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Tools R Us

Grootens, Joost

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Tools R Us

1. I. Professional and do-it-yourself hardware store from the United States, selling “industrial quality tools and equipment you need to get the job done right.” The name is a play on the toy-store franchise Toys ‘R’ Us, where the ‘R’ stands for “are.” II. The first song of the album *Weeps* (1996) by Dutch indie guitar band Daryll-Ann. The opening line of the song: “Automated tools won’t help you.”

Written by Joost Grootens
Layout with Adobe InDesign 17.4 / 18.0

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Joost Grootens

is a graphic designer, educator and researcher. Based in Amsterdam (NL) and Biel/Bienne (CH), his studio SJG designs books, maps, typefaces, spatial installations, and digital information environments. He is Professor of Artistic Research in Visual Design at the Royal Danish Academy in Copenhagen and holds a teaching position at ISIA Urbino. He was previously head of the Master program Information Design at the Design Academy Eindhoven. His research addresses the transformation of the fields and practices of graphic design and mapmaking resulting from technological changes in tools to record, create, edit, produce, and disseminate visual information.

The history of graphic design has been considered the history of the designer taking control of the specialized tools and processes to produce visual information². Richard Hollis, “Have you ever really looked at this poster?” (1994), in *Graphic Design: History in the Writing (1983–2011)*, eds. Sara De Bondt and Catherine De Smet (London: Occasional Papers, 2012), 73. With the arrival of the personal computer and software, that process would be almost complete. In the digital age, however, tensions have arisen in the relationship between the designer and her tools. In any case, it is no longer strictly monogamous. The reciprocity of specialist graphics tools that enable a specialized role, and a specialist practice that validates the creation of highly specific tools, is no longer self-evident. In the decades around the turn of the century, the tools to create, record, edit, produce, and disseminate visual information became available to all, while graphic designers simultaneously appropriated tools and roles from various other fields. This resulted in the design field losing its monopoly on a specialist position in the production of graphic information and at the same time becoming so multiform that it began to resemble an “extended formless body”³. Andrew Blauvelt, “Towards Critical Autonomy or Can Graphic Design Save Itself?” (2003), in *Looking Closer 5. Critical Writings on Graphic Design*, eds. Michael Bierut, William Drenttel and Stephen Heller (New York: Allworth Press, 2006), 9.

What should the designer do in this mess of a situation? It seems naive to long for the vacuum between the introduction of the Mac and the widespread adoption of Web 2.0 technologies, that brief period when the designer for the first time was given the full spectrum of technologies to create, record, edit, produce, and distribute visual information, but when her monopoly to operate these tools remained relatively unchallenged⁴. In this article I will use the pronoun “she” to designate graphic designers to express that graphic design has a diversity of practitioners and to recognize the gender disparity in the descriptions and historiographies of graphic design. The increased access to the means of production resulted in claims about her role that went beyond the designer’s traditional responsibilities. But the designer was not yet among non-specialists who could, and did, do the same and thereby questioned her position. At the risk of stretching the metaphor too far, should she ask herself whether this relationship still makes sense, call it off and choose a different role entirely?

In this text I will meander between the practice and theory of the relationship between the designer and her tools. I will focus on young designers who are still studying but will also consider non-specialists who have appropriated graphic tools to create, record, edit, produce, and publish visual information. What all these practices have in common is that they stretch, question, or undermine what we think of as design tools. I will reflect on the implications of the evolving relationship between the designer and her tools on the role of the designer, the design field, design education, and the historiography of the field as we move into the post-designer era of graphic design.

THE DESIGN TOOLS OF FRENCH STUDENTS

A few years ago, I started investigating the current state of graphic design. In theory and writings about the field, I could find only limited descriptions, or unsatisfactory interpretations, of the aspects I experienced in my practice as a graphic designer, such as the changing relationship between the designer and her tools, and the resulting shifting position of the designer. The discrepancy between what I encountered in theory and in my practice brought about an investigation in the form of a series of workshops, a PhD research, and small experiments and investigations in my own practice.

An example of the latter is a survey of the resumes of designers applying for an internship in my studio. What interested me was what skills and tools young designers list when they apply for a position in a design studio. And with it: how does the new generation of graphic designers regard their field, and what expertise do they consider important to gain a position in it? And: how do educational institutions view graphic design, and what competences do they consider necessary to enable young designers to be relevant in that field?

There is much to be said about the research itself. This only concerns applications addressed to a single design studio that is active in a very specific niche of the field, book design and information design. In some educations, the internship is a mandatory part, which can influence the motivation to apply, just like the financial resources of a student or

the attractiveness of the city of Amsterdam where my office is located can influence the filtering of the group of students who are applying. But to me, this research is more about spotting trends and bigger movements than making sweeping claims about designers, the design field, and design education. At the same time, I dare to say that the research does more than just map particularities, as it covers a period of several years and takes into account a considerable number of applications. Such research, if conducted on a larger scale and over a longer period of time, could make a valuable contribution to mapping and interpreting a field in motion. The research in my studio is only a first exploration of this.

