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Post-Digital Publishing, Hybrid and Processual Objects in Print

INTRODUCTION

This paper analyses the evolution of printed publishing under the crucial influence of digital technologies. After discussing how a medium becomes digital, it examines the 'processual' print, in other words, the print which embeds digital technologies in the printed page. The paper then investigates contemporary artist's books and publications made with software collecting content from the web and conceptually rendering it in print. Finally, it explores the early steps taken towards true 'hybrids,' or printed products that incorporate content obtained through specific software strategies, products, which seamlessly integrate the medium specific characteristics with the digital processes.

HOW A MEDIUM BECOMES DIGITAL (AND HOW PUBLISHING DID)

For every major medium (vinyl and CDs in music and VHS and DVD in video, for example) we can recognize at least three stages in the transition from analogue to digital, in both production and consumption of content.

The first stage concerns the digitalization of production. It is characterized by software beginning to replace analogue and chemical or mechanical processes. These processes are first abstracted, then simulated, and then restructured to work using purely digital coordinates and means of production. They become sublimated into the new digital landscape. This started to happen with print at the end of seventies with the first experiments with computers and networks, and continued into the eighties with so-called "Desktop Publishing," which used hardware and software to digitalize the print production (the "prepress"), a system perfected in the early nineties.

The second stage involves the establishment of standards for the digital version of a medium and the creation of purely digital products. Code becomes standardized, encapsulating content in autonomous structures, which are universally interpreted across operating systems, devices and platforms. This is a definitive evolution of the standards meant for production purposes (consider Postscript, for example)

into standalone standards (here the PDF is an appropriate example, enabling digital "printed-like" products), that can be defined as a sub-medium, intended to deliver content within specific digital constraints.

The third stage is the creation of an economy around the newly created standards, including digital devices and digital stores. One of the very first attempts to do this came from Sony in 1991, who tried to market the Sony Data Discman as an "Electronic Book Player," unfortunately using closed coding which failed to become broadly accepted.[1] Nowadays the mass production of devices like the Amazon Kindle, the Nook, the Kobo, and the iPad—and the flourishing of their respective online stores—has clearly accomplished this task ("Data Discman"). These online stores are selling thousands of e-book titles, confirming that we have already entered this stage.

Post-digital print starts here, with the alchemic intertwining of the traditional print with the digital (finally taken for granted) that generates new types of publications and genres.

THE PROCESSUAL PRINT AS THE INDUSTRY PERCEIVES IT (ENTERTAINMENT)

Not only are digitalization processes yet to kill off traditional print, but they have also initiated a redefinition of its role in the mediascape. If print increasingly becomes a valuable or collectable commodity and digital publishing also continues to grow as expected, the two may more frequently find themselves crossing paths, with the potential for the generation of new hybrid forms. Currently, one of the main constraints on the mass-scale development of hybrids is the publishing industry's focus on entertainment.

Let's take a look at what is happening specifically in the newspaper industry: on the one hand we see up-to-date printable PDF files to be carried and read while commuting back home in the evening, and on the other hand we have online news aggregators (such as Flipboard and Pulse) which gather various sources within one application with a slick unified interface and layout. These are not really hybrids of print and digital, but merely the products of 'industrial' customization—the consumer product 'choice' of combining existing features and extras, where the actual customizing is almost irrelevant. The way the aggregators are assembling the selected sources (and so 'customizing' the selection) is limited by available screen space, or technological compatibility, missing the whole point of the real multiplicity of sources on Internet, especially if graphically experienced in their own context.

Even worse, the industry's best effort at coming to terms with post-digital print (print embedding some active digital qualities) is currently the QR code—those black-and-white pixelated square images which, when read with the proper mobile phone app, allow the reader access to content (usually a video or web page). This

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1   "Data Discman." *Wikipedia: The Free Encyclopedia*, October 5, 2013.
     http://en.wikipedia.org/wiki/Data_Discman — accessed: January 15, 2014.

kind of technology could be used much more creatively, as a means of enriching the process of content generation. For example, since they use networks to retrieve the displayed content, printed books and magazines could include QR codes as a means of providing new updates each time they are scanned—and these updates could in turn be made printable or otherwise preservable. Digital publications might then send customized updates to personal printers, using information from different sources closely related to the publication's content. This could potentially open up new cultural pathways and create unexpected juxtapositions.[2]

On a different side, the Electronic Literature field of studies is also slowly starting to reflect about these new relationships between language and its representation on the screen. In *Between Page and Screen* by Amaranth Borsuk and Brad Bouse,[3] poetries can be read in their own animated form, after a QR code printed on their book is exposed to the laptop camera and interpreted by a specific software. What we can read is a three-dimension perception of the screen, in a classic augmented reality, which becomes our "reading space," eventually even animated, and expanding print directly into the screen. But beyond the spectacular visuality of the poetry, and the great potential of those technologies to be used for designing a different space, this work is a relatively static process, all planned by the author and only reproducible in an exact way. The enormous potentialities of software and networks to be integrated creating new significant paths at every step are here stopped to stick with the produce.

