

Constant case study: grasping the digital ecosystem through the perspective of paperbacks

In my reflection about blogging for students, the comparison with the PDF format may seem odd at first glance, but PDFs are commonly used in the academic field as a counterpart to papers in research journals. My statement was that the freedom of the blog format makes it ideal to encompass new forms of media and ideas. In this essay I'll pursue this analysis of writing mediums that are used to put on (digital) paper the subjects of digital media culture. A case study will be done with publications that have research nature, but that don't originate from a typical scholarly context, and thus don't have to follow the constraints of conventional papers.

Constant, is a Belgian organization that has interests for art, media and technology. Their activities range from artworks, events and publications, with the topics such as feminism, free cultures and infrastructures. They initiated Algorit, a workgroup on internet literature that touches upon digital archives, public domain texts, artificial intelligence and text generation. Considering that digital media is one of their main subjects, the choice to make print books may seem counterintuitive as the paper format is bound to its physical limitations. In the following essay this gap between the content topic and medium format will be examined.

In this essay, a small but relevant selection of their printed works will be analyzed to get a better understanding on how printed books and digital media can coexist with each other. The books in question are *Conversations* (2015), *The Techno-Galactic Guide to Software Observation* (2017), *Data Workers* (2019) and *DiVersions v2* (2021). It is important to note that these books, while being physical objects, are a reflection of digital processes. PDF versions can be found on the organization's website and these are quite similar in content to their printed versions. However the digital and printing aspects go beyond this: these books experiment with new manners of writing and publishing. In the first part a sketch of the life-cycle of this type of publications will be made, then a situation with simultaneous versions and histories will be addressed, and finally examples will be shown on how the design of a book can enhance its message.

The books originated from meetings organized or attended by Constant, which were transcribed in several ways. In the case of *Conversations* this was partially done by making interviews. This is a common way to save into text interactions between people. What is innovative is the editing phase, which was done through Etherpad, an open source text editor that allows synchronous online collaboration. This is in line with the theme of the book which is about interviewing people making things with Free / Libre Open Source Software in

the context of graphic design. The book was also made in the same line of thought, using F/LOSS layout tools such as Pandoc and LaTeX, and the process is explained in an interview too (p.333-343).¹ The visuals also reflect this, the book contains diagrams schematizing the workflow (p.345-349). The artworks on the cover page of each interview are also open source, as they are generated from a tool based on Processing. The cover page design is weaved across the corresponding interview: it is a collage of small patterns which are also used to represent each speaker through the text. This use of visuals to indicate the speaker looks similar to the use by websites of randomly generated avatars assigned to their users.² The source files of this book are published on Github, and if one knows a bit how to use these tools, they could generate a new version of the book. The other publications in this essay also use a similar workflow with collaborative and open source tools.

At the time of writing this essay, the webpage containing Constant's publications was unavailable due to a *count(): Parameter must be an array or an object that implements Countable* error. This is unfortunate, but quite handy to illustrate one of the main advantages of the paper format: it can get damaged but is in general quite persistent whereas digital content can be unstable. The online data visualization magazine *Nightingale* announced the project of creating a paper counterpart, and the reasons behind it are probably quite similar to the intentions of Constant.³ The reasoning is that the paper medium is suited for archival purposes, but also because it allows physical interactions: it feels inviting to read and more natural to share.

Regarding the archival quality, an earlier publication from Constant, *Cyberfeminism* (2001), was made available online sixteen years later as a PDF.⁴ This file is not born-digital like the other works presented in this essay, but the file is a scanned facsimile of the paper book. This digital version of the book digitizes to some degree the physical aspect, even if it

¹ The X PUB SWAAT#00 (2021) publication by the experimental publishing traject of the Piet Zwart Institute give more context on these tools. <https://hub.xpub.nl/sandbot/SWAAT/00/SWAAT-00.pdf>

² Bullingham, Liam, and Ana C Vasconcelos. "The Presentation of Self in the Online World': Goffman and the Study of Online Identities." *Journal of information science* 39.1 (2013): 101–112. Web.