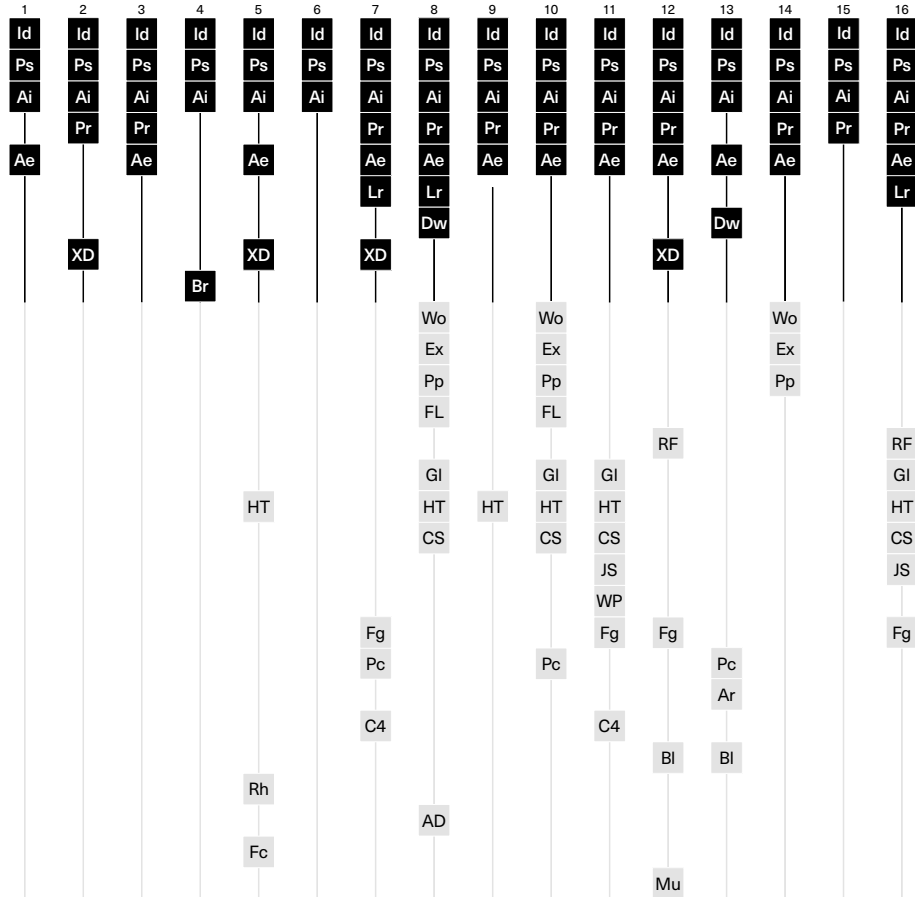
For this article I have repeated the research on the skills and tools mentioned in student application letters but focused on internship requests from France for the period January 2016 to July 2022. It concerns a little over 100 applications (out of around 1000 applications worldwide for that period). The anonymized results are organized by school in the table in figure [1]. The applicants who listed skills on their resumes come from thirty-two French schools. If several students come from the same institution, all their listed skills are presented under that school.

You may wonder what is the point of registering all these means to create, record, edit, produce, and distribute graphic information. In the list, I see separate sets of tools based on distinct technologies that imply different graphic production practices. And with it varied roles of the designer and of the user, and also varying definitions of who we regard to be a designer and what we define as graphic design. In that sense, the skills a designer includes on her resume present how she views the field and her role in it.

1

Overview of the tools mentioned in the internship application letters sent to the author by French students in the period 2016–2022 and organized by school.

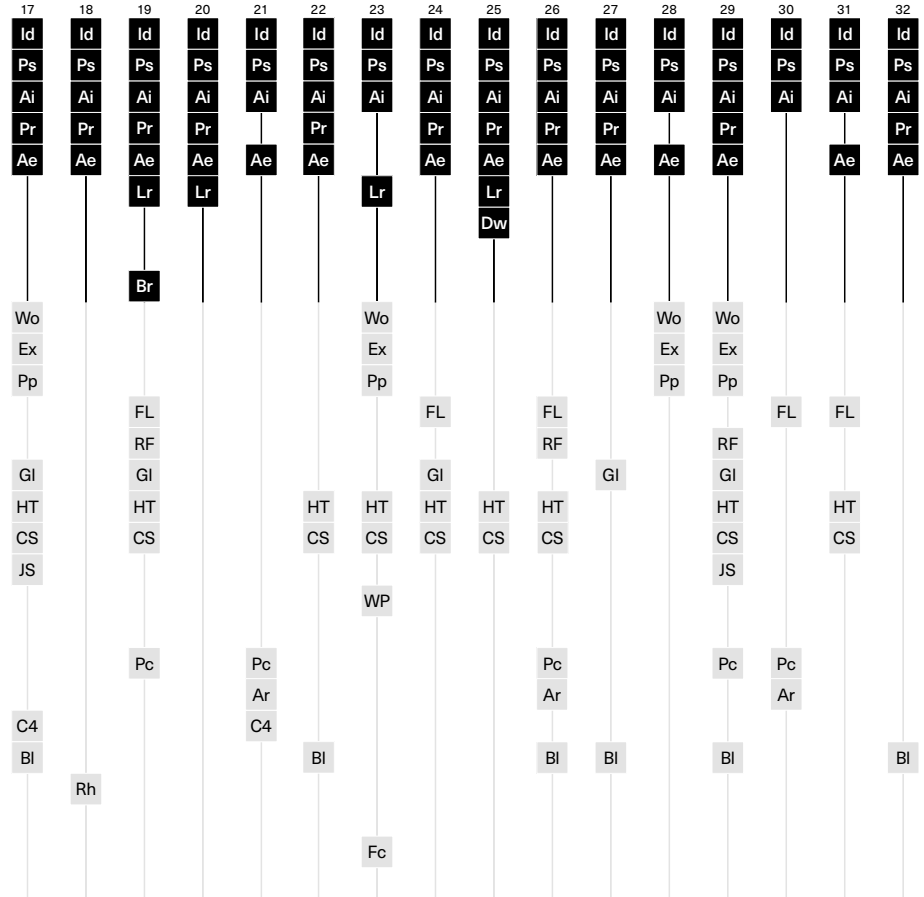
- 1 AGR, l'École de l'Image, Nantes
- 2 Bellecour École, Lyon
- 3 Cité scolaire Raymond Loewy, La Souterraine
- 4 École BRASSART, Nantes
- 5 École de Condé, Bordeaux
- 6 École de Condé, Lyon
- 7 École de Condé, Paris
- 8 École de Design Nantes Atlantique, Nantes
- 9 ECV Aix-en-Provence, Provence
- 10 ECV, Bordeaux
- 11 ECV, Paris
- 12 ENSAAMA, Paris
- 13 EnsAD, Paris
- 14 ENSAPL, Villeneuve d'Ascq
- 15 Ésaab, Nevers
- 16 ÉSAD Amiens