PRINTING OUT THE WEB

Many possibilities emerge from the combination of digital and print, especially when networks (and therefore infinite supplies of content that can be reprogrammed or recontextualized at will) become involved. A number of different strategies have been employed to assemble information harvested online in an acceptable form for use in a plausible print publication.

One of the most popular of these renders large quantities of Twitter posts (usually spanning a few years) into fictitious diaries. *My Life in Tweets* by James Bridle is an early example realized in 2009.[4] The book compiled all of the author's posts over a two-year period, forming a sort of intimate travelogue. The immediacy of tweeting is recorded in a very classic graphical layout, as if the events were annotated in a diary. Furthermore, various online services have started to sell services appealing to the vanity of Twitter micro-bloggers, for example Bookapp's Tweetbook (book-printing your tweets) or Tweetghetto (a poster version).

Another very popular "web sampling" strategy focuses on collecting amateur photographs with or without curatorial criteria. Here we have an arbitrary narrati-

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2   Ludovico 2012, p. 155.
3   Borsuk/Bouse 2012.
4   Bridle 2009.

ve, employing a specific aesthetic in order to create a visual unity that is universally recognizable due to the ubiquitousness of online life in general, and especially the continuous and unstoppable uploading of personal pictures to Facebook.

A specific sub-genre makes use of pictures from Google Street View, reinforcing the feeling that the picture is real and has been reproduced with no retouches, while also reflecting on the accidental nature of the picture itself. Michael Wolf's book *A Series of Unfortunate Events* points to our very evident and irresistible fascination with "objets trouvé," a desire that can be instantly and repeatedly gratified online.[5]

Finally, there's also the illusion of instant-curation of a subject, which climaxes in the realization of a printed object. Looking at seemingly endless pictures in quick succession online can completely mislead us about their real value. Once a picture is fixed in the space and time of a printed page, our judgments can often be very different.

Such forms of "accidental art" obtained from a "big data" paradigm, can lead to instant artist publications such as Sean Raspet's *2GFR24SMEZZ2XMCVI5... A Novel*, which is a long sequence of insignificant captcha texts, crowd-sourced and presented as an inexplicable novel in an alien language.[6]

There are traces of all the above examples in Kenneth Goldsmith's performance *Printing Out The Internet*.[7] Goldsmith invited people to print out whatever part of the web they desired and bring it to the gallery LABOR art space in Mexico City, where it was exhibited for a month (which incidentally also generated a number of naive responses from environmentally concerned people). The work was inspired by Aaron Swartz and his brave and dangerous liberation of copyrighted scientific content from the JSTOR online archive.[8]

It is what artist Paul Soulellis calls "publishing performing the Internet."[9]

Having said all this, the examples mentioned above are yet to challenge the paradigm of publishing—maybe the opposite. What they are enabling is a "transduction" between two media. They take a sequential, or reductive, part of the web and mould it into traditional publishing guidelines. They tend to compensate for the feeling of being powerless over the elusive and monstrous amount of information available online (at our fingertips), which we cannot comprehensively visualize in our mind.

Print can be considered as the quintessence of the web: it is distributing a smaller quantity of information available on the web, usually in a longer and much better edited form. So the above-mentioned practices sometimes indulge in something like a "miscalculation" of the web itself—the negotiation of this transduction is reducing the web to a finite printable dimension, denaturalizing it. According to Publishers Launch Conferences' cofounder Mike Shatzkin, in the next stage "publishing will become a function [...] not a capability reserved to an industry . . ."[10]

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5   Wolf 2010.
6   Raspet 2013.
7   Goldsmith 2013.
8   Kirschbaum 2011.
9   Soulellis 2013.
10   Shatzkin 2013.

HYBRIDS, THE CALCULATED CONTENT IS SHAPED AND PRINTED OUT

This "functional" aspect of publishing, at its highest level, implies the production of content that is not merely transferred from one source to another, but is instead produced through a calculated process in which content is manipulated before being delivered. A few good examples can be found in pre-web avant-garde movements and experimental literature in which content was unpredictably "generated" by software-like processes. Dada poems, for example, as described by Tristan Tzara, are based on the generation of text, arbitrarily created out of cut-up text from other works.[11] One of the members of the avant-garde literature movement Oulipo created a similar "generative" concept later: Raymond Queneau's *Cent mille milliards de poèmes* is a book in which each page is cut into horizontal strips that can be turned independently, allowing the reader to assemble an almost infinite quantity of poems, with an estimated 200 million years needed to read all the possible combinations.[12] Here a natural gesture (moving strips as if they were sub-pages) becomes a process in the hands and eyes of the reader who can endlessly create not just a combinatory type of content, but truly unexpected poetries. That an Oulipo member created this was no accident—the movement often played with the imaginary of a machinic generation of literature in powerful and unpredictable ways.

