FROM WEB TO PRINT

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INTRODUCTION

From Web to print focuses on the integration of digital elements into the print production process, while exploring the transformations in the editorial realm in this post-digital era.

Delving into the evolution of the publishing field beyond the simple transition from analogue to digital, this project searches for a deeper understanding of the new possibilities that arise when digital technology is integrated into the editorial process, transforming the way we consume and produce printed content.

This project incorporates both digital and print elements. The crossing of these two worlds aims to create a distinctive experience that leverages the strengths in each medium. The website (linked on the QR code) holds the printable pdf and serves as a quick-access archive for the contents and projects mentioned in the print object. The printed publication is born from the digital pdf and provides a more in-depth textual content. It follows a print on demand approach, meaning that it is only printed when and where the consumer decides to do so. Web to print is only complete with these two elements, as they complement each other in an indivisible way and are not separate entities. The project aimed to do an in-depth investigation of the current cultural production in communication design panorama and explore the possibilities of manufacturing publications that merge paper with digital media.

The project was carried out in an educational setting for the *Projeto 1* subject integrated in the master's degree in Communication Design at the Fine Arts School of the University of Lisbon (Faculdade de belas-artes da Universidade de Lisboa).

01 POST-DIGITAL

#TECNOLOGY #DOT-COM AGE #DIGITALISATION #COMPUTATIONAL #OLD MEDIA VS NEW MEDIA #PRE-WEB

(1) Cramer, Florian. 2015. "What Is 'Post-digital'?". Postdigital Aesthetics: Art, Computation and Design, David M. Berry e Michael Dieter (eds.), pp. 12-26. Hampshire; new York: Palgrave Macmillan.

(2) Berry, David. 2017. "The Post-Archival Constellation: The Archiveunder the Technical Conditions of Computational Media." Memory in Motion: Archives, Technology, and the Social, Ina Blom, Trond Lundemo e Eivind Røssaak (eds.), 103-128. Amsterdão: Amsterdam University Press.

WHAT EXACTLY IS POST-DIGITAL?

Cramer, Florian. 2015. "What Is 'Post-digital'?". Postdigital Aesthetics: Art, Computation and Design, David M. Berry e Michael Dieter (eds.), pp. 12-26. Hampshire; new York: Palgrave Macmillan.

"I was first introduced to the term 'post-digital' in 2007 by my then-student Marc Chia — now Tara Transitory. My first reflex was to dismiss the whole concept as irrelevant in an age of cultural, social and economic upheavals driven to a large extent by computational digital technology. Today, in the age of ubiquitous mobile devices, drone wars and the gargantuan data operations of the NSA, Google and other global players, the term may seemeven more questionable than it did in 2007: as either a sign of ignorance of our contemporary reality, or else of some deliberate Thoreauvian-Luddite withdrawal from this reality. More pragmatically the term 'post- digital' can be used to describe either a contemporary disenchantment with digital information systems and media gadgets, or a period in which our fascination with these systems and gadgets has become historical — just like the dot-com age ultimately became historical in the 2013 novels of Thomas Pynchon and Dave Eggers. After Edward Snowden's disclosures of the NSA's all-pervasive digital surveillance systems, this disenchantment has quickly grown from a niche 'hipster' phenomenon to a mainstream position — one which is likely to have a serious impact on all cultural and business practices based on networked electronic devices and Internet services.

While a Thoreauvian-Luddite digital withdrawal may seem a tempting option for many, it is fundamentally a naïve position, particularly in an age when even the availability of natural resources depends on global computational logistics, and intelligence agencies such as the NSA intercept paper mail as well as digital communications. In the context of the arts, such a withdrawal seems little more than a rerun of the 19th-century Arts and Crafts movement, with its programme of handmade production as a means of resistance to encroaching industrialisation. Such (romanticist) attitudes undeniably play an important role in today's renaissance of artists' printmaking, handmade film labs, limited vinyl editions, the rebirth of the audio cassette, mechanical typewriters, analog cameras and analog synthesisers. An empirical study conducted by our research centre Creating 010 in Rotterdam among Bachelor students from most of the art schools in the Netherlands indicated that contemporary young artists and designers clearly prefer working with non-electronic media: given the choice, some 70% of them "would rather design a poster than a website" (Van Meer, 14). In the Netherlands at least, education programmes for digital communication design have almost completely shifted from art academies to engineering schools, while digital media are often dismissed as commercial and mainstream by art students (Van Meer, 5). Should we in turn dismiss their position as romanticist and neo-Luddite?"

POST’-ISMS

“On closer inspection however, the dichotomy between digital big data and neo-analog do-it-yourself (DIY) is really not so clear-cut. Accordingly, ‘post-digital’ is arguably more than just a sloppy descriptor for a contemporary (and possibly nostalgic) cultural trend. It is an objective fact that the age in which we now live is not a post-digital age, neither in terms of technological developments — with no end in sight to the trend towards further digitisation and computerisation – nor from a historico-philo-sophical perspective. Regarding the latter, Cox offers a valid critique of the “periodising logic” embedded in the term ‘post--digital’, which places it in the dubious company of other historico-philosophical ‘post’-isms, from postmodernism to post-histoire. However, ‘post-digital’ can be defined more pragmatically and meaningfully within popular cultural and colloquial frames of reference. This applies to the prefix ‘post’ as well as the notion of ‘digital’.

The prefix ‘post’ should not be understood here in the same sense as postmodernism and post-histoire, but rather in the sense of post-punk

(a continuation of punk culture in ways which are somehow still punk, yet also beyond punk); post-communism (as the ongoing social-political reality in former Eastern Bloc countries); post-feminism (as a critically revised continuation of feminism, with blurry boundaries with ‘traditional’, unprefixed feminism); postcolonialism (see next paragraph); and, to a lesser extent, post-apocalyptic (a world in which the apocalypse is not over, but has progressed from a discrete breaking point to an ongoing condition — in Heideggerian terms, from Ereignis to Being — and with a contemporary popular iconography pioneered by the Mad Max films in the 1980s).

None of these terms — post-punk, post-communism, post-feminism, postcolonilism, post-apocalyptic — can be understood in a purely Hegelian sense of an inevitable linear progression of cultural and intellectual history. Rather, they describe more subtle cultural shifts and ongoing mutations. Postcolonialism does not in any way mean an end of colonialism (akin to Hegel’s and Fukuyama’s “end of history”), but rather its mutation into new power structures, less obvious but no less pervasive, which have a profound and lasting impact on languages and cultures, and most significantly continue to govern geopolitics and global production chains. In this sense, the post-digital condition is a post-apocalyptic one: the state of affairs after the initial upheaval caused by the computerisation and global digital networking of communication, technical infrastructures, markets and geopolitics.”

