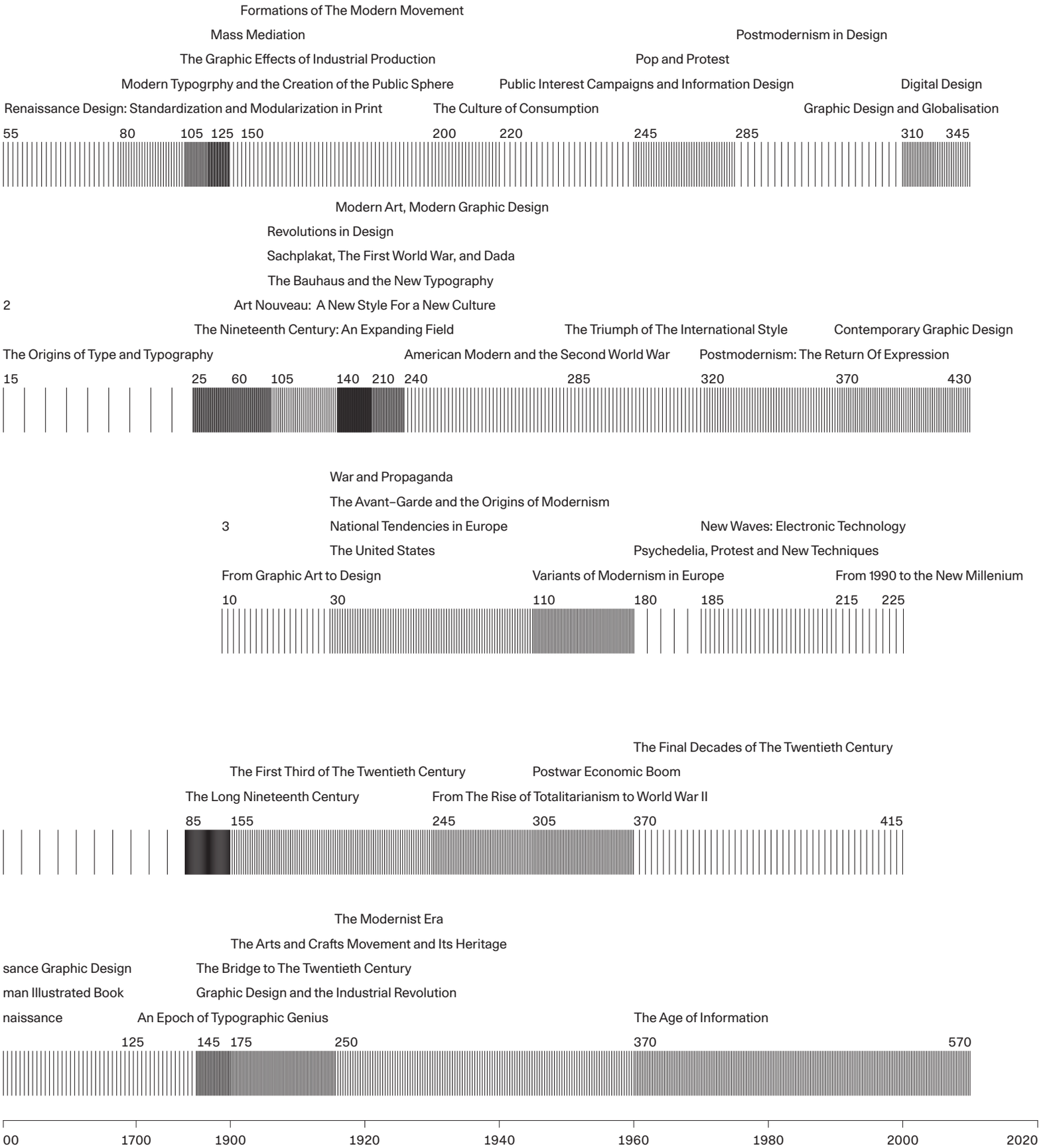
Lupton's 1998 text 'The Designer as Producer' was a response to the idea of the 'designer as author' that emerged in discussions about graphic design in the 1990s. The recognition that information is not neutral and that its presentation shapes how the user perceives content made designers into more than the functional service providers modernism thought them to be. In the context of the rise of star architects like Rem Koolhaas and star designers like Philippe Starck, the graphic designer's wish for recognition might be understandable. However, the concept of the author is a problematic one, following the critical writings about the author as authority figure by Barthes,[15] Foucault[16] and others. According to British author, lecturer and curator Rick Poynor 'the very notion of an "author" as a validating source of authority for a cultural work is outdated, backward-looking and reactionary'.[17] American graphic designer Michael Rock concludes, in the 1996 text 'The Designer as Author', that, except for a very few examples, the authorship model is not adequate as a way of thinking about design. He suggests three

4 The term 'critical design' was first used by British designer Anthony Dunne of design studio Dunne & Raby in his book *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design* to describe a kind of design that is initiating and speculating without a commission but rather creates scenarios, raising 'what if' questions about the future and critiquing of contemporary societal issues.
5 Goggin, 'Practice from Everyday Life: Defining Graphic Design's Expansive Scope by its Quotidian Activities', 55.
6 Boekraad, 'Graphic Design as Visual Rhetoric. Principles for Design Education', 7.
7 Hollis, *Graphic Design. A Concise History*, 16.
8 Ibid., 38.
9 Ibid., 52.
10 This reading of the origins of graphic design is not uncontested. The debate of the history of graphic design can be found in the collected articles in De Bondt and De Smet, *Graphic Design: History in the Writing (1983–2011)*. A comparison of five books on the history of graphic design makes clear that there is no consensus about the start of the field (Drucker and McVarish, *Graphic Design History: A Critical Guide*; Eskilson, *Graphic Design: A History*; Hollis, *Graphic Design. A Concise History*; Jubert, *Typography and Graphic Design: From Antiquity to the Present*; Meggs and Purvis, *Meggs' History of Graphic Design*). Depending on whether the emphasis is on graphic communication, on the graphic object or on the graphic designer the start of the field varies from prehistory until the early twentieth century.
11 Hollis, 'Have You Ever Really Looked at This Poster?', 73.
12 Lupton, 'The Designer as Producer', 13.
13 Benjamin, 'The Author as Producer', 87.
14 Ibid., 89.
15 Barthes, 'The Death of the Author', 142.
16 Foucault, 'What is an Author?', 13.
17 Poynor, *No More Rules. Graphic Design and Postmodernism*, 118.

Graphic Design Histories: Comparison



This timeline compares the five selected graphic design histories. The pages of the books are plotted on a timeline in the form of dashes. Each line represents a page. More extensively discussed periods have more dashes. The pages of chapters are evenly distributed on the timeline for the period that is addressed in the chapter. The comparison shows that there is no consensus among the different historiographies about the beginning of the field. Also, each description emphasizes different periods.



1 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013
2 Eskilson, *Graphic Design: A History*, 2nd edition, 2012
3 Hollis, *Graphic Design. A Concise History*, 2001
4 Jubert, *Typography and Graphic Design: From Antiquity to the Present*, 2006
5 Meggs & Purvis, *Meggs' History of Graphic Design*, 5th edition, 2012

alternative models to describe the processes usually involved in design activity: the designer as translator, the designer as performer, and the designer as director.[18] It is revealing that in doing so, analogies with other types of expertise are still needed to describe the specific activities of the graphic designer. Some ten years later, Rock revisits his ideas in the text 'Fuck Content'.[19] He argues that the idea of the designer as author grew out of a valuing of origination over manipulation of content. This stems from the false dichotomy between form and content and the wrong idea that form without content is just an empty shell. Rock states that design is 'a kind of text itself, as complex and referential as any traditional form of content'. Design is not 'what it is about, it's how it is about', its content is 'perpetually, Design itself'.[20]

Lupton's reference to Benjamin broadens the scope beyond creation and production to include use. In 'The Artist as Producer', Benjamin's aim was to turn 'readers or spectators into collaborators'.[21] Lupton states that digital technologies have created opportunities for designers to intellectually and economically take control of the means of production and to share this control with users, 'empowering them to become producers as well as consumers of meaning'.[22]

American graphic designer, author and curator Andrew Blauvelt has argued that open access to computers and design software exposed the mysterious and invisible processes in creating graphic design.[23] It demystified the field, raised awareness about design and generated a broader interest that would produce more designers. This successively resulted in growing competition, lower salaries, an overwhelming amount of amateur work and an erosion of craft.[24] To Blauvelt, the computer recast the practice of graphic design as a set of digital tools. With the entry requirements for a practice consisting of a computer and software, the professional-amateur division is no longer applicable. To become a professional graphic designer means becoming good at using the tools and making a living of it.[25]