- Id** Adobe InDesign is a layout and page design software for print and digital media developed by Adobe Inc. (US) and released in 1999.
- Ps** Adobe Photoshop is an imaging and graphic design software developed by Adobe Inc. (US) and released in 1990.
- Ai** Adobe Illustrator is a vector graphics software developed by Adobe Inc. (US) and released in 1987.
- Pr** Adobe Premiere is a video editing software for film, TV and the web developed by Adobe Inc. (US) and released in 1991.
- Ae** Adobe After Effects is a digital visual effects, motion graphics, and compositing application released by Adobe Systems (US) in 1993.
- Lr** Adobe Lightroom is a creative image organization and image manipulation software developed by Adobe Inc. (US) and released in 2017.
- Dw** Adobe Dreamweaver is a web development tool released by Adobe Inc. (US) in 1997.
- Xd** Adobe XD is a vector-based user experience design tool for web apps and mobile apps, developed and published by Adobe Inc. (US) in 2017.
- Br** Brackets is a source code editor with a primary focus on web development, created by Adobe Inc. (US) in 2014.
- Wo** Microsoft Word is a word processing software developed by Microsoft (US) and released in 1983.
- Ex** Microsoft Excel is a spreadsheet developed by Microsoft (US) and released in 1987.
- Pp** Microsoft PowerPoint is a presentation program, created by Robert Gaskins and Dennis Austin. It was first released in 1983.
- FL** FontLab is a font editor developed by SoftUnion Ltd (RU)/Pyrus North America Ltd. (US) and released in 1993.
- RF** RoboFont is a font editor written entirely in Python and released in 2011.

■ Adobe ■ Other developer

- 17 ÉSAD Valence
- 18 ESADSE, Saint-Étienne
- 19 ESAIG, Paris
- 20 ESMA, Montpellier
- 21 Etaag, Grenoble
- 22 HEAR, Strasbourg
- 23 ISCOM, Paris
- 24 IsdaT, Toulouse
- 25 L'IDEM, Le Soler
- 26 La Martinière Diderot, Lyon
- 27 Lycée Brequigny, Rennes
- 28 Lycée Charle de Gaulle, Chaumont
- 29 Lycée Jacques Prévert, Boulogne-Billancourt
- 30 Lycée Saint Exupéry, Marseille
- 31 Université de Rennes, Rennes
- 32 Université Savoie Mont Blanc, Chambéry



- GI** Glyphs is a font editor developed by Georg Seifert (Germany) and released in 2011.
- HT** HTML is the standard markup language for documents designed to be displayed in a web browser, developed by Tim Berners-Lee (UK) in 1992.
- CS** CSS is a style sheet language used for describing the presentation of a document written in a markup language such as HTML, released in 1996.
- JS** JavaScript is a core programming language of the Internet. It first appeared in 1995.
- WP** WordPress is a free and open-source content management system released in 2003.
- Fg** Figma is a collaborative browser-based interface design tool initially released in 2016.
- Pc** Processing is an open-source graphical library and integrated development environment developed by Casey Reas and Ben Fry (US) in 2001.
- Ar** Arduino, an open-source hardware and software company created in 2005 in Italy.
- C4** Cinema 4D is a 3-D modeling, animation, motion graphic and rendering software developed by MAXON (Germany) and released in 1990.
- Bl** Blender is a free and open-source 3D computer graphics software released in 1994.
- Rh** Rhinoceros is a 3-D computer-aided design modeling software developed by Robert McNeel & Associates (US) and released in 1994/1998.
- AD** Autodesk 3ds Max, is a 3D computer graphics program released in 1996.
- Fc** Final Cut Pro is a series of non-linear video editing software programs first developed by Macromedia Inc. and later Apple Inc. (US), released in 2011.
- Mu** MusE is computer software, a sequencer for Musical Instrument Digital Interface (MIDI) and audio, it was released in 2000.

■ Adobe ■ Other developer

That the nature of design tools has consequences for the essence of graphic design is not universally shared. Some see the digital technologies as just another design tool. In the epilogue of *Meggs' History of Graphic Design* (2012), authors Philip B. Meggs and Alston W. Purvis regard digital technologies as another set of tools⁵. Philip B. Meggs and Alston W. Purvis, *Meggs' History of Graphic Design*, 5th edition (Hoboken: John Wiley & Sons, 2012), 572. Tellingly, the last two paragraphs of the epilogue 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"⁶. *Ibid.*

The quote from *Meggs'* reads very much like the opening line of this article: the graphic designer controls the tools and thus determines the future of the field. I seriously wonder if this is indeed the case. But before addressing that question, let us take a closer look at the differences between the various sets of graphic tools. What distinctions can be made, and how does this establish different types of practices?

THE TIMELINE OF TECHNOLOGICAL THRESHOLDS

In my PhD research, I developed a model to describe the transformation of graphic design based on how different sets of tools establish distinct graphic practices⁷. Joost Grootens, *Blind Maps and Blue Dots. The Blurring of the Producer-User Divide in the Production of Visual Information* (Zurich: Lars Müller Publishers, 2021), 41. Entitled Timeline of Technological Thresholds, the model builds on graphic designer and curator Andrew Blauvelt's analysis of the different roles the designer took following changes in design tools⁸. Andrew Blauvelt, "Tool (Or, Post-production for the Graphic Designer)", in *Graphic Design: Now in Production*, eds. Andrew Blauvelt and Ellen Lupton (Minneapolis: Walker Art Centre, 2011), 23–31. But whereas Blauvelt's model focuses exclusively on the implications of the technological changes on the role of the designer, my model focuses on the

tools itself and allows the situating of practices of both production and use, and of specialists and non-specialists.

The 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.

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 graphical information.

Digitization is the combination of different tools and hitherto compartmentalized jobs in one supertool, the computer and design software. This expanded the tasks the designer could do, increasing her role, but she was no longer the specialist with exclusive access to the graphics tools.

Dissemination, on the other hand, has to do with (speed and expanse of) information distribution, interaction and exchange with others, and the accessibility of the means of graphic production to all.

The model establishes a series of consecutive conditions for different kinds of practices of production and use of graphic information, each with its own levels of accessibility in terms of economics or required specialist knowledge. Today, the practices of designers are fluid, they move between different technological spaces, occasionally opting to produce by using pre-digital or even pre-industrial 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: 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 entirely.

The space between, and the angles of, the different thresholds in the model, show the speed and scale of the transformation of graphic design. The line formed by mechanization technologies has a gradual angle, whereas those of digitization and dissemination are much steeper. This indicates that technologies involving computers and the Internet have been introduced in a shorter time and on 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; indicating that they followed each other more quickly.