WHAT IS DIGITAL?

"Also, the 'digital' in 'post-digital' should not be understood in any technical-scientific or media- -theoretical sense, but rather in the way the term is broadly used in popular culture — the kind of connotation best illustrated by a recent Google Image Search result for the word 'digital'.

The first thing we notice is how the term 'digital' is, still in 2013, visually associated with the colour blue. Blue is literally the coolest colour in the colour spectrum (with a temperature of 15,000 to 27,000 Kelvin), with further suggestions of cultural coolness and cleanness. The simplest definition of 'post-digital' describes a media aesthetics which opposes such digital high-tech and high-fidelity cleanness. The term was coined in 2000 by the musician Kim Cascone, in the context of glitch aesthetics in contemporary electronic music (Cascone, 12). Also in 2000, the Australian sound and media artist Ian Andrews used the term more broadly as part of a concept of "post-digital aesthetics" which rejected the "idea of digital progress" as well as "a teleological movement toward 'perfect' representation" (Andrews).

Cascone and Andrews considered the notion of 'post-digital' primarily as an antidote to techno-Hegelianism. The underlying context for both their papers was a culture of audio-visual production in which 'digital' had long been synonymous with 'progress': the launch of the Fairlight CMI audio sampler in 1979, the digital audio CD and the MIDI standard (both in 1982), software-only digital audio workstations in the early 1990s, real-time programmable software synthesis with Max/MSP in 1997. Such teleologies are still prevalent in video and TV technology, with the ongoing transitions from SD to HD and 4K, from DVD to BluRay from 2D to 3D —always marketed with a similar narrative of innovation, improvement, and higher fidelity of reproduction. In rejecting this narrative, Cascone and Andrews opposed the paradigm of technical quality altogether. Ironically, the use of the term 'postdigital' was somewhat confusing in the context of Cascone's paper, since the glitch music defined and advocated here actually was digital, and even based on specifically digital sound-processing artefacts. On the other hand, and in the same sense as postpunk can be seen as a reaction to punk, Cascone's concept of 'post-digital' may best be understood as a reaction to an age in which even camera tripods are being labelled as 'digital', in an effort to market them as new and superior technology."

ARE ‘DIGITAL’ AND ‘ANALOG’ OPPOSITES OR SYNONIMS?

“From a strictly technological or scientific point of view, Cascone’s use of the word ‘digital’ was inaccurate. This also applies to most of what is commonly known as ‘digital art’, ‘digital media’ and ‘digital humanities’. Something can very well be ‘digital’ without being electronic, and without involving binary zeroes and ones. It does not even have to be related in any way to electronic computers or any other kind of computational device. Conversely, ‘analog’ does not necessarily mean non-computational or pre-computational. There are also analog computers. Using water and two measuring cups to compute additions and subtractions — of quantities that can’t be counted exactly — is a simple example of analog computing

‘Digital’ simply means that something is divided into discrete, countable units — countable using whatever system one chooses, whether zeroes and ones, decimal numbers, tally marks on a scrap of paper, or the fingers (digits) of one’s hand — which is where the word ‘digital’ comes from in the first place; in French, for example, the word is ‘numérique’. Consequently, the Roman alphabet is a digital system; the movable types of Gutenberg’s printing press constitute a digital system; the keys of a piano are a digital system; Western musical notation is mostly digital, with the exception of instructions with non-discrete values such as adagio, piano, forte, legato, portamento, tremolo and glissando. Floor mosaics made of monochrome tiles are digitally composed images. As all these examples demonstrate, ‘digital’ information never exists in a perfect form, but is instead an idealised abstraction of physical matter which, by its material nature and the laws of physics, has chaotic properties and often ambiguous states.

The hipster’s mechanical typewriter, with its discrete set of letters, numbers and punctuation marks, is therefore a ‘digital’ system as defined by information science and analytic philosophy (Goodman, 161). However, it is also ‘analog’ in the colloquial sense of the word. This is also the underlying connotation in the meme image, with its mocking of ‘hipster’ retro culture. An art curator, on the other hand, might consider the typewriter a ‘post-digital’ medium.

Media, in the technical sense of storage, transmission, computation and display devices, are always analog. The electricity in a computer chip is analog, as its voltage can have arbitrary, undifferentiated values within a specific range, just like a fretless violin string. Only through filtering can one make a certain sub-range of high voltages correspond to a ‘zero’ and another sub-range of low voltages to a ‘one’. Hardware defects can cause bits to flip, turning zeroes into ones and vice-versa. Also, the sound waves produced by a sound card and a speaker are analog, etc. This is what (Kittler, 81-90) refers to, somewhat opaquely, when he argues that in computing “there is no software”. An LCD screen is a hybrid digital-analog system: its display is made of discrete, countable, single pixels, but the light emitted by these pixels can be measured on an analog continuum. Consequently, there is no such thing as digital media, only digital or digitised information: chopped -up numbers, letters, symbols and any other abstracted units, as opposed to continuous, wave-like signals such as physical sounds

and visible light. Most ‘digital media’ devices are in fact analog-to-digital-to-analog converters: an MP3 player with a touchscreen interface for example, takes analog, non-discrete gesture input and translates it into binary control instructions which in turn trigger the computational information processing of a digital file, ultimately decoding it into an analog electrical signal which another analog device, the electromagnetic mechanism of a speaker or headphone, turns into analog sound waves. The same principle applies to almost any so-called digital media device, from a photo or video camera to an unmanned military drone. Our senses can only perceive information in the form of non-discrete signals such as sound or light waves. Therefore, anything aesthetic (in the literal sense of aisthesis, perception) is, by strict technical definition, analog.

A ‘digital artwork’ based on the strictly technical definition of ‘digital’ would most likely be considered ‘post-digital’ or even ‘retro analog’ by art curators and humanities scholars: for example, stone mosaic floors made from Internet imageboard memes, mechanical typewriter installations,[d] countdown loops running in Super 8 or 16mm film projection, but also computer installations exposing the indexicality of electrical currents running through circuits. The everyday colloquial definition of ‘digital’ embraces the fiction (or rather: the abstraction) of the disembodied nature of digital information processing. The colloquial use of ‘digital’ also tends to be metonymical, so that anything connected literally or figuratively to computational electronic devices — even a camera tripod— can nowadays be called ‘digital’. This notion, mainly cultivated by product marketing and advertising, has been unquestioningly adopted by the ‘digital humanities’ (as illustrated by the very term ‘digital humanities’). On the other hand, ‘post-digital’ art, design and media — whether or not they should technically be considered post-digital – challenge such uncritical notions of digitality, thus making up for what often amounts to a lack of scrutiny among ‘digital media’ critics and scholars.