I will look closer at two texts and a lecture by Blauvelt in which he describes the transformation of graphic design in the past decades, proposes a model to describe this shift and suggests a way for graphic design to 'save itself'.[26]

In his 2003 text 'Towards Critical Autonomy, or Can Graphic Design Save Itself?',[27] Blauvelt describes the state of pluralism of the graphic design field in the early 2000s.[28] Following the desktop publishing and personal computing revolution of the 1980s, graphic design lacked coherence and had become so dispersed that it resembled a 'vast formless body'.[29] The field had expanded beyond its roots in print and had also diversified following a period of intense formal experimentation in the 1990s. These experiments questioned the predominant assumptions of the time, mainly those of modernism. Initially rooted in critical reflection, soon the motivation of the trials and exercises seemed to be aimed at promoting individual expression as an end in itself. A proliferation of design styles followed. These may have looked experimental—disregarding functionality, irrationally organized, deliberately chaotic and illegible—but in essence were not, because the experimentation, according to Blauvelt, was chiefly aimed at self-promotion and lacked a critical foundation. Blauvelt suggests that design may be able to save itself from this 'malaise' of disciplinary formlessness by reclaiming a sense of critical autonomy. Autonomy not in the sense of withdrawal from the social,

but as a discipline that is capable of generating substance out of its own means and processes without commissions, functions, specific materials or production methods.[30]

I wrote earlier that I do not consider design to be one of the autonomous arts. However, I agree with Blauvelt's statement about critical autonomy. Crucial to me is his notion of being able to generate significance out of the means and processes of graphic design itself. A designer can be autonomous in the sense that she can act independently of commissions, functions or production technologies, but a designer cannot act independently from design itself. To me, critical autonomy in design ceases to work when it is completely detached from a discipline and disciplinarity.

The critical autonomous practices contemplated in the 2003 text were the subject of the 2011 exhibition *Graphic Design: Now in Production* that Blauvelt co-curated with the aforementioned Ellen Lupton. First on display in the Walker Art Center in Minneapolis, USA, the show provided an overview of projects by graphic design practices from around the globe since 2000.

Blauvelt contributed the text 'Tool (Or, Post-Production for the Graphic Designer)' to the accompanying catalogue.[31] In this text Blauvelt introduces a model of the transformation of graphic design consisting of three realms: preproduction—production—postproduction.

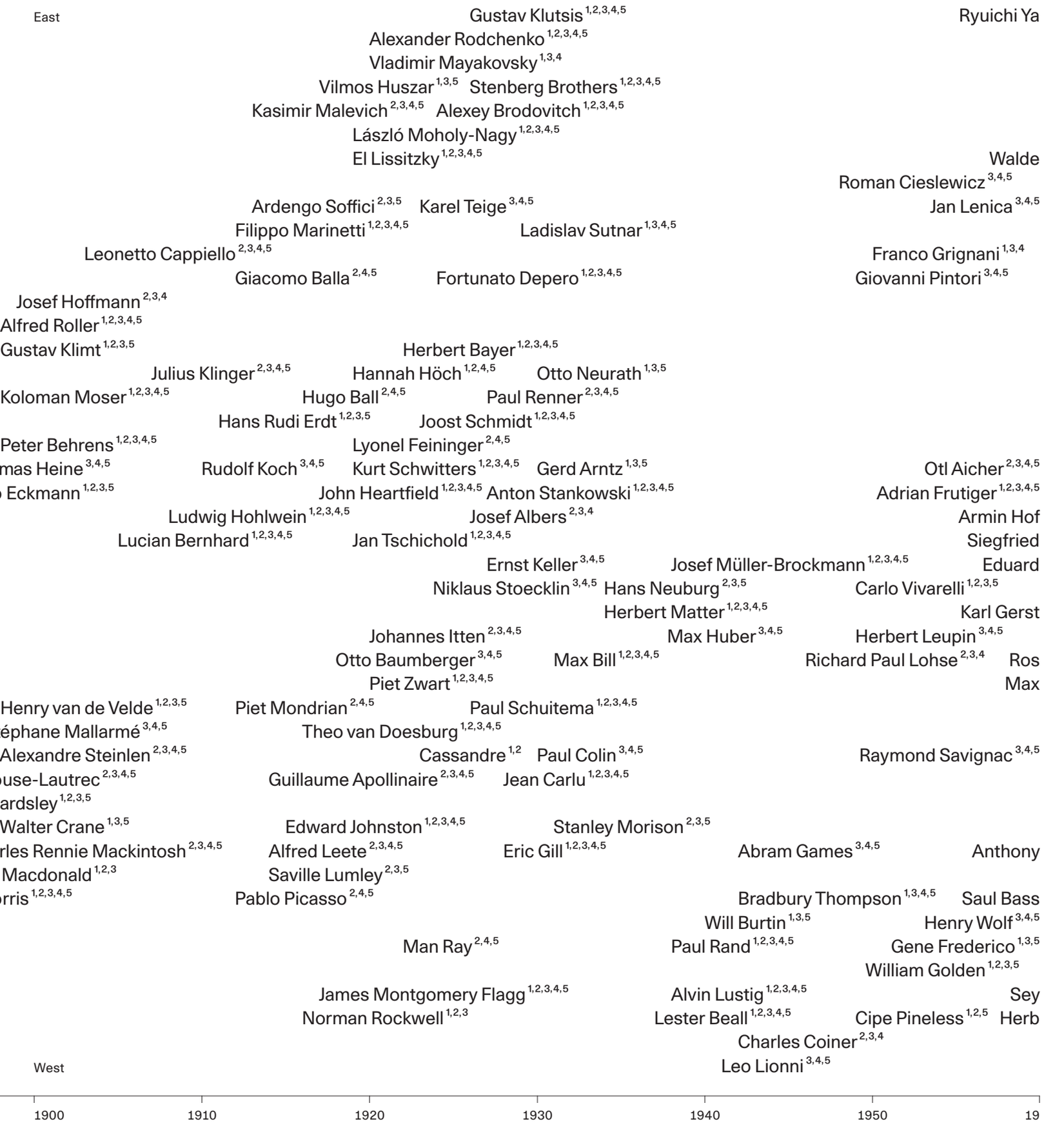
Preproduction describes the activities of the graphic designer prior to the introduction of the computer and of design software. To design was to make a plan and prepare instructions for others to manufacture the graphic product.

In the realm of production, with the computer and with layout and design software to create, produce and distribute visual information, the designer assumed increased responsibilities. The designer-as-producer had more control over the production process than ever before, but also more work to do. The practice of graphic design was reshaped into a set of digital tools that were accessible for everyone with a computer.

In the realm of postproduction, graphic designers are orchestrators of tools, systems and/or formats. In these new practices, enabled by Web 2.0 technologies, the distinction between designer and user and between production and consumption is blurred. Labour is dispersed and creation is interdependent of co-creating users.[32] Whereas design in the sphere of production still carried overtones of authorship, originality and singularity, in the realm of postproduction, design represents co-authorship, reference and collectivity.[33]

In his 2013 lecture at *counter/point: The 2013 D-Crit conference,* titled 'Graphic Design: Discipline, Medium, Practice, Tool, or Other?', Blauvelt looks back at both of the aforementioned texts as well as at the exhibition *Graphic Design: Now in Production*.[34] Summarizing, Blauvelt states that similar to how the tools and practices of graphic design have become appropriated and dispersed, the graphic designer herself has appropriated the roles of others and annexed various systems of production. The focus of the 2011 exhibition *Graphic Design: Now in Production* was not the expansion of the various formats that graphic design might take, but the appropriation and blurring of the boundaries between the different practices the graphic designer engages with. Blauvelt describes these new practices as the designer as author, as editor, as publisher, as producer, as entrepreneur, as

18 Rock, 'The Designer as Author'.
19 Rock, 'Fuck Content'.
20 Ibid., 15.
21 Walter Benjamin, 'The Author as Producer', 89.
22 Lupton, 'The Designer as Producer', 13.
23 Blauvelt, 'Graphic Design: Discipline, Medium, Practice, Tool, or other?'.
24 Blauvelt, 'Tool (Or, Post-production for the Graphic Designer', 23.
25 Blauvelt, 'Graphic Design: Discipline, Medium, Practice, Tool, or Other?'.
26 Blauvelt, 'Towards Critical Autonomy or Can Graphic Design Save Itself?', 8.
27 Originally published in *Emigre*, no. 64 (2003). Initially a quarterly, *Emigre* was an influential graphic design magazine published in San Francisco, United States, from 1984 to 2005.
28 Blauvelt, 'Towards Critical Autonomy or Can Graphic Design Save Itself?'.
29 Ibid., 9.
30 Ibid., 10.
31 Blauvelt, 'Tool (Or, Post-Production for the Graphic Designer'.
32 Ibid., 28.
33 Ibid., 26.
34 Blauvelt, 'Graphic Design: Discipline, Medium, Practice, Tool, or Other?'.