³ "A magazine would transcend search engines and optimize chance interactions. While a print publication would need a limited print-run, its distribution in shops and booksellers opens our potential influence and creates many new opportunities, [and it] establishes a more archival version of our work into the printed record. We keep magazines for longer. We leave them in places to be chanced upon. We loan them to our friends. Physical objects hold a different place in our homes and in our lives. They are tangible in a way that the digital world can never replace. Creating a print version also allows us to archive our thoughts in a more lasting way. One of our focuses will be to ensure that print issues of *Nightingale* can be available in libraries and schools. This will help to spread our ideas and influence outside of our professional bubble and it will provide students and researchers a way to access our work in a new format" Jason Forrest and Mary Aviles, *The future of Nightingale*, May 23, 2021. <https://medium.com/nightingale/the-future-of-nightingale-628dca6e2d48>

⁴ Archive available on: <https://video.constantvzw.org/Cyberfeminisme/>

is a PDF on a screen, the materiality can be seen. The paper book was accompanied with a CD-ROM with a hardware design printed on it, it was placed in the book cover and got photographed with the PDF. The files stored on it are not in this PDF, but are also made available online now. Another archiving initiative from Constant is *Verlag*, an online repository of texts that were written for their books, websites and other occasions.⁵ The texts of the different books can be found now at one place and can be arranged in a lot of different manners. The digital medium is used here to transcend the finite and fixed aspects of the book format.

The website's interaction design however is not in total disconnection with the paper book format: each text entry is represented with a rectangle of proportions similar to the A4 paper format, though there are some variations in size, color and orientation. When interacting with them, these rectangles are stacked depending on the theme, author, year, license and project. The inspiration of stacks of papers seems evident. It could be compared to the BumpTop interface where files were given physical properties and the user could use it in a similar way as working on a desk.⁶ The archive looks less abstract and distant thanks to this, all its content is piled in an aesthetic manner in front of the user's eyes. Aspects of the paper and online format are reunited in this platform, but it doesn't stop here, the texts in this digital archive were republished again in paper format during print parties.⁷ These texts thus exist in a plethora of formats, digital as well as physical.

DiVersions v2 (2020) is a new version of the book *DiVersions* (2019), they both also have an online version, as PDFs as well as source files, but also as a website.⁸ On the cover, dustjacket, and regularly in the pages, there are links to the source material. Because it is hosted on Gitlab, which keeps a history of file edits, the work-in-progress versions are also accessible. The making process can be traced back through time and examined. Design choices reflect this, in the first version the cover design has a screenshot of the edit history, showing the who and when changes were made. In the second version the cover shows a distorted view of the glossary, where changes and additions between two different versions

⁵ Verlag: <https://www.constantvzw.org/verlag/spip.php?article106>

⁶ Agarawala, Anand. "Enriching the Desktop Metaphor with Physics, Piles and the Pen." University of Toronto, 2006.

⁷ Open Source Publishing blog, "About Constant Verlag", 2006.
<http://blog.osp.kitchen/works/constant-verlag.html>

⁸ https://diversions.constantvzw.org/wiki/index.php?title=Main_Page

Some more nuance on the matter: "Still, ePub is a lot more interesting than the awkward pseudo stability of the Portable Document Format (pdf), thanks to its closeness to HTML. If you consider ePub as a portable website, you can imagine how it is a much better starting point for hybrid forms of publishing, between continuous and discontinuous bookforms." Alessandro Ludovico, Conversation on publishing, remixing and The Death of the Author. Interview with Constant (An Mertens, Femke Snelting) in: Hacktivism, Neural 52, autumn 2015

are highlighted or in strikethrough formatting. The always changing nature of the immaterial files is thus embodied in the book.