Conversely, ‘analog’ means that the information has not been chopped up into discrete, countable units, but instead consists of one or more signals which vary on a continuous scale, such as a sound wave, a light wave, a magnetic field (for example on an audio tape, but also on a computer hard disk), the flow of electricity in any circuit including a computer chip, or a gradual transition between colours, for example in blended paint.

(Goodman, 160) therefore defines analog as “undifferentiated in the extreme” and “the very antithesis of a notational system”. The fingerboard of a violin is analog: it is fretless, and thus undivided and continuous. The fingerboard of a guitar, on the other hand, is digital: it is divided by frets into discrete notes. What is commonly called ‘analog’ cinema film is actually a digital-analog hybrid: the film emulsion is analog, since its particles are undifferentiated blobs ordered organically and chaotically, and thus not reliably countable in the way that pixels are. The combined frames of the film strip, however, are digital since they are discrete, chopped up and unambiguously countable. The structure of

an analog signal is determined entirely by its correspondence (analogy) with the original physical phenomenon which it mimics. In the case of the photographic emulsion, the distribution of the otherwise chaotic particles corresponds to the distribution of light rays which make up an image visible to the human eye. On the audio tape, the fluctuations in magnetisation of the otherwise chaotic iron or chrome particles correspond to fluctuations in the sound wave which it reproduces. However, the concept of ‘post-digital’ as defined by Cascone ignored such technical-scientific definitions of ‘analog’ and ‘digital’ in favour of a purely colloquial understanding of these terms.

Proponents of ‘post-digital’ attitudes may reject digital technology as either sterile high tech or low-fidelity trash. In both cases, they dismiss the idea of digital processing as the sole universal all-purpose form of information processing. Consequently, they also dismiss the notion of the computer as the universal machine, and the notion of digital computational devices as all-purpose media. Prior to its broad application in audiovisual signal processing and as the core engine of mass-media consumer technology, computation had been used primarily as a means of audiovisual composition.

For example, Philips ran a studio for contemporary electronic music in the 1950s, before co-developing the audio CD in the early 1980s. By this time, audiovisual computing had shifted from being primarily a means of production, to a means of reproduction. Conversely, Cascone’s ‘post-digital’ resistance to digital high-tech reproduction echoed older forms of resistance to formalist, mathematically-driven narratives of progress in music production and composition — particularly the opposition to serialist composition in 20th century contemporary music, which began with John Cage, continued with the early minimal music of La Monte Young and Terry Riley, and was further developed by improvisation/composition collectives such as AMM, Musica Elettronica Viva and Cornelius Cardew’s Scratch Orchestra. After all, the serialism of Stockhausen, Boulez and their contemporaries was ‘digital’ in the most literal sense of the word: it broke down all parameters of musical composition into computable values which could then be processed by means of numerical transformations. Yet most serialist music was not electronic, but composed with pen and paper and performed by orchestras. This demonstrates once again a crucial issue: unlike the colloquial meaning of the term ‘digital’ as commonly used in the arts and humanities, the technical-scientific notion of ‘digital’ can, paradoxically enough, be used to describe devices which would be considered ‘analog’ or ‘post-digital’ in the arts and humanities.”

POST-DIGITAL: A CONCLUSION

"Returning to Cascone and Andrews, but also to post-punk, postcolonialism and Mad Max, the term 'post-digital' in its simplest sense describes the messy state of media, arts and design after their digitisation (or at least the digitisation of crucial aspects of the channels through which they are communicated). Sentiments of disenchantment and scepticism may also be part of the equation, though this need not necessarily be the case — sometimes, 'post-digital' can in fact mean the exact opposite. Contemporary visual art, for example, is only slowly starting to accept practitioners of net art as regular contemporary artists — and then again, preferably those like Cory Arcangel whose work is white cube — compatible. Yet its discourse and networking practices have been profoundly transformed by digital media such as the e-flux mailing list, art blogs and the electronic e-flux journal. In terms of circulation, power and influence, these media have largely superseded printed art periodicals, at least as far as the art system's in-crowd of artists and curators is concerned. Likewise, when printed news-papers shift their emphasis from daily news (which can be found quicker and cheaper on the Internet) to investigative journalism and commentary — like The Guardian's cover-age of the NSA's PRISM programme — they effectively transform themselves into post-digital or post-digitisation media.

'Post-digital' thus refers to a state in which the disruption brought upon by digital information technology has already occurred. This can mean, as it did for Cascone, that this technology is no longer perceived as disruptive. Consequently 'post-digital' stands in direct opposition to the very notion of 'new media'.

At the same time, as its negative mirror image, it exposes — arguably even deconstructs — the latter's hidden teleology: when the term 'post-digital' draws critical reactions focusing on the dubious historico-philosophical connotations of the prefix 'post', one cannot help but wonder about a previous lack of such critical thinking regarding the older (yet no less Hegelian) term 'new media'.

'Post-digital' describes a perspective on digital information technology which no longer focuses on technical innovation or improvement, but instead rejects the kind of techno-positivist innovation narratives exemplified by media such as Wired magazine, Ray Kurzweil's Google-sponsored 'singularity' movement, and of course Silicon Valley. Consequently, 'post-digital' eradicates the distinction between 'old' and 'new' media, in theory as well as in practice. Kenneth Goldsmith notes that his students "mix oil paint while Photoshopping and scour flea markets for vintage vinyl while listening to their iPods" (Goldsmith, 226). Working at an art school, I observe the same. Young artists and designers choose media for their own particular material aesthetic qualities (including artefacts), regardless of whether these are a result of analog material properties or of digital processing. Lo-fi imperfections are embraced — the digital glitch and jitter of Cascone's music along with the grain, dust, scratches and hiss in analog reproduction — as a form

of practical exploration and research that examines materials through their imperfections and malfunctions. It is a post-digital hacker attitude of taking systems apart and using them in ways which subvert the original intention of the design.

No doubt, there is a great deal of overlap between on one hand post-digital mimeograph printmaking, audio cassette production, mechanical typewriter experimentation and vinyl DJing, and on the other hand various hipster-retro media trends — including digital simulations of analog lo-fi in popular smart-phone apps such as Instagram, Hipstamatic and iSupr8. But there is a qualitative difference between simply using superficial and stereotypical ready-made effects, and the thorough discipline and study required to make true ‘vintage’ media work, driven by a desire for non-formulaic aesthetics. Still, such practices can only be meaningfully called ‘post-digital’ when they do not merely revive older media technologies, but functionally repurpose them in relation to digital media technologies: zines that become non-blogs, vinyl as anti-CD, cassette tapes as anti-MP3, analog film as antivideo.”