This chronological overview lists the names of graphic designers whose work is depicted in the five selected graphic design histories. Only designers who appear in at least three of the historical descriptions are included. The superscript number behind the name of a designer indicates which books of the selection of histories work is depicted. The year of the depicted work was leading for the placement on the timeline. An average was chosen for designers with work included from several years. The vertical placement of the names is based on the designer's location, organized from east to west, from Asia via Europe to North and South America. A remarkably small number of graphic designers in this overview is female.

1 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013
2 Eskilson, *Graphic Design: A History*, 2nd edition, 2012
3 Hollis, *Graphic Design. A Concise History*, 2001
4 Jubert, *Typography and Graphic Design: From Antiquity to the Present*, 2006
5 Meggs & Purvis, *Meggs' History of Graphic Design*, 5th edition, 2012

programmer, as archivist, as visual journalist, as tool maker, as curator, as storyteller, as educator, as artist, as researcher and as enabler.[35] To Blauvelt these practices are models of an expanded notion of graphic design that might be a way to save the field.

Friendly Fire

In my view, Blauvelt's description of graphic design in the digital age is of the graphic designer as hit by friendly fire. Friendly fire is a military term used for an accidental attack by a force on its own army or allied troops. The specialist tools that gave the graphic designer increased control and power in the digital age subsequently threaten to make her obsolete.

Blauvelt's analysis of the transformation of the field of graphic design focuses exclusively on the graphic designer. This focus is too limited. The works included in *Graphic Design: Now in Production* are predominantly made by people who were trained to be, or working as, specialized professional graphic designers, rather than the amateurs and practitioners from other disciplines who, with no prior knowledge of the field, use the tools to create, edit, produce and distribute visual information.

Even if a description of graphic design is centred on the activities and output of the designer, it is difficult to maintain that she is a singular force in the design process. Design is a collaborative activity in which the person who gives the assignment and those who produce the work play a crucial role in shaping the output. And can design be fully understood if the role of the user is not considered? Even the tools of the designer have an inevitable impact on the process: the computer and design software have incorporated specialist design and production tasks that were previously undertaken by other production specialists and designers. It is important that a model that describes the phenomenon graphic design offers room to all of these aspects.

Whereas most analyses of the nature of graphic design seem to end in the digital age,[36] Blauvelt offers a conceptual model that goes one step further. But does his model work? The preproduction—production—postproduction model is elegant in its simplicity and symmetry, but it is almost too neat. The scheme suggests that graphic design is developed in consecutive stages, but the realms of production and postproduction actually run parallel to each other. It is even questionable if postproduction should be given such a prominent place in the model as it only covers a small, albeit growing, number of practices. In addition, the prepositions 'pre' and 'post' of the three-stage scheme suggest it is complete. Blauvelt's categories do not leave room for imagining additional phases before or after.

What I do find interesting about the realms of production and postproduction, however, is that they are centred on complementary, but essentially distinct, sets of digital technologies. Production originates in the digitization of tools. Different tasks and tools are combined into one supertool, the computer and design software. Postproduction, on the other hand, builds on the dispersion, sharing and exchange of information via the Internet and more specifically Web 2.0 technologies. The

impact of these sets of technologies on the field of graphic design is distinctly different. Digitization impacted first and foremost the tools of the designer, the tasks she had to do, and her role in the information chain. Dispersion, on the other hand, deals with (speed and expanse of) distribution of information and with interaction and exchange with others. Although different in nature, both sets of technologies reinforce each other.

I propose an alternative model to describe the transformation of graphic design: a timeline of technological thresholds. Building on Blauvelt's analysis, my model is not a textual description but a graphic representation of a period of time on which technologies are included for creating, recording, editing, producing, distributing and accessing visual information. I distinguish three sets of technologies: mechanization, digitization and dissemination. The latter two are described above. Mechanization refers to the technologies of the industrial production of graphic information that enabled the graphic designer to emerge as specialist in the production of graphical information.

The technologies in the model are collected from two books that describe the field of graphic design. They are the aforementioned catalogue *Graphic Design: Now in Production*[37] (2011) and *Graphic Design History: A Critical Guide*[38] (2013). The latter book was selected for its 'tools of the trade' lists, overviews of tools employed by designers, as well as technologies used for reproduction, even if not directly by a designer.[39] I supplemented the tools, machines and software thus acquired with technologies of more recent date, appearing after the publication of both books, and selected following additional research and discussions in my studio.

The timeline itself is limited to the period 1900–2020. The starting date is related to what I see as the beginning of graphic design in the 1910s and 1920s, when it relates to both a specialized activity, distinct from production and a field of autonomous professionals constituting a network. In the timeline, the technologies are organized by date of introduction and thus not necessarily the moment they were most intensively used. The sets of technologies form three thresholds or boundaries between different spheres.

Although a timeline is a temporal structure, I read the model spatially. To me, it creates a series of consecutive conditions for different kinds of practices and formats of production and use of graphic information, each with its own levels of accessibility in terms of economics or required specialist knowledge. Nowadays, designer's practices are fluid, they move between different technological spaces, occasionally opting to produce by using predigital or even preindustrial technologies, while at other stages of a project choosing for Internet-based distribution formats. The model also allows the situating of different types of use and users: from more passive types of use to participatory forms enabled by Web 2.0 technologies, to formats of use in which the distinction between producers and users ceases to exist.

The space between, and the angles of, the different thresholds in the model, indicate the speed and scale of the transformation of graphic design. The line formed by technologies involving mechanization has a gradual angle. The other two thresholds, those of digitization and dissemination, are much steeper. This signifies that technologies involving computers and the Internet were introduced

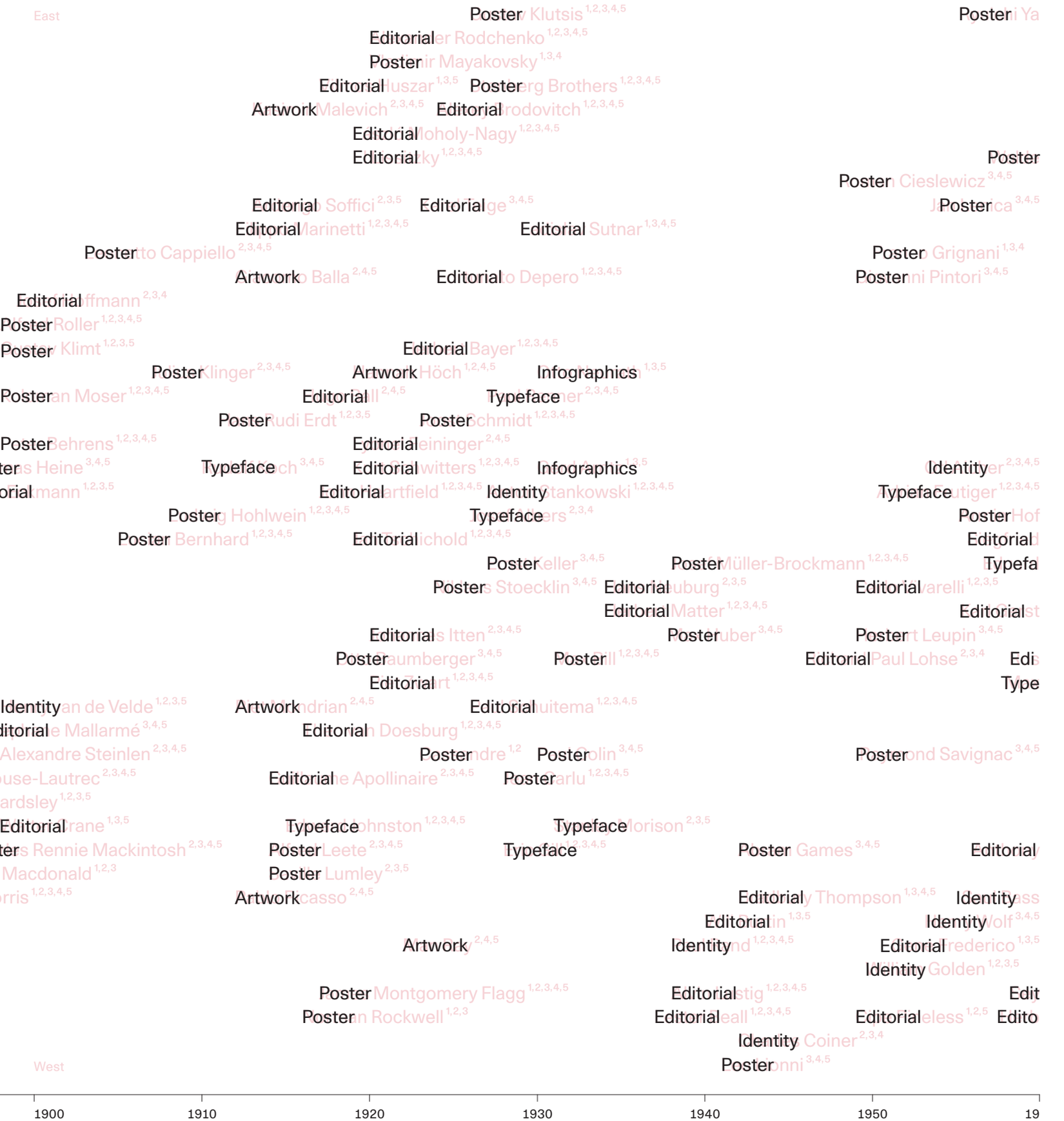
35 Ibid.