There are different versions, physical as digital, but the content of each of these versions also contains different versions: translations of articles and essays are put next to each other. The title on the spine is “DiVersions / DiVersions / DiVersies v2”, standing for English, French and Dutch, languages in which the content is written. The use of more than one language makes it more accessible.⁹ The title sounds similar to the word “diversity”, which is one of the main themes of the book (p.8). The content addresses the plurality of things in the digital era, discussing subjects such as naming conventions, archive databases, diversity, open source and (de)colonization.

One difference between the two versions, which falls under this essay's questions about the digital versus paper mediums, is the addition in the new version of an *omissum*. This concept was invented as a solution for the problematic situation that the team behind the books faced: the uncovered racist revelations on an historical figure, Paul Otolet, whose contributions were written about multiple times with a positive light. To correct this, a text, the *omissum*, was written to address these points and make the reader aware of the colonial nature of Otolet's framework. In the case of a website, the content can easily be modified, in paper, this is more difficult. New editions or errata can fix it to some degree, but the error is already printed black on white, irreversible and in the bookshelves of many. As a remedy, to access back these bookshelves, the idea is to disperse the *omissum*, by printing or slipping it in other publications.¹⁰

While it is meant to counter limitations of the physical medium, it was also found to be useful in the online space. At the top of the webpage of Algolit's *Data Workers* publication, in which Otolet's work was written about, a note redirecting to the *omissum* was added. On his Wikipedia page too, the *omissum* is referenced.¹¹ When Constant made their announcement about the *omissum*, a screenshot accompanied it, showing the version history of Otolet's Wikipedia entry, with the revision where the *omissum* gets added.¹² The imagery of revision history was used earlier with the first book cover to express the concept of different digital versions in time of the content. However this time, this visual gets a new layer of meaning: besides being changes in version history, it changes History. The *omissum* rewrites the depiction of the past into a less biased grasp.

⁹ Citation from Constant on the backcover of *Cyberfeminism* (2001) “This is a book of translations - because translation permits dissemination”

¹⁰ Diversion v2, “We invite you to adapt and rewrite this *omissum* and insert it into other publications that might need it” (p.163)

¹¹ https://en.wikipedia.org/w/index.php?title=Paul_Otlet#cite_note-omissum-14

¹² Paul Otlet: An Omissum, <https://constantvzw.org/site/Paul-Otlet-Un-Omissum.html>

To have new and deep perspectives, the methods from the *Techno-Galactic Guide to Software Observation* can be useful. It is a book of a small size, easy to carry and to read handheld. It can be consulted anywhere and used for anything. It is practical and user-friendly: there is space to write in it, it refers to useful sources ranging from technical websites to scholarly publications, there are plenty of code snippets explained in small steps, there are a lot of examples, warnings and tips to guide the reader.

Through the pages, different icons are used to indicate the purpose of paragraphs. Interrogative words are used for this, which are clarified with a symbol, such as for how (key), what (interrogation mark), who (little human) and when (clock). One could say the reading experience is similar to the visual flow of users looking at digital interfaces, visual querying of icons is used to find specific types of information. Other icons are used to convey broader concepts, such as urgency (exclamation mark with question bubble), warning (wavy road) and remember (arrow towards a hole). These are there to guide the thinking of the reader in a good direction, the icons also use navigation metaphors.¹³ The remaining icons give extra information or context, such as example (multiple readings with an E), note (mouse cursor on text) and see also (floating and glowing eye). The later ones, with the cursor and mysterious eye have a more techno- and galactic feel.

Overall the icons use commonly used symbols, therefore creating a universal visual language for the book. The art of the guide's cover has these icons as well, but don't serve this text annotation goal. Different alterations of them are shown, such as the steps to make them by combining shapes. Through this the creative process can be reconstructed and insights in the design choices can be gained. Some shapes are reused through the icons, and new icons tend to be derived from another one. It can be said that a visual grammar is created.