Berry, David. 2017. “The Post-Archival Constellation: The Archiveunder the Technical Conditions of Computational Media.” Memory in Motion: Archives, Technology, and the Social, Ina Blom, Trond Lundemo e Eivind Røssaak (eds.), 103-128. Amsterdão: Amsterdam University Press.

“The postdigital, as an aesthetic, gestures towards a relation produced by digital surfaces in a bewildering number of different places and contexts. This interface-centricity is not necessarily screenic, however, and represents the current emerging asterism that is formed around notions of art, computation and design. In this conception, the post-digital is not purely a digital formation or artefact — it can also be the concepts, networks and frameworks of digitality that are represented (e.g. voxels, glitch, off-internet media, neo-analogue, ‘non-digital’ media, post-internet art). Nonetheless, the interesting aspect is the implicit notion of surfaces as theatres of action and performance — such as through data visualization, interactivity or material design — above and beyond a depth model, which highlights the machinery of computation (see Berry 2014, 58). The postdigital is, then, both an aesthetic and a logic that informs the representation of space and time within an epoch that is after-digital, but which remains profoundly computational and organized through a constellation of techniques and technologies to order things to stand by (Heidegger 1977).

Further, the postdigital itself can be understood as an aesthetic that revels in the possibility of revealing the ‘grain of computation’, or, perhaps better, showing the limitations of digital artefacts through a kind of digital glitch, or the ‘aesthetics of failure’ (Cascone 2000, 13). In common with the new aesthetic, the postdigital has been linked to the extent to which digital media have permeated our everyday lives (Berry 2012a). We could, perhaps, say that the postdigital emerges from a form of ‘breakdown’ practice linked to the conspicuousness of digital technologies (see Berry 2014, 99): not just through the use of digital tools, of course, but also a language of new media (see Manovich 2001), the frameworks, structures, concepts and processes represented by computation, and the interplay of design and aesthetics inscribed on the faces of technical devices; that is, both in the presentation of computation and in its representational modes.

Latour first outlined a rejection of the specificity of the digital as a separate domain, highlighting both the materiality of the digital and its complex relationship with the analogue. He described the analogue structures that underpin the digital processing that makes the digital possible (the materials, the specific electrical voltage structures and

signalling mechanisms, the sheer matter of it all), but also the digital's relationship to a socio-technical environment. In other words, he swiftly moved away from what we might call the abstract materiality of the digital, its complex layering over an analogue carrier, and instead reiterated the conditions under which the existing methodological approach of actor-network theory was justified: digital forms part of a network, is 'physical' and material, requires a socio-technical environment to function, is a 'complex function' and so on.

In response to Latour's formulation, I would like to offer a contextualization of the digital by way of exploring the notion of the 'postdigital constellation'. This is to use the postdigital in an approach that looks to interrogate the original theoretical legacy of early critical theory, and also explores its concepts and ideas in the light of computation and the postdigital condition (see Berry 2014). This is to connect back the implications of computational imaginaries, particularly hegemonic representations of the digital — 'postdigital aesthetics', 'new aesthetic', 'pixels', 'sound waves', 'interfaces', 'surface' and so forth — in relation to the digital itself. As computation has become spatial in its implementation, embedded within the environment, in the body and in society, it becomes part of the texture of life itself which can be walked around, touched, manipulated and interacted with in a number of ways. So 'being online' or 'being offline' is now anachronistic, with our always on smart devices, tablets and hyper-connectivity, as, indeed, is the notion that we have 'digital' and 'analogue' worlds that are disconnected or discrete. Today the postdigital is hegemonic, and as such is entangled with everyday life and experience in a highly complex, messy and difficult to untangle way that is different from previous instantiations of the digital — indeed, the varieties of the digital should be treated as historical in this important sense. The postdigital constellation similarly resembles aerial photography of landscapes and cities, in that it does not emerge out of the interior of the given conditions, but, rather, appears above them — granting a distant reading of culture, society and everyday life. In the midst of a world which has become blurred and ungraspable, the postdigital constellation becomes a primary element, an object for a cultural analytics that provides connection and a sense of cohesion in a fragmentary digital experience. The relation to the postdigital constellation is an aesthetic mode, an ornament that becomes an end in itself — via data visualizations, interfaces, surfaces, habitual media and veneers of glass (see also Chun; Cubitt 2015, this volume).

The postdigital can be thought of as an abductive aesthetic (or pattern aesthetic) and linked by a notion of computational patterns and pattern recognition as a means of cultural expression. By this I mean that, as computational ontologies and categories become increasingly dominant as instrumental and aesthetic values, they also become influential as economic, political, communicative and aesthetic concepts.

The postdigital is a concept that stands in for, or conceptualizes, the notion of the computational as a network of digital surfaces in a number of different places and contexts. The postdigital can be said to constitute the pattern, the asterism, that is distinctive of our age, but

it impresses itself on the new as well as the traditional. Thus, history is recast within the terms of the postdigital. In other words, we tend to look backwards with computational ‘eyes’ and reconstruct the past as if computationally ‘found patterns’ had been influential on making, drawing, writing or creating culture more generally.

Ironically, this is happening at a time when most people’s command of digital technology is weak and their understanding of the politics of technology minimal. The postdigital might, then, in its popular manifestations, and as evidenced by Bridle (2012) and Sterling (2012), actually gesture towards a weak form of understanding of the computational and its representation — perhaps even an attempt at a domestication (Silverstone, 2003). This seems especially important when we look critically at the suggested methods proposed by Latour and others, and their disavowal in relation to the computational. Indeed, at the level of the interface, which often represents not the presently existing computational but a simplified version in, for example, flat design, 8-bit graphics or blocky visuals, we see that the surface actually detracts from understanding what Lash (2007) called ‘algorithmic power’. The postdigital is, therefore, specific to the more general problematic raised in relation to the question of reason and emancipation in a computational society, and one in which the intentionality of the black boxes of technology is increasingly divined from their surfaces.”

02 POST-INTERNET

#WEBCULTURE #TRENDS #INTERNET-AWARE #INNOVATION #METADATA #NAVIGATION #AESTHETICS

(3) Quaranta, Domenico. 2015. "Situating Post Internet." Media Art: Towards a New Definition of Arts in the Age of Technology, Valentino Catricalà (ed.).

“INTERNET STATE OF MIND”

Quaranta, Domenico. 2015. “Situating Post Internet.” Media Art: Towards a New Definition of Arts in the Age of Technology, Valentino Catricalà (ed.).