36 The final chapter of Meggs and Purvis, *Meggs' History of Graphic Design,* published one year after Lupton and Blauvelt's *Graphic Design: Now in Production*, is titled 'The Digital Revolution—and Beyond,' but what that beyond might be does not become clear. Meggs and Purvis see digital technologies as another set of tools, not as a new model of creation, production and use that is transforming the roles of those involved in the information chain, which is how I see it. Tellingly, the last two paragraphs of the book's epilogue on page 572 read: 'As so often in the past, the tools of design are changing with the advance of technology. The essence of graphic design however, remains unchanged. That essence is to give order to information, form to ideas, and expression and feeling to artifacts that document human experience. The new generation of graphic designers must take it upon themselves to define new aesthetics in electronic media and not allow the technology to define them. In doing so, they can lead the way to new and more effective approaches to their field.'

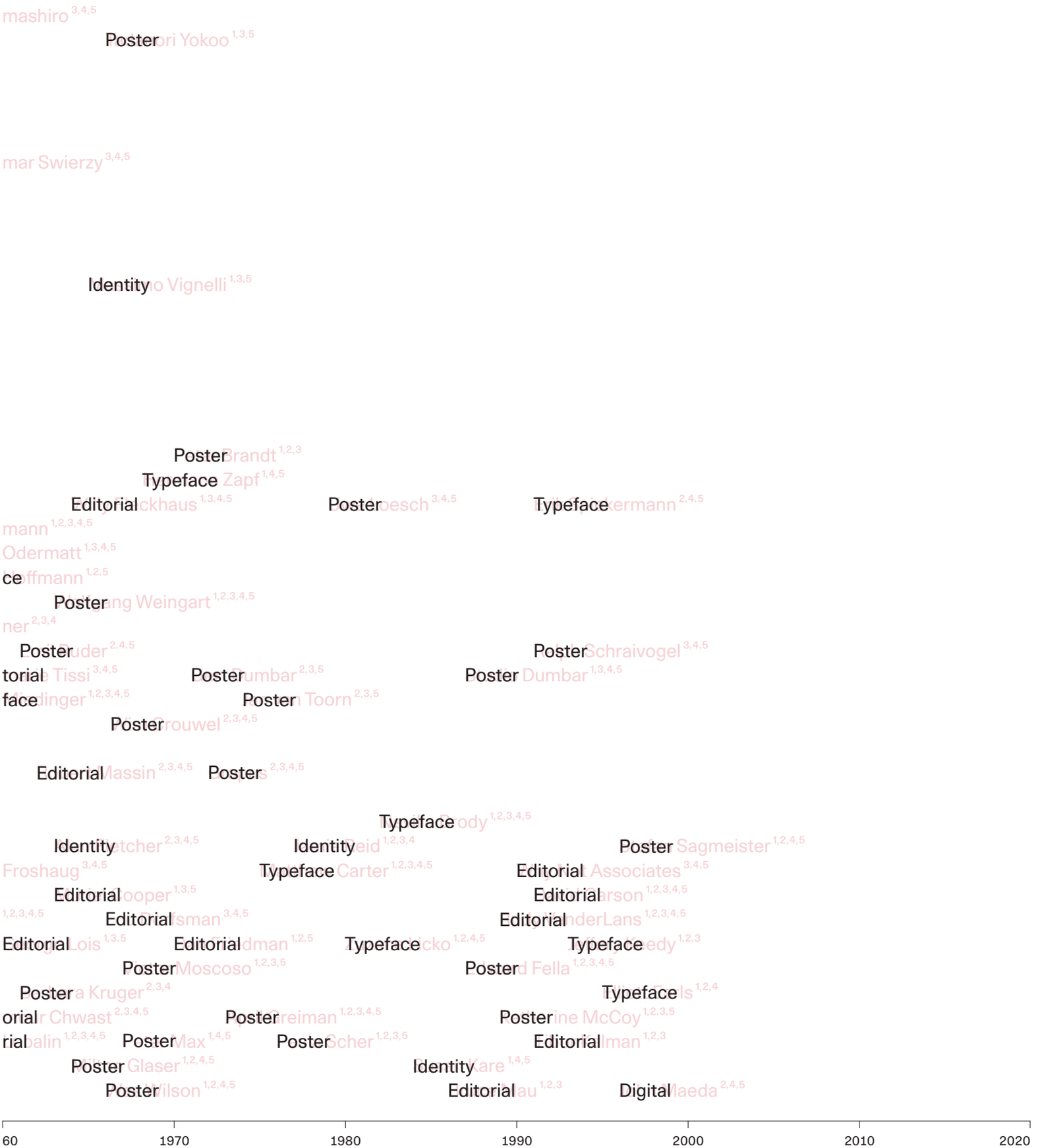
37 Blauvelt and Lupton,, *Graphic Design: Now in Production*.

38 Drucker and McVarish, *Graphic Design History: A Critical Guide*.

39 Ibid., xi.



This overview shows the type of graphic design object with which the most frequently depicted designers (see 2.3) have been included in the five selected graphic design histories. These objects together show what the output of graphic design is according to the selected graphic design histories.



1 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013
2 Eskilson, *Graphic Design: A History*, 2nd edition, 2012
3 Hollis, *Graphic Design. A Concise History*, 2001
4 Jubert, *Typography and Graphic Design: From Antiquity to the Present*, 2006
5 Meggs & Purvis, *Meggs' History of Graphic Design*, 5th edition, 2012

in a shorter time and at a larger scale. Even more significant is the space between the thresholds. The lines of mechanization and digitization are much more spaced out than those between digitization and dissemination; to me this indicates that they succeeded each other more rapidly.

The practices that will be the subject of the three case studies in this dissertation will be mainly situated in the sphere on the right of the dissemination threshold. My own practice is predominantly positioned between the thresholds of digitization and dissemination. Between the technologies that gave me access to the field, and those that have opened it up even further to the point that it ceases to be a specialist activity.

User, Editor, Designer

I have a graphic design practice but I was never trained as a graphic designer. I studied architectural design in the early 1990s. It was the time when the computer became the universal tool for many creative fields. Formats from one design domain became accessible to designers from other fields.

In my case, I took a bit of a detour from architectural to graphic design. In the final year of my studies I became fascinated by interactive media: the opportunities to include animation, photography and sound, the directness of screen-based production, 'what you see is what you get', and the possibilities that interactivity offered beyond a single linear narrative. In one of my graduation projects I used this new technology to explore novel ways of presenting architectural ideas. For a few years after my graduation I had two practices, one focused on what I was trained to do, architectural design, and one aimed at the representation of architecture and urbanism through interactive media.

With the computer as universal tool it is difficult to link a producer to a discipline based on her output alone. That might explain why one day I was approached to do the graphic design of a book by a team of urban designers who were familiar with my interactive media projects. I enjoyed making the book so much that I decided to shift the focus of my practices towards book design at first, later expanding it to other aspects of graphic design. While making the book, I became aware that I was designing something that I actually knew as a user, something I had never noticed while working on screen-based projects. I liked designing interactive media a lot, but never actually sat down after work and put on a CD-ROM to explore it. The making of the book exposed me as a non-user of interactive media; it felt hypocritical to continue working on these kinds of projects. I have been, since an early age, an avid reader, lover and collector of books. So when I started designing books I brought with me an understanding of the typology.