An interesting layout arrangement is the chapter "useless scroll against productivity" (p.79-83), where it is blank, and the reader has to turn empty pages. The digital type of content interaction, that is typically used in media providing mobile apps, is transposed in a quite truthful manner in the book format¹⁴. Not only it illustrates this digital phenomenon through experience, but it also serves well the usage meant of this guide. The chapters are practice oriented, they contain thinking exercises or activities to carry out, therefore the reader will concentrate on a handful of pages. Browsing the methodologies to find one that's the most applicable to the situation is fine, but if the reader was mindlessly flipping through the pages, the sudden disappearance of the content with this chapter will cause them to be in a state of attention again.

¹³ Marcus, Aaron. "Metaphor Design in User Interfaces." *Asterisk* (New York, N.Y.) 22.2 (1998): 43–57.

¹⁴ Lupinacci, Ludmila. "Absentmindedly Scrolling through Nothing": Liveness and Compulsory Continuous Connectedness in Social Media." *Media, culture & society* 43.2 (2021): 273–290.

The book came with sticky tabs already placed at the main sections.¹⁵ Guides often have notches in the paper to indicate the index, this is a premeditated design decision. The sticky tabs allude to a later addition of them. It could be interpreted as a guide being passed down from a techno-galactic observer to a new reader. This idea of antecedence suits the nature of the book. It has the goal of transmitting ideas and methodologies developed during the Constant meetings, to disperse these concepts and let them be used in new ways by the reader to help with understanding the things they are facing. The setting of the Techno-Galactic Software Observatory, that takes from fictive futuristic space exploration narratives, allows to create a distance between the common reality, the reader looks through this new lens at ordinary things with a new and more critical perspective.

While the guide is about “software”, the scope of what’s designed as “software” in this book is conceived as a broad concept. Lot of things can fall under this placeholder word, the frameworks and methodologies could be applied to study games, augmented reality artifacts, digital humanities tools, administrative protocols, online exhibitions, internet culture, discussion forums and everything that is loosely related to the digital. For example, the book analyzes in this way the *Walk-In Clinic* meetings (p.168), a geometry ruler (p.182) and an elevator (p.196). The methodologies are classified in seven categories: encountering things, looking at time, writing exercises, studying behavior, drawing flows, furtive observation and making collections. In total there are forty methods, it’s a swiss knife to dissect the unknown, to understand technology.

Expanding on this quest to know more on technology, the “Data Workers” exhibition reveals insights in the algorithmic systems that humans are nowadays exposed to, by using the literary medium to show the invisible systems with the use of words. With the initiative Algolit, multiple artworks and podcasts were made to provide context on how these digital practices work. The works touch on topics such as dataset creation and cleaning, bias in data, classification and machine learning, text generation, natural language processing, AI assistants, digitization, public domain texts, statistical text analysis.¹⁶ A glossary in the publication introduces these concepts to new readers. Weras the Software Observatory has a general scope, the *Data Workers* publication, which documented the meetings, artworks and podcast, gives tools to critically understand the aforementioned technologies that are invisible to the naked eye. Constant is the subject of similar algorithmic systems: when looking for information for this essay on these books, the search engine gave some results

¹⁵ An interesting design choice was made too In *DiVersions v2*, for the online interactive artwork “Samsara Series: Blanke Rites” (p.95, p.105) an image is printed on a paper flap. Lifting it will show the reader the link to the digital artwork www.samsaraseries.com by Arshia Ali Azmat and Hari Prasad Adhikari Sacré.

¹⁶ For example of some of these practices, Pittman, Matthew, and Kim Sheehan. “Amazon’s Mechanical Turk a Digital Sweatshop? Transparency and Accountability in Crowdsourced Online Research.” *Journal of media ethics* 31.4 (2016): 260–262. Web.

to translation machines.¹⁷ It seems that because of the CC4r free copyleft license and the multilingual nature of the organization, the content of their website has been indexed with the corpora the language tool. This resulted in excerpts of texts written by Constant being shown in examples of an online translation dictionary.