For this article, I have included in the timeline the tools listed in the French internship applications in figure [2]. The tools the French students mention on their resumes are set in bold. They show tools that are predominantly situated in the realm of digitization, the technologies that gave the designer wider access to the production of graphic information. Only a handful of tools is part of the dissemination threshold, the technologies that have opened up the field even more to the point where it ceases to be a specialist activity.

THE DOMINANCE OF TOOLMAKERS

The skills listed by the French students in their applications situate their practices but also show that they predominantly use tools from a single company. All students are proficient in Adobe InDesign, Adobe Photoshop, and Adobe Illustrator. Respectively, the layout and page design software for print and digital media, the pixel image editing software, and the vector graphics editing software from American software company Adobe. A handful of other graphics editors are listed on the applicants' resumes, but the three Adobe tools are the only ones mentioned by everyone. The applications listed above are part of the Adobe Creative Cloud, a set of software tools aimed at graphic design, video editing, web development and photography that is the industry standard in many creative fields.

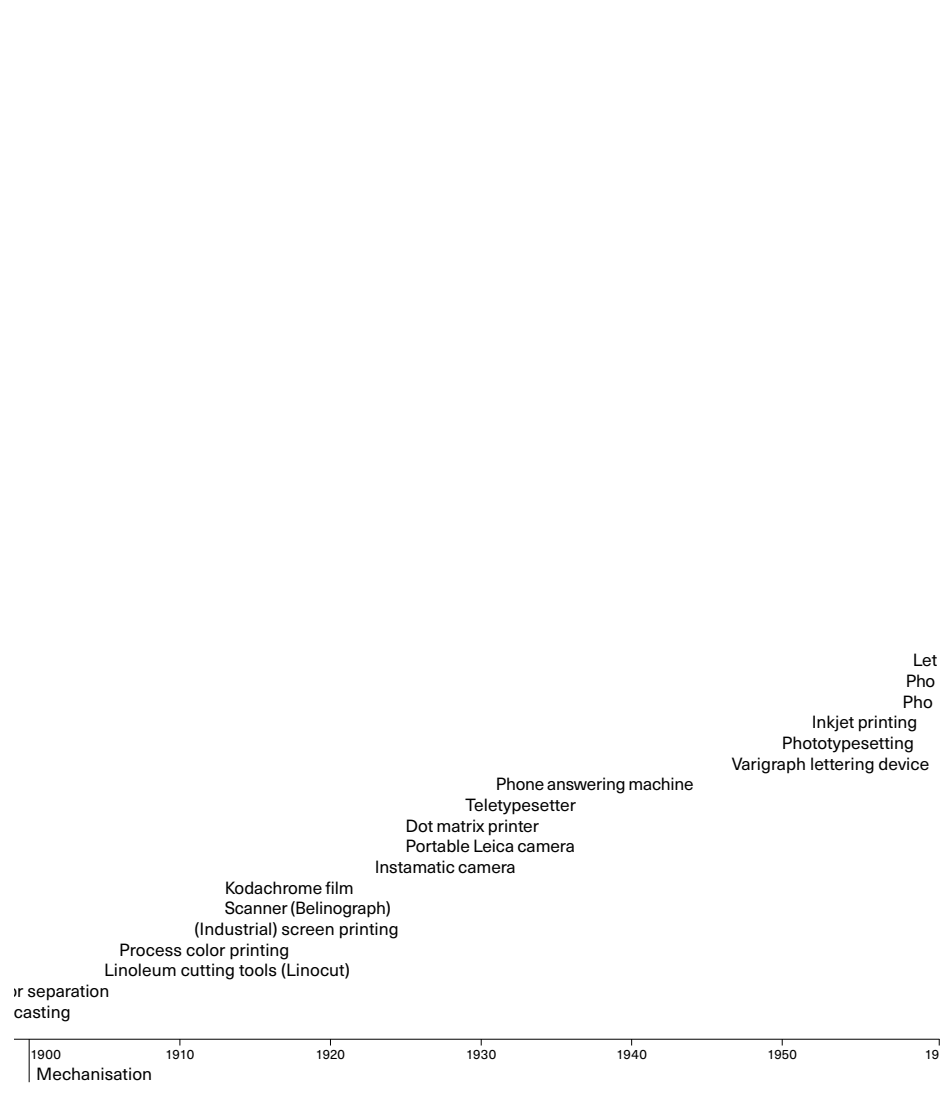
The results of the inventory among French students are confirmed by a series of workshops entitled "Atlas of Design Tools" conducted in schools in Switzerland and the Netherlands examining the political, social, environmental, and economic aspects of the design tools that participants use in their daily practice ⁹. The workshops took place in graphic design departments of École Cantonale d'art de Lausanne (2016), Zurich University of the Arts (2017), Design Academy Eindhoven (2018) and Bern University of the Arts (2018). The supervision of all but one of the workshops was done in collaboration with Dimitri Jeannotat. The results, translated into visual formats such as maps, timelines, and diagrams, were collected in a book: *The atlas of design tools*. At the beginning of

the workshops, participants list the design tools they use most. Of the more than 100 participants, a large majority named Adobe software as their weapon of choice. The top ten of each workshop consistently, and often in the highest positions, featured InDesign, Illustrator, and Photoshop.

The inventory of French design students and the outcomes of the workshops show the dominance of Adobe in the field of creative software. There are options outside of the Adobe tools, both commercial and open source, but these concern individual software tools, and I would argue that one should look at the package as a whole. The set of Adobe software provides the ability to seamlessly transport designed elements from one application to another. For digital culture theorist Lev Manovich, this transition from one tool and medium to another is a typical practice of the software era where "import," "export" and related functions and commands are more important than the individual operations the programs offer ¹⁰. Lev Manovich, *Software Takes Command* (2013; New York: Bloomsbury Academic, 2014), 306. In other words, when dealing with graphic design tools, we must consider the group of tools as a whole. At that level, there is no alternative for the Creative Cloud, there is no set of software that is as complete and offers such easy exchange as Adobe's.

Why should the dominance of a single software company be a problem for the graphic designer and the design field? Adobe is apparently doing a great job as a tool maker when their products are so widely embraced by designers and the industry. Besides the usual disadvantages of a monopoly, where the monopolist has no incentive to improve products or keep the price of a product low, there are also drawbacks that impact the design practice.