Andrew Blauvelt argues that the graphic design discipline controls the production of knowledge by defining its own languages, such as technical jargon.[40] I agree with Blauvelt that the language of a field can function as a kind of disciplinary gatekeeping. I experienced this first-hand in the transition from one domain to another. In the daily routine of my practice I noticed it in discussions with publishers and printers, but also when I was studying to learn more about the field by reading texts or listening to lectures. Over time I became familiar with the vocabulary of the field, but in those early 'unlettered' days I relied on my understanding of graphic

formats like certain book types and architectural drawings. My design practice was built on the tacit knowledge of typologies I had developed as a user, a sense of disciplinarity followed later.

Building further on Blauvelt's notion of the control of knowledge by a field, I think that an expanded notion of graphic design will need to address the terminology used to describe it. In the introduction I already raised this issue. In this dissertation I have chosen the strategy of using two different 'languages', a textual and a visual one, presented in parallel, to both question the singular representation of research through text alone, as well as to open up the research by offering alternatives that might be more accessible to some readers.

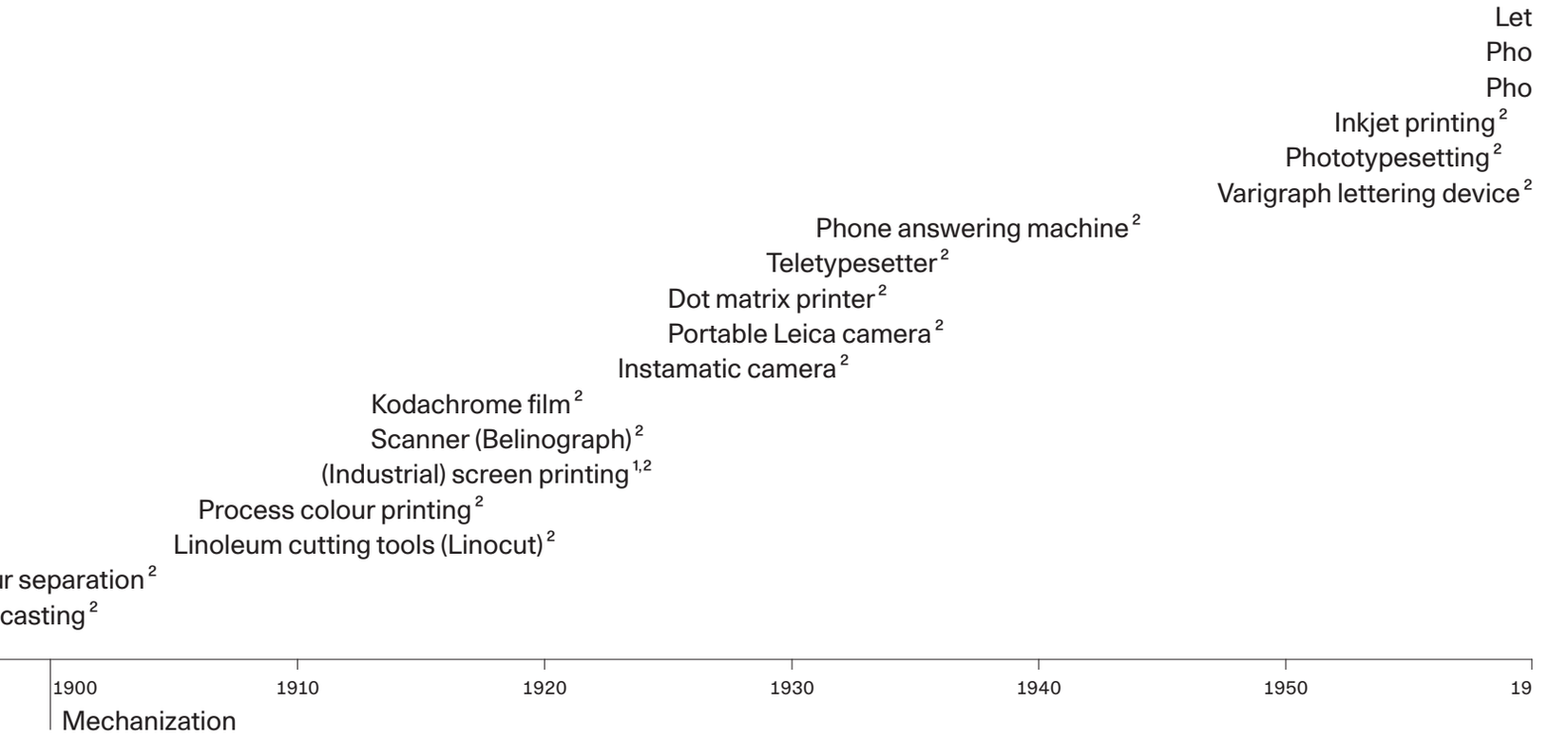
When I first started working in the field of graphic design, out of a lack of confidence I opted for a description of my activities rather than a disciplinary label: 'I make books' or 'I design books', but not 'I am a graphic designer'. For me, the transition to calling myself a designer was the result of recognition I received from the field. As soon as my projects were selected in competitions, were exhibited and published, I dared calling myself a graphic designer. Names that describe someone's position function as a form of gatekeeping. In this way language and titles limit a full understanding of the transformations of a field, as it prevents seeing the full spectrum of what is being made and who is making it. In this dissertation I will use the terms 'editor of graphic information' and 'graphic designer' without attaching a hierarchical distinction to them. I will use 'designer' as a general label for practitioners of the field and those who name themselves as such. In other cases I will use 'editor'.

In my work, the educational background in a discipline other than graphic design became apparent in how I processed certain kinds of content, such as architectural drawings and maps. To me these are not fixed visual sources, but documents that need to be edited to enhance their representation. Both technically, in terms of optimizing the reproduction in print or on the screen, and editorially, in terms of improving the communication of the intentions of the author of an architectural drawing or map. In other words, I redesign the map or drawing: I adjust line weights, colours, crop and scale. In some cases I reconsider the elements it consists of: making some parts less important, or taking them out altogether, while emphasizing other elements, sometimes adding data, if I think it is necessary for its understanding.

Here it is important to once more stress the impact of digital technology on the production of visual information. Above I describe the editing and redesigning of maps. Until the digital age it was not possible to do this so easily. Take, for instance, the *World Geo-Graphic Atlas*, published by the Container Corporation of America in 1953 and designed and edited by former Bauhaus tutor Austrian-born American graphic designer Herbert Bayer (1900–1985), listed in many anthologies of graphic design as a design classic.[41] For five years Bayer and his collaborators worked on this book, exploring new cartographic projection types like Richard Buckminster Fuller's Dymaxion map, and the visual statistic picture language Isotype by Otto Neurath, Marie Neurath and Gerd Arntz.[42] Yet the majority of the maps in the *World Geo-Graphic Atlas* are existing plans sourced from other atlases, reproduced without change. Here is an atlas initiated by a wealthy, powerful company, designed by a proficient designer who was given editorial control and a generous amount of time and resources to make an exceptional book. And yet

40 Blauvelt, 'Graphic Design: Discipline, Medium, Practice, Tool, or Other?'.
41 Bayer, *World Geo-Graphic Atlas: A Composite of Man's Environment*.
42 Lommen, *Het boek van het gedrukte boek: Een visuele geschiedenis*, 362.

Timeline of Technological Thresholds



Timeline of tools for creating, recording, editing, producing, distributing and accessing visual information. The technologies in this overview are collected from two books: Blauvelt & Lupton, *Graphic Design: Now in Production* (2011) and Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition (2013).

The timeline distinguishes three sets of technologies: mechanization, digitization and dissemination. Mechanization refers to the technologies of the industrial production of graphic information that enabled the graphic designer to emerge as a specialist in the production of visual information. The digitization of production tools has impacted the role of the designer, the tasks she performs and her role in the information chain. Dissemination technologies impacted the speed and expanse of the distribution of information, and the interaction and exchange of that information with others. The timeline is limited to the period 1900–2020. The starting date is related to what I see as the beginning of graphic design. The technologies are organized by date of introduction and thus not necessarily the moment they were most intensively used. The sets of technologies form three thresholds or boundaries between different spheres that each enable different practices of production and use.