These aggregations of text and data often are saved in a plain text format, which is also the format chosen for this publication. As a consequence there are no images nor text formatting.¹⁸ Instead Unicode symbols are used for visuals and Ascii art to make the titles stand out. It can't be said it is only text, the design doesn't look plain: the text is arranged in wavy columns and there are plenty of ornamentations made from special characters such as equal signs. The publication is machine readable and with no markup, but these design choices may obfuscate it to some degree. The book can literally be considered as being data stored on paper. The texts sometimes can also be interpreted as being a sort of paper programming language. Even if the text on paper is unchangeable, there is still a bit of modularity by using text and code editing conventions. In the guide there are instructions or variables between square and angle brackets, such as “[insert name]” (p.69, p.141), giving it a modular property. The use of compositions from Ascii monospace characters can be found in the other publications, such as the header of *Conversations* and schematizations of table, tree hierarchies and lofi-layouts for a proposal in *DiVersions v2* of a “promiscuous browser” (p.79-92).¹⁹ The use of typically digital elements, such as plain text, in these paper publications serves a meta purpose, but also an aesthetic one or to express ideas that would have been difficult otherwise.

These books incorporate digital aspects in their paper format, by using links, icons, variables and plain text, but the books themselves are also reflections on digital media: they are made by online tools and are stored as digital files. Not only do these books show that digital and physical versions can coexist, but also complete each other. Works such as *Cyberfeminism*, *Verlag* and *Omissum* show a cyclic interaction between the two mediums, which allows archiving, rearranging and rethinking texts. The texts of these books touch on these subjects, they present a lot of ideas, but ideas also emanate from the experience of putting

¹⁷ <https://context.reverso.net/translation/english-dutch/worksession>. The first example is from one of their projects (“Worksession 2018 Alchorisma alludes to the relationships between algorithms, charisma, rhythm, alchemy and karma.” / “2018 Alchorisma is een verzonnen woord dat verwijst naar de relaties tussen algoritmes, charisma, ritme, alchemie en karma.”, it isn't totally useful, as the queried weird “werksessie” isn't present in the translation). In a later example Constant is even named (“Worksessions are intensive transdisciplinary moments, organised twice a year by Constant.” / “Werksessies zijn intensieve transdisciplinaire momenten die Constant twee keer per jaar organiseert.”)

¹⁸ Except for the sponsor logos

¹⁹ can also be seen on https://diversions.constantvzw.org/wiki/index.php?title=Promiscuous_browser

together the two opposed mediums that are digital and paper. Holding the Techno-galactic guide will allow the user to see the technology that surrounds them in new ways, *Conversations* is the result and documentation of open online creative culture which build design tools and books, *Data Workers* make clear the designs and flaws of algorithms and source data, the *DiVersions v2* publication put into light questions of the plural nature of books, texts, language, culture and files. Substance and shape mirror each other: the form of the book serves the content and the content is a reaction to the ways text, data and software are presented.

Title	Physical copy	Source files	PDF
Conversations	https://www.books.constantvzw.org/home/conversations	https://github.com/lafkon/conversations	https://conversations.tools/150211_PRINT.pdf
The Techno-Galactic Guide to Software Observation	https://www.books.constantvzw.org/home/tgsoguide	https://gitlab.constantvzw.org/ch/observatory-guide	http://observatory.constantvzw.org/tgsoguide_1806051351.pdf
Data Workers	https://www.books.constantvzw.org/home/dataworkers	https://git.vvvvvvvaria.org/mb/data-workers-publication	https://www.algolit.net/index.php/File:Data-workers.en.publication.pdf
DiVersions v2	https://www.books.constantvzw.org/home/diversions-v2	https://gitlab.constantvzw.org/diversions https://diversions.constantvzw.org/	https://diversions.constantvzw.org/publication/diversions_v2.pdf