“As is now well known, the term “postinternet” was first used by artist and (at the time) Rhizome editor Marisa Olson in 2006, in reference to her own practice and that of her peers. While she was mainly speaking for herself, as she recently clarified, her post at Rhizome and her role as a co-founder of Nasty Nets, the first surfing club, put her in a position to speak, more broadly, about a new generation of artists who, while spending a lot of time online, were developing most of their work offline: work that was nonetheless “infused with the digital visual language, network aesthetics, and the social politics of online transmission and reception.” The term survived, together with a few alternatives such as internet-engaged art and internet-aware art (the latter first used by artist Guthrie Lonergan) until it was popularized by art critic Gene McHugh, who — thanks to a grant from the Creative Capital | Andy Warhol Foundation Arts Writers Grant Program — ran a blog of the same name from December 2009 to September 2010.

While Olson, in her use of the term, stressed the “practical” shift from making art online to making art that took advantage of the act of navigation, McHugh focused instead on the historical and conceptual reasons for this shift. He attributed them to the general transformation of the relationship between reality and the internet, which provided different terrain for the relationship between art and the internet.

According to McHugh: “No matter what your deal was/is as an artist, you had/have to deal with the Internet — not necessarily as a medium in the sense of formal aesthetics (glitch art, .gifs, etc), but as a distribution platform, a machine for altering and re-channeling work [...] Even if the artist doesn’t put the work on the Internet, the work will be cast into the Internet world; and at this point, contemporary art, as a category, was/is forced, against its will, to deal with this new distribution context or at least acknowledge it.” McHugh’s definition is also important because it links up with the most recent definition of the term, which can be summed up in the words of Karen Archey and Robin Peckham:

This understanding of the post-internet refers not to a time “after” the internet, but rather to an internet state of mind — to think in the fashion of the network. In the context of artistic practice, the category of the post-internet describes an art object created with a consciousness of the networks within which it exists, from conception and production to dissemination and reception.

But before moving on, it is worth spending some time on the three competing labels that emerged around 2006–2008 in the debate around net art. Though very different from one another, post internet, internet-aware and internet-engaged all resulted from an aversion to medium-based labels such as net art or internet art; they all pointed to the internet as a cultural reference, and an environment, rather than a

medium. This is related, on the one hand, to a general change in the perception of the relationship between reality and the internet, as McHugh pointed out; and, on the other hand, to a dissatisfaction with medium specificity and the niche status of new media art.

After the dotcom bubble and with the arrival of the Web 2.0, the internet started to be perceived less as a medium and more as a key part of our daily lives; less as a utopia to construct together, and more as a dystopia we are all part of, but that still provides interesting opportunities for networking and community making, and an unprecedented tool for “surfing” reality and getting a better understanding of it.

This goes beyond the scope of this essay, but it is worth noting that the idea that the information society has entered a new phase has now been universally accepted, and different people have attempted to describe this shift in different terms, but in very similar ways. More specifically, the debate around post internet art has arisen more or less in parallel to the debates around postmedia, a term first used by Felix Guattari in 1996, post-digital and the New Aesthetic. First used by Kim Cascone in an essay on digital music published in 2000, the notion of post-digital attracted much debate between 2008 and 2014. In 2014, Aarhus University and transmediale, Berlin set up “Post-digital Research”, an initiative that produced a peer-reviewed journal and came up with the following working definition: Post-digital, once understood as a critical reflection of “digital” aesthetic immaterialism, now describes the messy and paradoxical condition of art and media after digital technology revolutions. “Post-digital” neither recognizes the distinction between “old” and “new” media, nor ideological affirmation of the one or the other. It merges “old” and “new”, often applying network cultural experimentation to analog technologies which it re-investigates and re-uses. It tends to focus on the experiential rather than the conceptual. It looks for DIY agency outside totalitarian innovation ideology, and for networking off big data capitalism.

The New Aesthetic started as a visual study run on a Tumblr blog by British artist and designer James Bridle in 2011, and gathered momentum around 2012, when author Bruce Sterling made it the subject of an enthusiastic essay in Wired. [13] The New Aesthetic blog collects images from art, design, online interfaces and daily life, with a focus on how the digital manifests itself in the physical domain. As Bridle explains in an essay tellingly re-published at the beginning of the book You Are Here: Art After the Internet: It is impossible for me [...] not to look at these images and immediately start to think about not what they look like, but how they came to be and what they become: the processes of capture, storage, and distribution; the actions of filters, codecs, algorithms, processes, databases, and transfer protocols; the weight of datacenters, servers, satellites, cables, routers, switches, modems, infrastructures physical and virtual; and the biases and articulations of disposition and intent encoded in all of these things, and our comprehension of them.

Post internet emerged along, and with a deep awareness of, these lines of thought. But the urge to reframe the art formerly known as net art was also related to another process, within the field of new media art: the need to go “beyond new media art”, both as a medium-based practice and as a cultural niche, in order to develop a better dialogue with the contemporary art world after the nonstarters at the turn of

the millennium, when new media art missed the chance (offered by a number of museum exhibitions) to be viewed as one of the most interesting artistic developments of the last few years. Around 2005, many "new media artists" - led by representatives of the first net art generation — had already started working with commercial galleries and contemporary art institutions, and investigating ways to present their works in the white cube. Most of them, Jodi included, had all but stopped making net-based projects, and were working mostly on software and hardware manipulation. Two seminal exhibitions, "The Art Formerly Known as New Media" and "Postmedia Condition", took place that year, the latter introducing the concept of postmedia in the media art debate; a media art festival catalog hosted an equally seminal essay, titled " 'It's contemporary art, stupid'. Curating computer-basedart out of the ghetto", by curators Inke Arns and Jakob Lillemose. Later in 2007, media theorist Geert Lovink lectured and wrote about "the cool obscure" of new media art, and the panel discussion "Media Art Undone" took place at Transmediale in Berlin. On that occasion, artist Olia Lialina said: "For a long time it did not make sense to show net art in real space: museums or galleries. For good reasons you had to experience works of net artists on your own connected computer. Yesterday for me as an artist it made sense only to talk to people in front of their computers, today I can easily imagine to apply to visitors in the gallery because in their majority they will just have gotten up from their computers. They have the necessary experience and understanding of the medium to get the ideas, jokes, enjoy the works and buy them."