1 Blauvelt & Lupton, *Graphic Design: Now in Production*, 2011
2 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013

the 'look and function' of an essential part of the content has not been decided by the designer.[43]

When I started working with maps I realized there are many similarities between cartography and graphic design. The output of both is primarily graphical, of course, and the tools to create, edit, produce and distribute overlap. On a more fundamental level, digital technologies have opened up both fields. The impact of new technologies was bigger and more clearly discernible in cartography than in graphic design. The making of maps used to be a very closed off field dominated by powerful elites, such as the great map houses of the West, like De Agostini Editore (Italy), Michelin (France) and Rand McNally (USA), the state, and to a lesser extent the academic world.[44] Digital technology, GPS, new mapmaking software, 'open source' collaborative tools, mobile mapping applications and geotagging opened up the field of cartography and made it possible for new mapmaking practices to emerge that started to map different subjects, in novel ways, occasionally resulting in new forms. The radical change of cartography before and after the introduction of digital technologies is even bigger than the transformation that graphic design underwent in the digital age.

Another important difference between cartography and graphic design is that the impact of new technologies on mapmaking has been more substantially theorized. I am especially interested in the post-representational reading of cartography, as it takes an expanded view of cartography that also considers the use of maps.

A Post-representational Approach to Mapmaking

Post-representational cartography understands a map as a process rather than an object. According to this approach, maps are never fully formed and their work is never complete, they are in a constant state of becoming. A map is constantly being produced and reproduced, every time a user engages with it. According to this approach to cartography, the binary division between production and application, between producer and user no longer applies.

When approached as a process, it is interesting to consider at what moment the production of a map ends.[45] Is it when it is conceptualized, when it is embedded in other content on a page, when it is printed, when it is loaded on the screen of a digital device, when it is read, or maybe never? Similar considerations can be made when contemplating the use of maps. When is it first used? During the process of creation, the moment the mapmaker sees the whole through the fragments?

What I take from post-representational cartography is the consideration that making and using are not consecutive processes but parallel tracks. The blurring of the producer-user divide and approaching the map as process rather than a product reframe cartography as a discipline of practices, not one of representations. By recasting cartography as a broad set of spatial practices it moves beyond the narrow confines of seeing the map as a product of a specialized activity. It is my ambition to do the same with graphic design: to reframe the field and consider new practices.

As the term suggests, post-representational cartography is regarded as a subsequent phase in the thinking about mapmaking. After the Second World War,

thinking about maps developed into what was later called cognitive cartography[46] and representational cartography.[47] Its premise is that the world can be objectively known and truthfully mapped. From this point of view, cartography progresses by looking at self-referential methodological questions aimed at improving how a map communicates. Ideas of cognitive psychology are used to improve map designs by carefully controlled scientific experiments. In a next chapter of this dissertation I will go deeper into the research of French cartographer and theorist Jacques Bertin (1918–2010), one of the key representatives of this mode of thinking.

At the end of the 1980s, ideas from poststructuralist thinking, social constructionism and actor-network theory resulted in a shift in the thinking about maps. In what is called critical cartography[48] and more-than-representational cartography[49] maps are seen as the products of power, but also as producing power themselves. Mapmaking is not a neutral, objective pursuit, but one laden with power. It deals with creating knowledge, rather than with revealing it.

The early 2000s saw a third shift in the thinking about maps: post-representational cartography. Representational cartography assumed that the world was knowable and mappable and did not question the nature of the map itself. Neither is the map fundamentally questioned in more-than-representational cartography. It might regard the map as diverse, rhetorical, relational and complex, but nonetheless as a stable product: a map. In post-representational cartography, however, the fundamental status of the map is questioned. Maps are now understood as never fully formed, the work on them never complete. Rob Kitchin, professor of geography at the National University of Ireland Maynooth, and Martin Dodge, senior lecturer in human geography at the University of Manchester, use the terms ontological and ontogenic to describe the difference between post-representational thinking about mapmaking and the two previous approaches.[50] Ontological refers to how things are, ontogenic to how things become. Kitchin and Dodge describe representational cartography and more-than-representational cartography as having an ontologically secure foundation: a map is a map and it is constant. In post-representational cartography, however, the fundamental question of cartography is not ontological but ontogenic, how does a map become.[51] Unlike the cartographic theories that preceded it, post-representational cartography looks at the full process of mapmaking, from conception to use, from producer to user.

The three different approaches to cartography described above—representational, more-than-representational and post-representational cartography—are all based on distinct epistemological methods. Representational cartography uses quantitative methods from cognitive psychology. In more-than-representational cartography methods of textual and linguistic deconstruction are predominantly employed. Post-representational cartography's processual approach employs a variety of methods, including genealogies, ethnographies, ethnomethodology, participant observation, observant participation and deconstruction, to open up or entangle the practices of mapmaking. This last set of methods is able to capture the full scope of how a map is created and produced, to how it is reproduced every time a user engages with it and how social, embodied, political and economic relations play a role in this messy process.

Sébastien Caquard, associate professor in geography, environment and urban planning at Concordia University in Montréal, has argued that the supposed separation between critical theory of more-than-representational cartography and

43 *Oxford English Dictionary*, 'design,' accessed 5 October 2018, https://en.oxforddictionaries.com/definition/design.
44 Crampton and Krygier, 'An Introduction to Critical Cartography', 12.
45 Del Casino Jr. and Hanna, 'Beyond The "Binaries": A Methodological Intervention for Interrogating Maps as Representational Practices', 35.
46 Caquard, 'A Post-Representational Perspective on Cognitive Cartography'.
47 Kitchin, 'The Transformation of Cartographic Thought'.
48 Crampton and Krygier, 'An Introduction to Critical Cartography'.
49 Kitchin, 'The Transformation of Cartographic Thought'.
50 Kitchin and Dodge, 'Rethinking Maps'.
51 Ibid., 5.

Comparison between the most frequently depicted designers in the five selected design histories (2.3) and the model of technological thresholds (2.5).

1 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013
2 Eskilson, *Graphic Design: A History*, 2nd edition, 2012
3 Hollis, *Graphic Design. A Concise History*, 2001
4 Jubert, *Typography and Graphic Design: From Antiquity to the Present*, 2006
5 Meggs & Purvis, *Meggs' History of Graphic Design*, 5th edition, 2012

1 Blauvelt & Lupton, *Graphic Design: Now in Production*, 2011
2 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013

empiricist practice of representational cartography might be resolved by focusing on mapmaking as a process.[52] To Caquard, post-representational cartography offers opportunities to combine these two distinct approaches to strengthen the understanding of the mental, emotional and embodied relationships with maps, and with places through maps.[53]

A similar empiricist/critical disjuncture can be observed in a subfield of graphic design called information design. In a recent book on the domain, it is defined as clarifying complex information with the needs of users in mind.[54] Testing is seen as a key part of that process. Various iterative methods from behavioural research are employed to create designs that fit the needs of people in a specific context. Information design practices have little in common in terms of approach, methods and criteria, with those included in the aforementioned *Graphic Design: Now in Production*.

Blind Map

There is a type of map that does not contain any text labels. It is mainly used in education, intended for pupils to fill in the missing names in tests. In the English language it is called an unlettered map. In Swedish it is a map without names: *namnlös karta*.[55] In some languages it is described as mute: *carte muette* in French, *carta muta* in Italian, *carta muda* in Portuguese, *mapa mudo* in Spanish, *stumme Karte* in German. Other languages designate it blind: *blinde kaart* in Dutch, *blindkart* in Norwegian, *blindkort* in Danish. Whatever adjective used, all highlight that something is missing and that it is up to the user to complete the map. Of all the map types I know this is the one that most clearly shows its fundamental emergent status. I will use the term 'blind map' for any graphically produced object to highlight its fundamental emergent status. Any map, any piece of graphic design is a blind map as it is never fully formed, but completed every time a user engages with it.

The blind map as transdisciplinary concept emphasizes once more the similarities between cartography and graphic design. The fields may have different origins that resulted in disparate educational structures, different criteria to evaluate the output, and distinct theoretical frameworks, however, the current practices of both disciplines are practically the same. They use the same or related tools to record, create, edit, produce and distribute the visual information they produce. As someone whose work is positioned in both fields I feel the disciplines on a practical level are merging and are becoming interchangeable.

Put differently, technological developments make the disciplines of cartography and graphic design become less distinguishable as they dissolve in the larger field of graphic representation. That is the perception of French geographer Denis Eckert, research director of the Franco-German Research Centre for the Social Sciences Centre Marc Bloch in Berlin. At a recent conference in Berlin where Eckert lectured about innovation in cartography, I asked him if he sees a difference between cartography and graphic design.[56] Eckert initially joked that cartographers tend to look down on graphic designers because they feel threatened that others, non-cartographers and especially graphic designers who are

skilled users of design tools, are making maps. He continued by admitting that it is difficult to uphold a strict difference between the two fields. Cartography and graphic design should be seen as subsets of a wider field of representation and communication. Eckert went on to say that there is a difference between the two in that cartographers have a familiarity with specific cartographic considerations like the ones developed and formulated in the 1960s–1980s by the aforementioned Jacques Bertin and others.