Contemporary experiments are moving things a bit further, exploiting the combination of hardware and software to produce printed content that also embeds results from networked processes and thus getting closer to a true 'form'. This 'form' should define at the technical and aesthetic levels the hybrid as a new type of publication, seamlessly integrating the two worlds (print and digital) up to the point that despite its appearance and interface, they would be inextricably tied together through the content. So it's not just about "automatically generate a text" and print it, or randomly assembling bits and pieces of (eventually printed) content in digital. A hybrid product should have a strategy composed by a software part, which would provide some content through a process, and an analogue part which would frame and contextualize it. The level that this hybridization can reach is only limited by the conceptualization and the sophistication of the act and the process.

If we take the traditional book as a starting point there are few cases of early hybrids.

Martin Fuchs and Peter Bichsel's book *Written Images* is an example of the first 'baby steps' of such a hybrid post-digital print publishing strategy.[13] Though it's still a traditional book, each copy is individually computer-generated, thus disrupting the fixed 'serial' nature of print. Furthermore, the project was financed through a networked model (using Kickstarter, the very successful 'crowd-funding' platform),

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11   Cramer 2002.
12   For more information and links to interactive versions see: "Hundred Thousand Billion Poems."
      Wikipedia: The Free Encyclopedia, January 8, 2014.
      http://en.wikipedia.org/wiki/Hundred_Thousand_Billion_Poems — accessed: January 15, 2014.
13   Fuchs/Bichsel 2011.

speculating on the enthusiasm of its future customers (and in this case, collectors). The book is a comprehensive example of post-digital print, through the combination of several elements: print as a limited-edition object, networked crowd-funding, computer-processed information, hybridization of print and digital—all residing in a single object—a traditional book. This hybrid is still limited in several respects, however: its process is complete as soon as it is acquired by the reader; there is no further community process or networked activity involved; once purchased, it will forever remain a traditional book on a shelf.

A related experiment has been undertaken by Gregory Chatonsky with the artwork *Capture*.[14] Capture is a prolific rock band, generating new songs based on lyrics retrieved from the net and performing live concerts of its own generated music lasting an average of eight hours each. Furthermore the band is very active on social media, often posting new content and comments. But we are talking here about a completely invented band. Several books have been written about them, including a biography, compiled by retrieving pictures and texts from the Internet and carefully (automatically) assembling them and printing them out. These printed biographies are simultaneously ordinary and artistic books, becoming a component of a more complex artwork. They plausibly describe a band and all its activities, while playing with the plausibility of skillful automatic assembly of content. In *Capture* the software process is able to create a narrative that can be almost universally read, potentially "updated" at every print (or anytime) and eventually infiltrating some of the alternative music histories, resulting as a future fake reference, accepted and historicized.

Another example of an early hybrid is *American Psycho* by Mimi Cabell and Jason Huff.[15] It was created by sending the entirety of Bret Easton Ellis' violent, masochistic and gratuitous novel *American Psycho* through Gmail, one page at a time. They collected the ads that appeared next to each email and used them to annotate the original text, page by page. In printing it as a perfect bound book, they erased the body of Ellis' text and left only chapter titles and constellations of their added footnotes. What remains is *American Psycho*, told through its chapter titles and annotated relational Google ads only. Luc Gross, the publisher, goes even further in predicting a more pervasive future: "Until now, books were the lat advertisement free refuge."[16] We will see how it turns out, but one could think about inline ads, like product placements in movies etc. Those mechanisms could change literary content itself and not only its containers. So that's just one turnover.

In *American Psycho* the potential of the "accidental" information, generated by the massive online advertisement mechanism is turned into a whole work. It tells a story through the generated advertisement parasites exploiting an unstoppable com-

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14   See Gregory Chatonsky: "Gregory Chantonsky: Capture." *chatonsky.net*.
      http://chatonsky.net/project/capture/ — accessed: January 15, 2014.
15   See Mimi Cabell: "Mimi Cabell | American Psycho, 2010." *mimicabell.org*.
      http://mimicabell.com/gmail.html — accessed: January 15, 2014 and
      http://traumawien.at/prints/american-psycho/American_Psycho_Content.pdf — accessed: November 24, 2014.
16   http://traumawien.at/stuff/littrojans/ — accessed: July 26, 2015.

mercial mechanism, transducing a literature work into the language of advertisement through the "quoting email" which become then active agents in the process.