Surfing clubs emerged in this transitional period, and mostly attracting young artists with an art education who, albeit critical of the art market and the process of commodification of digital artifacts, felt closer to the broader contemporary art discourse than to media art culture. Explaining his approach to surfing and blogging in his essay "Spirit Surfing", artist Kevin Bewersdorf naturally uses the work of Joseph Cornell as a reference point to show what happens when found online content is rearranged in a blog post. In October 2007, Bewersdorf had a show at And/Or Gallery in Dallas together with Guthrie Lonergan, another influential pro-surfer. The exhibition featured videos, small prints, and a series of works that Bewersdorf produced by printing found online images onto ordinary objects like cushions, mouse pads and mugs using wallgreens.com, a web store with a print-on-demand service. Headed by artist and musician Paul Slocum, And/Or was a small artist-run space that, for a few years (from 2006 to 2009), gave the surfing club generation fertile terrain to present their work, test modes of presentation in the white cube without the constraints of a commercial gallery and the performance anxiety induced by a more central location, and build relationships with collectors. It anticipated many of the topics and tropes of post internet art, including the form of the "dual site": a small, outlying, brick-and-mortar meeting point for an online community that emitted a signal amplified by the documentation on its web site, as Bewersdorf and Lonergan did in their work, before they stopped producing visual art completely. For both, "retirement" started around 2009–2010, at the peak of their careers, and for very similar concerns about the objectification and commodification of their art. As Lonergan said to Ed Halter in a recent interview: "Net art's relationship to contemporary art as a whole and to the art market gets more confusing every day. It's pretty fascinating to watch, though. I tried for years to figure out how to 'print it out,' to make something super-salable, but I could never quite figure it out, and I don't think I ever will."

This short tour of the origins of post internet art should make it clear that it cannot be reduced to an art fair trend, to the small Bushwick scene described by Droitcour, or to the one liner “put a work on show, take a picture of it, and circulate the photo online”. On the contrary, the phenomenon seems to be the result of the confluence of a plurality of issues, approaches and processes, and the development of a new art community, less insular and more integrated than the one that developed around the first net art, and involved in an expanded conversation. At the risk of indulging in list-making, we must at least mention artists like Hito Steyerl, Mark Leckey, Seth Price, and Metahaven, art magazines like Artforum, Mousse and Frieze, art critics and theorists like Boris Groys, David Joselit and Jennifer Allen, as part of or inspiration for this expanded conversation; of course alongside the good old crew, which was never dismissed or forgotten: ”When I started trying to be an artist in the early aughts, I most identified with the net art movement. I had discovered the work of jodi.org, Olia Lialina, Vuk Cosic, and Alexei Shulgin in college (outside of my studies) and I kinda had a “Ramones” moment, . . . “I can do this!” It was terribly exciting and will seem obvious now, but the idea that one could just make something and people could see it without any intermediary was mind blowing. Also, for whatever reason — though one wonders if it was due to the lack of bandwidth (?) — the work of the above artists was surgically precise and conceptually clear headed. These traits undoubtedly added further fuel to my interest, and are things I still try to this day to emulate. At the time, if one was interested in browser art, by default they were linked to media art and its histories as the media scene was kinda the only game in town open for a dialog about the browser. This has all changed now as computers are mainstream therefore so is art which deals with them.”

POST INTERNET ART

"Writing about post internet art from an art history perspective looks pretty much like an impossible task at present. Either we are still trapped in the storm of comments, opinions and debates that blew up when this proposed art label turned into a successful art meme, or we are hot on its heels. On October 30, 2014, art critic Brian Droitcour published a text in Art in America that could be described, tongue in cheek, as the post internet version of an earlier, widely debated blog post: more elegant, less personal, and written for a respected art magazine for the sake of quotes, just as post internet art is made for the white cube for the sake of pics. According to Droitcour, "a sheaf of essays grappling with the meaning of "Post-Internet" by tracing a genealogy from Olson onward would not suffice to describe what Post-Internet has become: a term to market art." For him, post internet is an embarrassing yet useful new entry in artspeak, describing an "art made for its own installation shots"; an art that "does to art what porn does to sex — renders it lurid", "a self-styled avant-garde that's all about putting art back in the rarefied space of the gallery", incapable of criticism and that only uses the internet as a promotional tool. From this perspective, post internet art is nothing but an opportunistic, reactionary trend in the context of a formerly radical art practice — net art — now embraced by the contemporary art world as a way to make any artwork that claims to be aware of the current means of creation and distribution irresistibly fashionable and cool.

In other words: for Droitcour, post internet art might be a good subject for art criticism, but it is not a useful label in art history, lacking historical depth and any relationship with former uses of the term; and since it refers to bad art, it will be short-lived anyway. I agree with Droitcour on one thing: that post-internet-art-as-an-art-market-trend won't last long, and that as an art trend, it has its drawbacks.

The two are strictly related. The peril of post internet art is that it can be easily disguised as a style: a layer of visual references to the desktop and online environment that can be applied to almost anything; a way of approaching image-making that considers its online dispersion; and a limited set of topics and solutions, from corporate imaging to voice-over videos. It's a kind of "internet layer" that's very easy to adopt now it's in fashion, and will be equally easy to dismiss when it becomes uncool, and that almost everyone can catch onto.

In this form, the post internet spread like a virus in 2013, after Frieze art fair director Matthew Slotover, when asked in an interview if he saw some kind of trend coming out of the applications for the fair, mentioned post internet as a "very interesting direction." Yet it did not grow in subsequent art fairs, and although a few artists who can be loosely associated with post internet art are now a stable presence in the art market, their individual success stories do not represent a stable trend.

Similarly, during the Paddles On! Auction at Phillips London in July 2013, the post internet craze enabled Australian artist Michael Staniak to sell a work for £25,000, from an initial estimate of £3,500. Paddles On! is a digital art auction format conceived with the ambition of creating a market for digital art, which is now supported by a number of galleries but rarely entered the world of auctions. Staniak is an artist with little or no background in media art, who makes beautiful abstract paintings using acrylic and casting resin in a way that recalls digital painterly effects. His sudden success obscured the longer, respectable careers of some of the artists included in the auction, whose works went for much less, or remained unsold.

Taking part in a panel at Art Dubai’s Global Art Forum in March 2012, artist Constant Dullaart famously said: “Don’t use the internet as a fucking condiment.” This is post internet’s main peril: using digital culture as a layer of make-up for artworks so long as it looks fashionable and cool. And yet post internet is not just that. Going against Droitcour, in this text I argue that post internet art cannot really be understood without tracing its roots back to the group surfing practices that emerged in the first decade of the twenty first century, and without considering the ways it has been shaped and discussed since then. Moreover, I situate the post internet within the longer history of art in networked spaces, showing that its relationship with this history cannot be presented in the over-simplified way that is implicit in Droitcour’s essay — namely a transition from a radically immaterial practice that rejected the art world to one that prostitutes itself to get a corner in the white cube; the process is much more collaborative and layered. Finally, I will show how this contextualization invites us to re-consider post internet art as one of the strategies and modes of expression of a wider and more vibrant contemporary “internet art” scene, rather than a movement comprising a defined set of artists, or the way net art rebranded itself to be accepted by the art world: a manifestation that maybe, at this point, doesn’t even need a name.