I follow Eckert's reasoning, but I want to add that the opposite is also true. Graphic design has a certain specialist knowledge that distinguishes itself from cartography, such as theories on topics like typography, visual rhetoric and grid systems. Like Eckert, I see the two fields merging or dissolving into a wider field of graphic representation. Unlike Eckert, I would not describe this wider field as representation and communication or as visual communication. Dutch publisher and design writer Hugues Boekraad has argued that communication has become essential for all design disciplines and cannot be regarded as a competency exclusive to graphic design and other disciplines aimed at creating visual symbols.[57] To Boekraad visual communication is also a troublesome term to cover the activities of graphic design and related fields because of the general dominance of the visual nowadays. I agree with Boekraad, and describe the wider discipline that includes graphic design and cartography as the field of graphic representation.

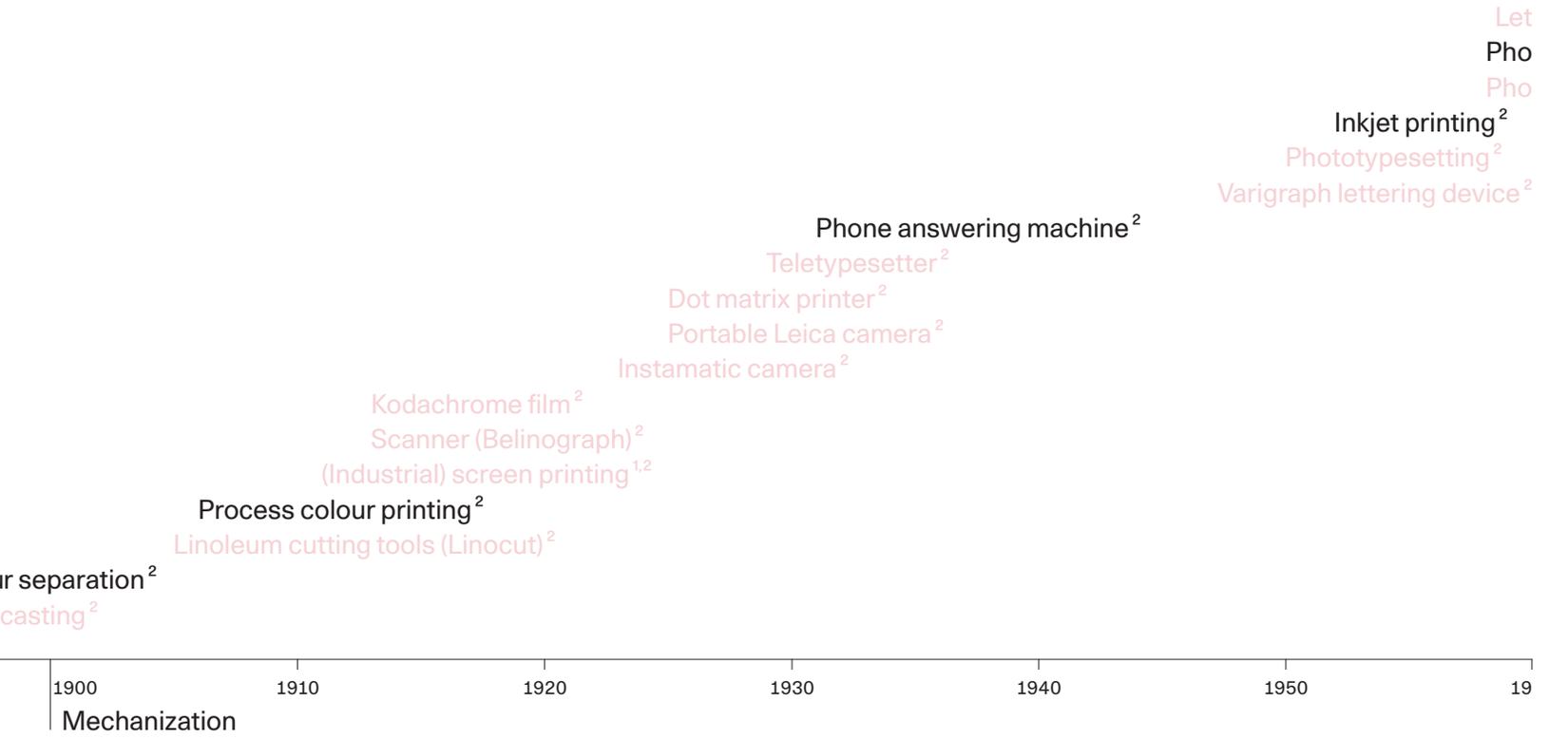
My research project positions itself in this wider field of graphic representation, applying theories from both graphic design and cartography. It is my ambition, through this dissertation, to contribute to the consolidation of this expanded discipline. The research also aims for this wider field to include practices that are not educated or specialized in one of the two disciplines, encompassing practices from outside the fields that are using the tools of graphic design and cartography, the technologies to record, create, edit, produce and distribute visual information.

Besides distinguishing specialist knowledge, to me the main difference between cartography and graphic design is the impact of digital technology on both fields. Evolving tools and platforms transformed both disciplines. But as the field of mapmaking was more closed off, the impact of technological developments on cartography seems more substantial and more clearly discernible. As someone who works in both fields, I feel that both disciplines have been roughly awakened by the introduction of digital technologies, but where some parts of graphic design are still in a drowsy state of denial, cartography is already wide awake. This makes mapmaking a suitable subject to study and understand the wider field of graphic representation and how it is developing. I will research practices that have appropriated the tools of cartography and graphic design to make maps. Employing a mix of critical and empirical approaches, and using a variety of languages both textual and visual, the research will focus on the processes of these practices to better understand the ever-evolving field of graphic representation.

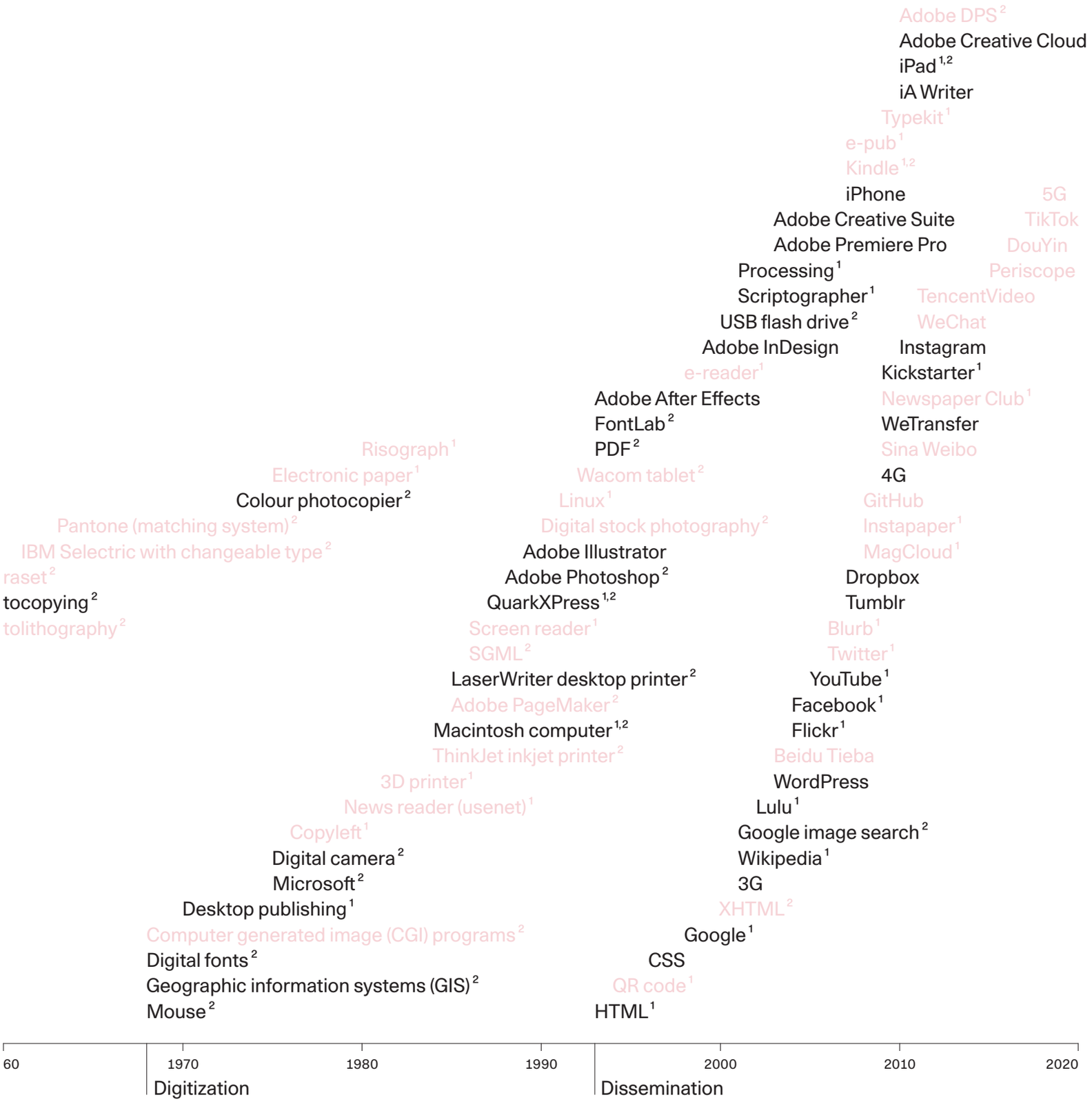
The mapmaking practices that will be investigated in the following chapters embody various aspects of the processual character of maps. The three case studies explore how design, production and distribution play a role in how a map 'becomes', in the post-representational sense of the word. The case study of the Blue Dot argues that Google Maps is a processual map because the user is