Timeline of Technological Thresholds. Tools in bold appear on the resumes of internship applications that French students sent to the author in the period 2016–2022.



Design software has embedded tasks, or in software-speak “functionalities,” that in the pre-digital age were executed by separate specialists or contained in particular means of production. Think of typesetting, lithography, color models, composition aids, etc. that are part of design software. The menus and default settings of digital design tools arise from choices made by the software maker and inevitably reflect a particular mode of design thinking. This curation of design functions in a dominant tool leads to a decreased range of options available to designers, and therefore a more limited range of imaginable outputs. The control of the embedded tasks in a design software may benefit the functionality of the tool, and raise the lower limit of the quality of the output, but it is also at the expense of the diversity of visual expression.

The predominant position of a software package in a field is not limited to Adobe Creative Cloud in the field of graphic production. Consider, for example, the role of Microsoft Office in the academic field: Word to compile papers and research proposals, PowerPoint to give presentations at conferences or in education, and Excel to do quantitative research, make a diagram, or keep track of a budget. The danger is that the dominance of a tool in a discipline leads to a particular but limited practice. Some even claim that certain tools have an impact on the output. Statistician and writer on information design Edward R. Tufte has argued that PowerPoint forces users to create presentations that use “an intensely hierarchical single-path structure as the model for organizing every type of content’ that ‘turns information into a sales pitch and presenters into marketers.”¹¹ Edward R. Tufte, *The Cognitive Style of PowerPoint*

(Cheshire: Graphics Press, 2006), 4.

A further critique concerns Adobe’s economic model. Since 2014, Adobe’s software is available in subscription form only. For a monthly fee, a user gets access to one or more tools. The cost of the subscription is considerable and almost only affordable for those who have a specialized practice where they use the tools on a daily basis. While the use of pirated versions of software is widespread, this does not provide a satisfactory solution. Since Adobe regularly updates its products and printers and many other graphic production companies are up to

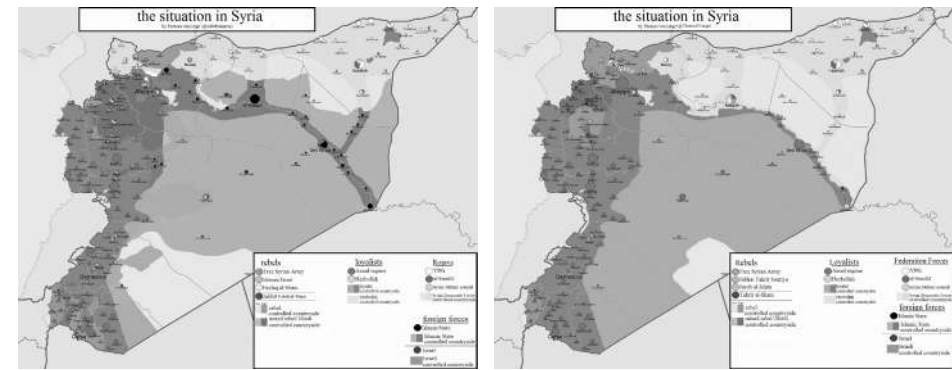
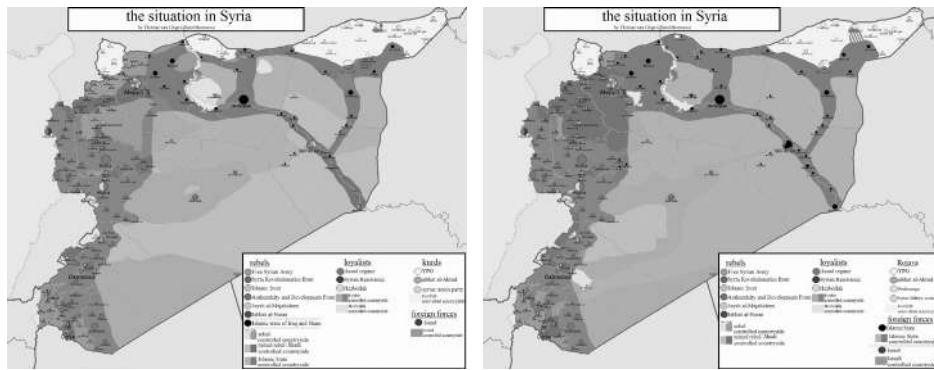
date on software, the designer is coerced into the perpetual cycle of updates if she wants to have work produced.

The above analysis on Adobe might as well have covered the impact of computer company Apple, smartphones, social media, printers, printing-on-demand services, and online distribution channels. The impact of these graphic tools on the practices of graphic designers and the field of graphic design is substantial. At times it feels like the tools are controlling the practices and the field rather than the other way around. The opening sentence of this article refers to a statement by graphic designer Richard Hollis that the development of graphic design is that of the designer taking control of its tools and processes. A statement Hollis made in 1994, in the previously described vacuum between the digitization of tools and widespread access to them, the time period between the digitization and dissemination lines in the timeline of technological thresholds, which in the face of the current obscene economic wealth of technology monopolies, the online surveillance scandals, the gig economy and the related social and economic exploitation, sounds naively optimistic.

For the designer to regain control of her role in graphic design, she will have to change the relationship with her tools. To do so, it may be helpful to look at the non-specialists who have appropriated the graphics tools, and the strategies and practices they have developed. Understanding these could help the graphic designer reclaim her position in the field.

LEARNING FROM NON-SPECIALISTS

How do the practices of the non-specialists who have appropriated the graphic design tools relate to those tools? Unburdened by knowledge of the background or a position in relation to a field or its heritage, one would expect these newcomers to be able to make what they want, and how they want it. Will they be able to develop new models, new relationships with those tools that we graphic designers can use in our practices? “Withholding judgment,”¹² Robert Venturi, Denise Scott Brown and Steven Izenour, *Learning from Las Vegas. Revised Edition*, (1972; Cambridge: MIT Press, 1977), 3. below I will elaborate on some non-specialist creators, editors, and publishers



3

of visual information. My focus will be on how they create, record, edit, produce, and distribute rather on what they make. The practices I will discuss are predominantly situated in the realm of dissemination on the timeline of technological thresholds. Occasionally they fall back on tools from earlier periods.