Finally, why can't a hybrid art book be a proper catalogue of artworks? Les Liens Invisibles, an Italian collective of net artists, have assembled their own, called *Unhappening, not here not now.*[17] It contains pictures and essential descriptions of 100 artworks completely invented but consistently assembled through images, generated titles and short descriptions, including years and techniques for every "artwork." Here a whole genre (the art catalogue or artist monograph) is brought into question, showing how a working machine, properly instructed, can potentially confuse a lot of what we consider "reality." The catalogue, indeed, looks and feels plausible enough, and only those who read it very carefully can have doubts about its authenticity.

CONCLUSIONS

Categorizing these publications under a single conceptual umbrella is quite difficult and even if they are not yet as dynamic as the processes they incorporate, it's not trivial to define any of them as either a 'print publication' or a 'digital publication' (or a print publication with some digital enhancements). They are the result of guided processes and are printed as a very original (if not unique) static repository, more akin to an archive of calculated elements (produced in limited or even single copies), than to a classic book, so confirming their particular status. The dynamic nature of publishing can be less and less extensively defined in terms of the classically produced static printed page. And this computational characteristic may well lead to new types of publications, embedded at the proper level. It can help hybrid publications function as both: able to maintain their own role as publications as well as eventually being able to be the most updated static picture of a phenomenon in a single or a few copies, like a tangible limited edition. And since there is still plenty of room for exploration in developing these kind of processes, it's quite likely that computational elements will extensively produce new typologies of printed artefact, and in turn, new attitudes and publishing structures. Under those terms it will be possible for the final definitive digitalization of print to produce very original and still partially unpredictable results.

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17   See *Les Liens Invisibles: Unhappening. Not here, not now.* Atypo, no place, no year.
       http://www.atypo.org/work/unhappening-not-here-not-now/ — accessed: January 15, 2014.

BIBLIOGRAPHY

Borsuk, Amaranth/Bouse, Brad: *Between Page and Screen.* Los Angeles 2012.

Bridle, James: "Vanity Press Plus: The Tweetbook." *booktwo.org*, March 16, 2009.
     http://booktwo.org/notebook/vanity-press-plus-the-tweetbook/ — accessed: January 15, 2014.

Cabell, Mimi/Huff, Jason: *American Psycho.* New York 2010.

Chatonsky, Gregory: "Gregory Chantonsky: Capture." *chatonsky.net.* http://chatonsky.net/project/capture/ —
     accessed: January 15, 2014.

Cramer, Florian: "Concepts, Notations, Software, Art." *netzliteratur.net*, March 23, 2002.
     http://www.netzliteratur.net/cramer/concepts_notations_software_art.html — accessed:
     January 15, 2014.

Fuchs, Martin/Bichsel, Peter: "Written Images." *writtenimages.net*, May 23, 2011.
     http://writtenimages.net/ — accessed: January 15, 2014.

Goldsmith, Kenneth: *Printing out the Internet. printingtheinternet.tumblr.com,* May 22, 2013.
     http://printingtheinternet.tumblr.com/ — accessed: January 15, 2014.

Kirschbaum, Connor: "Swartz indicted for JSTOR theft. Digital activist gained access
     through MIT network drops." *The Tech — Online Edition,* August 3, 2011.
     http://tech.mit.edu/V131/N30/swartz.html?comments#comment-1098 — accessed: January 15, 2014.

Les Liens Invisibles: *Unhappening. Not here, not now*. No place, no year.

Ludovico, Alessandro: *Post-digital Print — The Mutation Of Publishing Since 1894.* Eindhoven 2012.

Queneau, Raymond: *Cent mille milliards de poems.* Paris 1961.

Raspet, Sean: "2GFR24SMEZZ2XMCVI5L8X9Y38ZJ2JD... — The Highlights." *The Highlights*,
     2013. http://thehighlights.org/wp/captcha — accessed: January 15, 2014.

Shatzkin, Mike: "Atomization: publishing as a function rather than an industry — The
     Shatzkin Files." *The Idea Logical Company,* March 19, 2013.
     http://www.idealog.com/blog/atomization-publishing-as-a-function-rather-than-an-industry/
     — accessed: January 15, 2014.

Soulellis, Paul: "Search, compile, publish. Towards a new artist's web-to-print practice." *Soulel-
     lis.com,* May 23, 2013. http://soulellis.com/2013/05/search-compile-publish/ — accessed:
     January 15, 2014.

Wolf, Michael: "a series of unfortunate events." *Michael Wolf Photography*, 2010.
     http://photomichaelwolf.com/#book-asoue — accessed: January 15, 2014.

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