52 Caquard, 'A Post-Representational Perspective on Cognitive Cartography,' 226.
53 Ibid., 232.
54 Black, Luna, Lund, and Walker, *Information Design: Research And Practice*, xi.
55 *Enzyklopädisches Wörterbuch Kartographie in 25 Sprachen*, 'unlettered map'.
56 Eckert, 'Is Innovation in Cartography a Mere Illusion?'.
57 Boekraad, 'Graphic Design as Visual Rhetoric. Principles for Design Education', 6.

Timeline of Technological Thresholds: Comparison



Comparison between the model of technological thresholds (2.5) and the technologies used by graphic design studio SJG.



1 Blauvelt & Lupton, *Graphic Design: Now in Production*, 2011
2 Drucker & McVarish, *Graphic Design History: A Critical Guide*, 2nd edition, 2013

coproducing it. This is supported by the design of the map: the pale coloured map looks empty and thus invites the user to participate in the production process. The second case study looks into the deceivingly familiar visual language of the design of the Strava Global Heatmap and demonstrates how this supposed familiarity prevents its understanding. The third case study looks into the practices of amateur conflict mapmakers and, more specifically, how their distribution strategies utilize social media platforms. I argue that the maps of these non-specialists have a high level of accountability because their work is embedded in a public debate.

Conclusion

I began this chapter by defining a design as the product of a process. In post-representational cartography, a map is regarded as a process rather than a product. Graphic design is processual in a similar way. The full process of creating, editing, producing, distributing and using graphical information is never finished. Every time a user engages with a design it is reproduced again and again. Rather than defining it as a product, to me the output of graphic design is a process, a blind map: unfinished and in need of a user to complete it.

It is difficult to uphold a strict division between producer and user in this extended view of the field. Not only because graphic design is processual, but also because it has ceased to be an exclusive specialist domain. Digital technologies have opened up and exposed the enigmatic and invisible processes of creating graphic design. The designer as someone with a specific training or specialized professional practice is no longer the sole producer of graphic design.

The transformation of the field of graphic design in the digital age resulted in many cases either in the denial of its practitioners, that is, graphic designers adopting outdated technologies such as letterpress, them becoming the developers of new design tools, like the design of typefaces, or appropriating other roles, such as those documented in *Graphic Design: Now in Production*. One of those roles could be the documentation, description and theorization of the methods and output of the editors of graphic information coming from outside the field that have appropriated the tools of graphic design. This learning from, to quote Venturi, Scott Brown and Izenour's *Learning from Las Vegas* (1972),[58] could bridge the gap between the traditional field and the new players. It is my ambition to reshape my design practice into a research and design practice that does exactly this. I deliberately write design and research because the description of the work of the new players in text alone is not enough. Text, and specifically disciplinary terminology, needs to be questioned, alternative formats need to be developed and other 'languages' need to be designed.

Before the digital age, graphic design as a discipline was not only closed off because it required specific skills and knowledge of certain tools and technologies to enter. Specialist language employed by its practitioners, like technical jargon, also functioned as a form of gatekeeping. While the tools of graphic design democratized, its terminology did not. A study of the continuous transformation of graphic design should therefore also address the languages used in its processes. One

of the aims of this research is to develop new languages, open to outsiders of the field, to describe graphic design. For this reason the dissertation uses two different languages, a textual and a visual. In the previous chapter on concepts and methods the reasoning behind this choice is further explained.

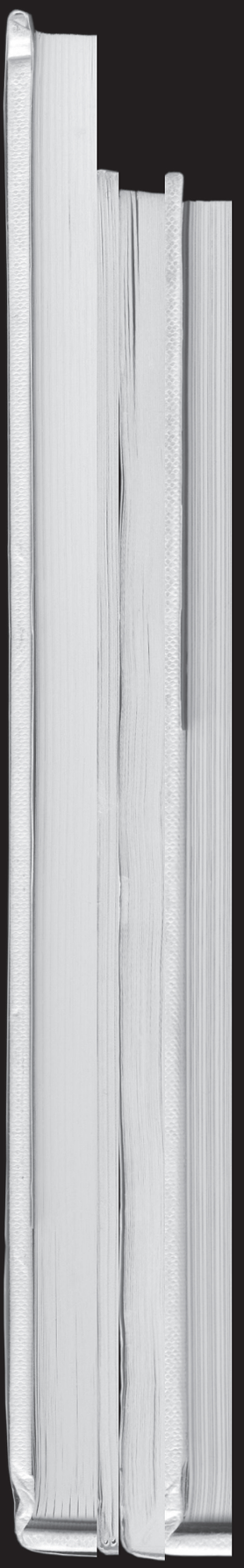
Although different in origin, the current practices of graphic design and cartography are virtually the same. Both disciplines use similar tools and are merging to become part of the wider field of graphic representation. In this emerging field, various graphic formats like books, maps, apps, websites, information graphics and animations are produced by a group of practitioners from a variety of creative fields, but also by amateurs and commercial enterprises. As I noticed at a conference about mapping as an interdisciplinary method, this blurring of boundaries can cause unrest among some practitioners who see this as a threat. They want to hold on to their position and the accomplishments of their field. This in turn may lead to introspection and even orthodoxy about the ideas and heritage of a discipline. It is questionable if a fixed doctrine about a field can be maintained when formats, like maps, and the roles of user, producer and others in the information chain are in constant flux. And while I wonder how these two dynamic entities, of format and user/producer, might align and cause understanding of the message transferred, I believe that in this situation a certain agility to switch roles seems more appropriate than an expert understanding of a format. This in turn makes me question my role as a specialist.

Like graphic design, cartography is shaped by technological developments of the tools used in its practices. Digital technology empowered new players to enter the field who, with no prior knowledge of cartography, started mapping different subjects, in novel ways, occasionally resulting in new forms. A similar development happened in the field of graphic design. But as the field of mapmaking was very closed off, the impact of technological developments on cartography seem more substantial. The proximity of the fields, as well as the substantial larger impact digital technology had, make mapmaking a suitable subject to study the ever-evolving transformation of the field and practices of graphic design. This research will continue with a series of case studies of current mapmaking practices by technology companies and amateurs to better understand the development of the field of graphic design.

This text is an introduction to, and contextualization of, further research into the changing relationship between editors and users of graphic representation and the tools they employ to record, create, edit, produce, distribute and access visual information. The text also positions me, one-time outsider turned practitioner, as both the research subject and the one carrying it out. Indirectly, ambiguity would always be one of the topics of this study as it is undertaken in the field of artistic research that combines discursive and artistic approaches, both in its processes and products. The ambivalence of my position, due to my background and the methods I use, is something that I cannot deny and it will therefore become an essential part of my research. Ambiguity will be used as a strategy in the methods and output of this research.

58 *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form* has been an important reference for this research. Both in the ambition of the authors to try to make sense as architects of a 'non-architecture', in its attitude to 'withhold judgment' as the authors write in the introduction, and in its exploration of various formats to document the research like texts, photographs, drawings, maps and diagrams.

Timeline of Technological Thresholds: Comparison



1

2

The five researched graphic design histories are combined and split by content according to the time zones of the technological threshold model: pre-mechanization (1), mechanization (2), digitization (3) and dissemination (4).

3

4