Dutchman Thomas van Linge is a sixteen-year-old high school student when he publishes on Twitter his first map of Syria in 2013¹³. Thomas van Linge (@ThomasVLinge), “IMPORTANT: map about the current situation in #syria. green = regime, brown = #FSA, blue = contested,” Twitter message, 24.06.2013, accessed 24.07.2022, <https://twitter.com/ThomasVLinge/status/349243455425368064>. The map documents the civil war in Syria that has been raging since the Arab Spring in 2011. Over a period of five years, Van Linge posts a new map of the conflict entitled “the situation in Syria” every other week. The maps are retweeted and cited by news media like the *Huffington Post*, *Lebanon’s Daily Star*, *The New York Times*, *CNN*, and *Der Spiegel*¹⁴. Katrin Kuntz, “The Dutch Teen Who Maps the Jihadists,” in *Spiegel Online*, 19.08.2015, accessed 24.07.2022, <https://www.spiegel.de/international/world/how-thomas-van-linge-mapped-islamic-state-a-1048665.html>. Middle East experts describe Van Linge’s maps as “among the most useful” and as “one of the best published on what is going on in Syria.” [3]¹⁵. Lucy Westcott, “The High School Student Who Maps ISIS’s Lightning-Quick Advance,” 13.06.2015, website *Newsweek*, accessed 24.07.2022, <https://www.newsweek.com/dutch-high-school-student-maps-isiss-terrifying-advance-syria-and-iraq-342604>.

Van Linge is among a growing group of amateur conflict mapmakers who are mapping wars and armed conflict by using and cross-referencing data from social media such as movies and photographs by mobile phones and

drones, georeferenced twitter messages and satellite imagery. The aggregated data is verified, timestamped, geotagged, and used as the basis for maps and other types of visualizations. It has been argued that the visualizations of these amateurs might lack the refinement of that of their professional counterparts, but their work should be viewed differently¹⁶. Dietmar Offenhuber, “Maps of Daesh: The Cartographic Warfare Surrounding Insurgent State-hood”, in *GeoHumanities* 4 (2018), 19. The visual strategies developed by the non-specialists follow a visual logic that serves the purpose of showing evidence and the employed method of cross-referencing rather than presenting a full narrative. This gives the visualizations a more open character that invites users to participate in a dialogue on the provenance. It is therefore significant that Van Linge publishes his maps on Twitter, the same platform that is his main data source. Using a single platform for data collection, debate, visualization, and publishing blurs the boundaries between these fields and creates space for a new type of researcher-designer-publisher who can be followed and held accountable every step of the way.

3

Thomas van Linge (@ThomasVLinge), *the Situation in Syria*, Map, published on Twitter, 2014–2018.

The visual language of Van Linge's maps plays, unintentionally, a game with our interpretation of information. It references traditional maps from authoritative sources such as school atlases but has some subtle flaws. The map is tightly cropped around the country, has the title positioned in the top center and the legend at the bottom, both set in a serif typeface, uses light blue for water and bright colors for the different parties that control the country. However, the map lacks typographic nuance, and the detailing of lines and color areas is visually rough. The latter can be explained by Van Linge's use of Microsoft Paint, a pixel graphics editor with limited possibilities compared to the high-end vector graphics editors employed by specialized cartographers and designers¹⁷. This fact is prominently featured in articles about Van Linge's maps. A contrast is made between, on the one hand, a teenager living with his parents, 3,000 km from Syria, who makes maps with Microsoft Paint and the violence of war, the precision of the maps and their use by prominent international news media.

Paint is a free software that is part of the Microsoft Windows operating system. By using this simple tool, Van Linge escapes the need for expensive design software that is (therefore) very sophisticated and requires extensive training. This high-end software that, due to its high price, is only cost-effective for those who have a specialized practice in which the tool is used full-time, and not one that publishes a visualization every other week, like Van Linge's. By using Microsoft Paint, Van Linge presents us a practice that may be less sophisticated, but one that is truly independent of the pressure to fit an industry-defined mold.

Another type of practice in which the boundary between production and use is blurred is that of GPS drawing. Individuals run, bike, swim, drive, boat, or fly a pre-planned route and capture a line drawing on a map using the Global Positioning System (GPS) on a mobile device and software such as a fitness app to record their activity. Like the practices of amateur conflict mapmakers, the tool used to collect the data is the same as the one that is used to publish the visualization. But unlike the conflict maps, the GPS drawing is also an invitation to recreate the drawing: the line is both an image and an itinerary for others to remake it.

The extent to which a GPS drawing is also an itinerary depends on the platform on which it is published. The practice



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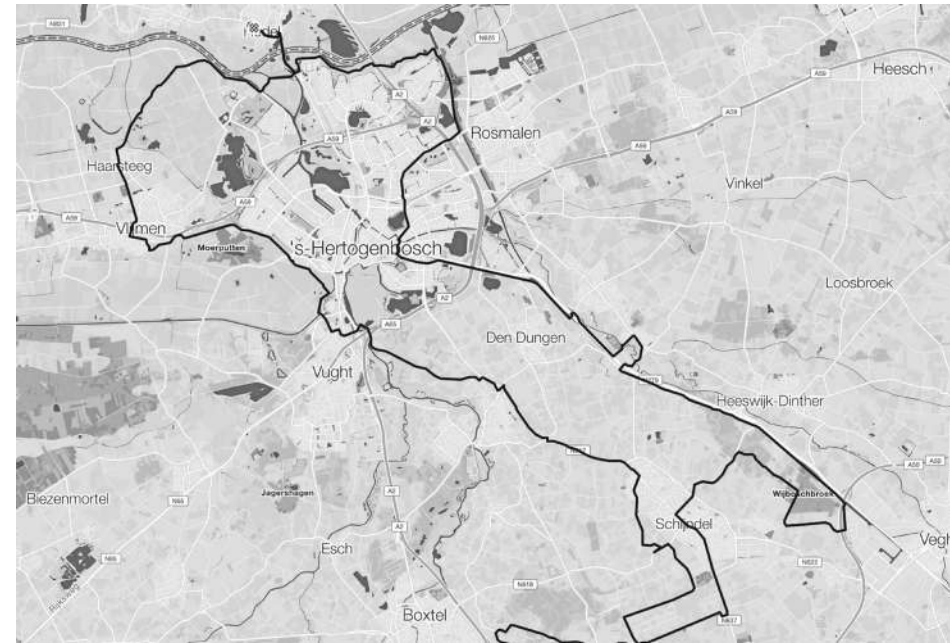
of American Claire Pisano is primarily focused on the image. On her Instagram account @dick_run_claire she publishes GPS drawings of penises projected on urban cityscapes that she draws through running¹⁸. Claire Pisano (@dick_run_claire), Instagram page, accessed 24.07.2022, https://www.instagram.com/dick_run_claire/. Her drawings are both an expression of fitness culture, the life of western women in the 21st century, and contemporary US urbanity. The first “dick run” happened accidentally while she took a wrong turn during a fitness run in 2015¹⁹. Claire Pisano (@dick_run_claire), Instagram story, November 2019, accessed 24.07.2022, <https://www.instagram.com/stories/highlights/17981710999087185/>. When she later saw back the GPS trace of her run, it had a surprisingly recognizable shape. What started as a coincidence later became a goal in itself. Today, 125 dick runs are published on her Instagram account. Most of them are screenshots of the Nike Running Club app on her smartphone, but access to the data behind it is not provided. [[4]]