In other words: we can be critical of the post internet label, and some of the outcomes of so-called post internet art; but we can’t dismiss entirely, because it is an integral part of what internet art has become in the last ten years.

Droitcour writes: “The Post-Internet art object looks good in a browser just as laundry detergent looks good in a commercial. Detergent isn’t as stunning at a laundromat, and neither does Post-Internet art shine in the gallery. It’s boring to be around. It’s not really sculpture. It doesn’t activate space. It’s often frontal, designed to preen for the camera’s lens. It’s an assemblage of some sort, and there’s little excitement in the way objects are placed together, and nothing is well made except for the mass-market products in it. It’s the art of a cargo cult, made in awe at the way brands thrive in networks.”
Let’s suppose this is true. After all, artists associated with post internet often claim to view mediated experience on the same level as primary experience (Laric), and to do visual art for the sake of Facebook likes (Ito); and Artie Vierkant based all his Image Objects project on the circular relation (another loop) between physical object and digital documentation. They all seem to agree with David Joselit when he

states that value and aura, today, are not generated by uniqueness and geographical specificity, but by replicability and ubiquity. [26] In our framework, this only means that the physical artifact is not the artwork, but part of a (mostly immaterial) process in which the physical object is just one step; and that the white cube is not the main space in which the artwork manifests itself, but one of the contexts in which the art is created. You can't blame something for not being what it doesn't want to be, and for not doing what it doesn't want to do. Of course, the fact of creating a traditional, physical artifact and displaying it in the white cube seems to sanction the traditional systems of attribution of aura: turn your art into a commodity and place it in an art space. But how much criticism is there in this process of (subversive) affirmation?

In 1964, Yoko Ono published an artist book called Grapefruit, containing a series of "event scores", instructions that replace the physical work of art. One of them is titled "Painting to exist only when it's copied or photographed", and reads: "Let people copy or photograph your paintings. Destroy the originals." At the core of this piece there is the definitive traditional art object, a painting. The "score" does not need to, but legitimately can, be performed: if so, the final result (the copy, the photograph) will have the same status as the idea. It's conceptual art at its best, claiming the supremacy of ideas over artworks-as-commodities, and combating the notion of originality. Here, the painting, the copy and the photograph are part of a process; nobody cares if they are good or bad; what's important is the process they are part of, and its meaning. In 2013, artist Joshua Citarella curated what looks like a good post internet reenactment of Ono's event score.

Post internet art — at least, that post internet art that puts emphasis on the importance of mediation and distribution — exists in the white cube as the artworks displayed in Compression Artifacts, as the temporary materialization of an idea (that may eventually be destroyed, or sold to a collector). What's important is not the piece in there, but the idea out there. This idea does not manifest itself as a single object, but is most effectively exemplified by the digital image. It is free, it travels, it gathers metadata along the way, it can be appropriated, used, abused, perused, and further developed. It can show up in different contexts. It's ephemeral, but it can survive.

03 POST-DIGITAL PUBLISHING

#PRACTICE-BASED #EXPERIMENTAL #PROCESSUAL PRINT #TRADITIONAL MEDIA #SEARCH, COMPILE, PUBLISH #FUNCTIONALITY #DIGITAL PUBLISHING

↗ Find out more about the mentioned projects on the website.

(4) Soulellis, Paul. 2013. Search, compile, publish.

(5) Lorusso, Silvio. 2017. “What Design Can’t Do — Graphic Design between Automation, Relativism, Élite and Cognitariat”. Entreprecariat. Network Cultures.

(6) Ludovico, Alessandro. 2014. “Post-digital Publishing, Hybrid and Processual Objects in Print”. A Peer- Reviewed Journal About: Post-Digital Research.

(7) Ludovico, Alessandro. 2012. “Post-Digital Print — The Mutation of Publishing since 1894” Eindhoven: Onomatopee.

CONTEXTUALIZING POST-DIGITAL PUBLISHING

Lorusso, Silvio. 2017. "What Design Can't Do — Graphic Design between Automation, Relativism, Élite and Cognitariat". Entreprecariat. Network Cultures

"Much of the discussion around publishing is informed by a model of interpretation in which digital technology acts as the natural successor of printed matter. This model fosters a narrative of linear progress among media, according to which screen will eventually take over paper. As a consequence, the relationship between the two is read as a form of rivalry and thus produces endless, often unconstructive, lists of pros and cons, improvements or worsenings. This perspective doesn't take into account the dynamics of mutual arrangement and negotiation among media, including the various "backward" influences, so to say from screen back to paper. At the same time, it often tends not to dwell upon the specifities of the various typologies of artifacts that define the publishing field. Lastly, it is driven by an obsessive quest for future models, therefore the space where innovation is seeked frequently corresponds to the narrow ecosystem of the newest device or platform, often transitional, that does not reflect the slower, less flashy but deeper mutations. In doing so, the universe of commonly used digital tools is ofted omitted from the discussion along with the analog, traditional, even retro technologies and the role they currently play. In order to accurately define the current condition of digital publishing and to deeply comprehend its broader scope, wondering what is the best device for e-reading or what is the fate of paperbacks could be reductive. The discourse on digital publishing should broaden its own horizons, asking whether the book itself can be considered a medium, investigating the existing relationships between the "closed" form of the printed book and the everchanging landscape of the Internet. It should find out what print has to say to digital media besides skeuomorphism, without considering digital tools as means to merely consume content. It should question how knowledge and access are affected by mass digitization initiatives.

Actually, such questions aren't new, but they are rarely addressed by designers, developers and publishers through critical designs or theoretical reflection. On the contrary, new technologies are often blindly embraced, as the capabilities of the devices are explored with the aim of developing commercially successful products. For instance, while countless design programs are devoted to the development of iPad apps, only a few involve design and artistic strategies to analyze and communicate the implications of iTunes and its distribution model.

Whether indipendently or within institutional contexts, some artists and designers (a good number, but still a few in comparison to the creative industry of publishing) have grown a practice-based, speculative and often critical attitude toward publishing, whether digital or not. It's neither a self-aware current nor an avant-garde, since those people work in distinct disciplinary areas and with different aims. Sometimes their practice only accidentally deals with publishing. But their work deserve attention because it could be able to anticipate, comment and interpret the various issues that emerge at the intersection of publishing and digital technology. P-DPA aims to bring together those experiences.

The term "post-digital" was coined by composer Kim Cascone in his essay "The Aesthetics of Failure: 'Post-digital' Tendencies in

Contemporary Computer Music”. According to Cascone, «the revolutionary period of the digital information age has surely passed. The tendrils of digital technology have in some way touched everyone» (Cascone 2000). At least in the first world, digital technology is an integral part of our everyday life and it is consequently taken for granted. In this sense the very attribute “digital” becomes meaningless, as almost every artifact we deal with is produced, distributed, mediated or at least affected by digital means.