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Claire Pisano (@dick_run_claire), *Dick Run*, Map, published on Instagram, 2021.

An example of a GPS drawing that, due to the manner of publication, is as much an itinerary as an image, is a drawing of the contour of Italy, approximately at scale one to fifty, projected onto the landscape of the south of the Netherlands. The drawing was made by the Dutchman René Koppert, a former professional cyclist who raced in Dutch and Italian cycling teams in the 1980s. Koppert is based in the Netherlands but has children living in Italy ²⁰. Interview with René Koppert on 15.04.2022. In the spring of 2020, the world was in the grip of the corona virus. Italy was particularly hard hit during the first months of the pandemic. National borders were closed, events were canceled, or postponed. The *Giro d'Italia*, the annual three-week Italian cycling race usually held in May, was postponed to October. The closed borders that prevent him from visiting his children, and the canceled cycling race in which he once participated, inspire Koppert in May 2020 to get on his racing bike and create his map of Italy. To make his drawings, Koppert uses Strava, the widely used fitness app and social network for runners, cyclists, and triathletes. With the Strava website and mobile app, users can track their activities and share and compare their performance with other Strava users. Using a Garmin GPS device and the Strava app, Koppert's ride is captured in a GPS exchange format (GPX). The GPX file both generates the image of the drawing that he sends to his children on WhatsApp, but he also shares it as dataset on Strava where other athletes can download it on their smart device to use it as itinerary to ride it themselves. ^[5] ²¹. Koppert's Contour of Italy drawing was for instance cycled by former professional cyclist Erik Dekker and shared with his followers on his public Strava feed: Erik Dekker, 'Giro d'Italia! Kan dus ook gewoon in een dag!', Strava post, 06.05.2020, accessed 24.07.2022, <https://www.strava.com/activities/3406535371>.

The practices of non-specialists that I described above involve unsophisticatedness in their visuality. Thomas van Linge uses a simple software like Microsoft Paint to create maps resulting in pixelated transitions between lines and color areas. The images created by Claire Pisano and René Koppert show irregularities and imperfections due to the way of drawing, while running or cycling, and as a result of the available street pattern as a basis for finding the lines and curves for the images they want to create. These examples may give the impression that visual flaws are an inherent property of non-specialist



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practices. Nothing could be further from the truth. I see the visual imperfections as a visual cue of the qualities of the practice, such as the independence of Van Linge's research, design, and publishing practice by not being tied to production models dictated by the industry, and Koppert's open publishing strategy that allows his images to be recreated by others, or the new expressive image and fitness exercise typology that Pisano has developed that are about freedom, empowerment and independence. The last practice that I want to discuss in this section involves a high degree of visual sophistication combined with extremely simple technological means. Therefore, the inclusion of this practice among non-specialists only concerns the latter

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René Koppert, *Giro d'Italia in The Netherlands*, Map, published on Strava, 2020.



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aspect: the method of recording, the setting in which this takes place and the method of publication.

American dancer, TikTok celebrity, and Instagram influencer Taylor Pierce publishes short videos where she dances to popular music, alone or with others. For this article I focus on a video published on April 8, 2021, on her Instagram account @taylor_thatdancer that is typical of her output ²². Taylor Pierce (@taylor_thatdancer), “What y’all know about 🎧🎧 w/ @j4ckson7 @icecube”, Instagram post, 08.04.2021, accessed 24.07.2022, <https://www.instagram.com/p/CNag2En14n>. In the 30-second video, Pierce dances with Jackson Myles, @j4ckson7, to the 1999 hip-hop song “You Can Do It” by American rapper Ice Cube. The dance translates textual and musical elements from the song into dance movements. For instance, scratching – a musical technique where a vinyl record is moved back and forth on a turntable to produce a percussive or rhythmic sound – is expressed as stuttering back and forth movements of the dancers. Other parts of the song such as sound effects, rhythms and lyrics are also interpreted as dance moves or are lip-synced by the dancers. [6]

What interests me in the video is that in the translation from song to dance there are also movements that mimic camera and editing techniques. For example, certain dance moves create the illusion of dolly shots (a shot where the camera moves relative to the subject that is being recorded), motion control techniques like Steadicam (where the movement of the camera is isolated from the camera operator’s movement

resulting in shots in which the camera moves smoothly), and digital post-production techniques as digital panning and tilting (the moving horizontally respectively the rotating of a shot). Incorporating digital film effects into analog dance is an example of the post-digital paradigm, in which the interplay between the digital, the biological, and the cultural addresses the humanization of digital technologies. I am no expert on dance, but I see parallels between Pierce’s work and other dance moves that deal with creating illusions. One example is the Moonwalk, a dance move in which the performer glides backwards but their body action suggests forward motion. This movement was popularized by the American pop musician Michael Jackson in the 1980s but can be traced back to the 1930s.

A characteristic of Pierce's videos is that many of the dancers' movements are off-screen and only the visual effect can be seen. In the video, the dancers are visible from the waist up, their legs and feet do not appear in the picture. The videos are shot with the selfie-camera of a smartphone or tablet

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Taylor Pierce (@taylor_thatdancer) & Jackson Myles (@j4ckson7), *You Can Do It*, Video, Published on Instagram, 8 April 2021.

computer mounted on a tripod in a domestic setting. The video is portrait-oriented, as opposed to the usual landscape-oriented television and film images. The image is also mirrored; in many of Taylor Pierce's videos, the names and slogans on t-shirts and caps can be read in mirror writing. The contrast between the extremely sophisticated dance movements and the simple recording technique reinforce each other wonderfully. It makes the dance moves even more irresistible. The unpretentious aspects like the casual clothing of the dancers, the domestic setting, the recognizable lip-syncing to pop music, the use of the selfie camera, and the sharing on social media make the video very recognizable and increase the identification with the dancers.

What we as designers can learn from the practices of René Koppert, Thomas van Linge, Claire Pisano, and Taylor Pierce is that opting for accessible means of production has economic and political benefits. The simple production characteristics of these democratic technologies invite creators of form and content to develop new types of visual refinement to reach and touch others. Furthermore, bringing together and sharing the process of research, design and publication can result in a flexible, open practice that is transparent, recognizable, and open to dialogue. This blurring of the distinction between production and use can be the basis for new practices of co-creation, co-recording, co-editing, co-production, co-publishing, and co-use of visual information.

EDUCATION AND HISTORIOGRAPHY

In the last part of this text, I want to zoom out from practice and focus on the formation and interpretation of graphic design. How can design education and historiography be informed by the above insights about the impact of tools on practice, and the lessons learned from the practices of non-specialists?

For education, it should start with the realization that digital technologies are not just another design tool. To understand the complexities of the tools, they will have to be studied as well as learned. So not only teach how to master the tools but also reflect on them critically and investigate who made it, who

owns the technology, where is it made, by whom, under what conditions, and what are its economic, political, and environmental implications.

The shift towards reflection could make educational institutes the ideal places where the field can be recalibrated to overcome its current existential crisis. By actively researching and developing alternatives to the tools and practices of graphic design, schools can reclaim a position at the center of the field's debate. A position they lost when the monopoly of the academy-trained specialized design practice ceased to exist, and the technology companies that make the graphic means of production acquired such a powerful position.

The research and re-evaluation of the field can take place in schools precisely because they represent an intermediate position between individual practices and the industry. It is therefore imperative for schools to be truly independent. Obviously, they should not give in to the powerful tech companies and let them play too big a role in the curriculum. On the other hand, schools also have a responsibility to look beyond the desires of individuals, the delusions of the day, or the demands of governments and others to deliver designers who can immediately participate in the marketplace. Educational institutions have a responsibility to the field of graphic design and especially to its future.

An example of a research project and practical tool that could only be developed at an educational institution is Color Library ²⁵. Color Library, accessed 27.07.2022, <https://colorlibrary.ch>. Originated at École Cantonale d'art de Lausanne, it is a database of color profiles for artists, designers, photographers, and printers that aims to widen the possibilities of color printing beyond standard color models. The platform offers a large variety of color combinations, from basic colors to metallics, neons, and pastels that can be printed from individual to industrial scale in offset, silkscreen, and risograph, among others. The project started as an experiment but extended to create an online platform widely used by designers to have more expressive and economical capabilities in producing printed matter. Color Library is a registered non-profit organization, all income is reinvested in research and development. This is a good example of research that is too large, technical,

and costly to be conducted in individual design practices, but at the same time is not on the radar of technology companies as it may even go against ISO standards and other industry-controlled mechanisms to pursue universal applicability and efficiency.

The history of graphic design is more than the history of the graphic designer. To be complete, it should also incorporate the tools, the technologies to create, record, edit, produce, and distribute, often mentioned in this article. In addition, it should also consider use, especially if we recognize that the distinction between use and production is blurring, and with it, who we consider to be a graphic designer.

The inclusion of tools in descriptions of the field is already happening, for example in the books: *Graphic Design: Now in Production* (2011) 24. Andrew Blauvelt and Ellen Lupton, eds., *Graphic Design: Now in Production* (Minneapolis: Walker Art Center, 2011) and *Graphic Design History: A Critical Guide* (2013) 25. Johanna Drucker and Emily McVarish, eds., *Graphic Design History: A Critical Guide*, 2nd edition (Boston: Pearson, 2013). The first one contains images of the Commodore Amiga desktop computer (p. 19), RISOGraph MZ970 printer (p. 54), and the Text Pencil software (p. 117), however the number of images of graphic design objects far exceeds the number of tool images. In the latter book, each chapter contains a list of technologies from a certain era under the heading “Tools of the Trade.” However, this could go much further and be more than just a technological context.

The descriptions of the field are limited in their consideration of use and the user. The phenomenon of UX (user experience) does receive quite some attention, but due to its focus on ease of use and efficiency, its depth is limited. A study of reception aesthetics would be worthwhile to find relevant concepts to reflect on the effect of graphic objects on users. Admittedly, use is difficult to document, especially since graphic design is often not only about the message, but especially about the medium and the form. In any case, the aspect of use could be given more attention in the representation of the design objects themselves. Why depict a poster as a solitary image and not photographed in the street where it functions in the context of other signs?

When considering use, the appropriation of graphic means by non-specialists should also be taken into account. Certainly, as can be seen from the examples described above, in impact, ingenuity, and sophistication those practices are not inferior to the work of the specialized practices that have been featured so far in the historiography of graphic design. In addition, there are valuable lessons to be learned from their approach to design issues, and their relationship with design tools.

Supported by critical and investigative educational institutions at the forefront of the field’s recalibration, and a historiography that is more inclusive and also considers the tools and uses of graphic design, the designer can re-engage with the technologies that enabled her role in the first place. By considering tools, and with it production, also as the subject of her activities and not just as a means, the designer can define a new role in which she can reaffirm her “unique position between reading, writing, editing, and distribution” 26. Goggin, “Practice from Everyday Life: Defining Graphic Design’s Expansive Scope by its Quotidian Activities,” 55.