The notion of post-digital was borrowed by Alessandro Ludovico (Ludovico 2012) and Florian Cramer (Cramer 2012) to be specifically applied to publishing. While this field hasn’t yet profoundly undergone the radical mutations implied by digital technology, neo-analog means of production, such as the risograph or letterpress printing (and the style that characterizes them) are re-stored both by independents artists or designers and big publishers because «they compensate for deficiencies of digital files — deficiencies that are both aesthetic and social, since tangible media are means of face-to-face interpersonal exchange» (Cramer 2013). Frequently the resultant artifacts are deeply informed by digitality anyway, either as a source of content or as a reference model. When digital is the default, analog becomes a firm choice that, while is not necessarily a form of opposition, often derives from the awareness of the specificities of both possibilities.

The “post-digital mindset” allows a more inclusive research framework of the publishing field, in which e-books and book-apps aren’t the only object of study and where “old” and “new” media are not in a natural opposition. In the field of post-digital publishing, printed matter doesn’t belong to the past and digital tools are not inherently innovative. Artists and designers seamlessly shift between blogs and stapled zines. The digital enviroment is at the same time a source of inspiration, a repository of raw data to filter and organize, a channel for collaboration or dissemination, a space for exposure, a mix of communication modes to exploit, a set of tools to tweak or to autonomously build. It is not an easy task to identify and analyze the various aspects of such a broad context. Likewise, it takes a big effort to trace back the many ways in which digital technology addresses the specificities of traditional media and processes of publishing. Through a thematic approach to collection and archiviation, P-DPA investigates experimental publishing in order to high-light aspects that specifically deal with digital technology and analog means, especially when they re not blatantly apparent.”

Ludovico, Alessandro. 2014. “Post-digital Publishing, Hybrid and Processual Objects in Print”. A Peer-Reviewed Journal About: Post-Digital Research.

“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 digital processes.

The first stage concerns the digitalisation of production. It is characterised 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 digitalise 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 standardised, encapsulating content in autonomous structures, which are universally interpreted across operating systems, devices and platforms.

The third stage is the creation of an economy around the newly created standards, including digital devices and digital stores. 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 the task (of '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 type of publications and genres."

WEB TO PRINT

Soulellis, Paul. 2013. “Search, compile, publish”.

“I collect artists’ books, zines and other work around a simple curatorial idea: web culture articulated as printed artifact. I began the collection, now called *library of the printed web*, because I see evidence of a strong web-to-print practice among many artists working with the internet today, myself included. All of the artists — more than 30 so far, and growing — work with data found on the web, but the end result is the tactile, analog experience of printed matter.

Looking through the works, you see artists sifting through enormous accumulations of images and texts. They do it in various ways — hunting, grabbing, compiling, publishing. They enact a kind of performance with the data, between the web and the printed page, negotiating vast piles of existing material. Almost all of the artists here use the search engine, in one form or another, for navigation and discovery.

These are artists who ask questions of the web. They interpret the web by driving through it as a found landscape, as a shared culture, so we could say that these are artists who work as archivists, or artists who work with new kinds of archives. Or perhaps these are artists who simply work with an archivist’s sensibility — an approach that uses the dynamic, temporal database as a platform for gleaning narrative. In fact, I would suggest that *library of the printed web* is an archive devoted to archives. It’s an accumulation of accumulations, a collection that’s tightly curated by me, to frame a particular view of culture as it exists right now on the web, through print publishing. That documents it, articulates it. And I say right now because this is all new. None of the work in the inventory is more than five years old. We know that net art has a much longer history than this, and there are relationships between net-based art of the 90s and early 2000s and some of the work found here. And certainly there are lines that could be drawn even further into history — the use of appropriation in art going back to the early 20th century and beyond.

But what we have here in *library of the printed web* is something that’s entirely 21st century and of this moment: a real enthusiasm for self-publishing, even as its mechanisms are still evolving. More than enthusiasm — it could be characterized as a mania — that’s come about because of the rise of automated print-on-demand technology in only the last few years. Self-publishing has been around for awhile. Ed Ruscha, Marcel Duchamp, Benjamin Franklin (The Way to Wealth), Virginia Woolf (Hogarth Press) and Walt Whitman (Leaves of Grass) all published their own work. But it was difficult and expensive and of course that’s all changed today. I could sell *library of the printed web* and then order it again and have it delivered to me in a matter of days. Just about. Only half of it is print-on-demand, but in theory, the entire collection should be available as a spontaneous acquisition; perhaps it soon will be. With a few exceptions, all of it is self-published or published by micropresses and that means that I communicate directly with the artists to acquire the works. Besides print-on-demand, some of it is also publish-on-demand, and both of these ideas put into question many of our assumptions about the value we assign to net art, artists’ books and the photobook. The world of photobook publishing,

for example, is narrow and exclusive and rarified — it's an industry that designs and produces precious commodities that are beautiful and coveted, for good reason, with a premium placed on the collectable — the limited edition, the special edition, and even the idea of the sold-out edition. Controlled scarcity is inherent to high-end photobook publishing's success.

But many of the works in *library of the printed web* will never go out of print, as long as the artists makes them easily available. There is something inherently not precious about this collection. Something very matter-of-fact, straight-forward or even "dumb" in the material presentation of web culture as printed artifact. It's the reason I show the collection in a wooden box. It's utilitarian and functional and a storage container — nothing more than that.

So we have print-on-demand as a common production technique. But what about the actual work? What concepts on view here might suggest what it means to be an artist who cultivates a web-to-print practice? And how is print changing because of the web? Are there clues here?

The content of these books varies wildly, but I do see three or maybe four larger things at work, themes if you will. And these themes or techniques have everything to do with the state of technology right now — screen-based techniques and algorithmic approaches that for the most part barely existed in the 20th century and may not exist for much longer. If something like Google Glass becomes the new paradigm, I could see this entire collection becoming a dated account of a very specific moment in the history of art and technology, perhaps spanning only a decade. And that's how I intend to work with this collection — as an archive that's alive and actively absorbing something of the moment, as it's happening, and evolving as new narratives develop. So here are three or four very basic ideas at the heart of *library of the printed web*:

- Grabbing (and scraping)
- Hunting
- Performing

They are by no means comprehensive, and in each case the techniques that are described cross over into one another. So this isn't a clean categorization, but more of a rough guide. My goal is not to define a movement, or an aesthetic. At best, these are ways of working that might help us to unpack and understand the shifting relationships between the artist (as archivist), the web (as culture) and publishing (as both an old and a new schema for expressing the archive).

Library of the printed web is a collection of works by artists who use screen capture, image grab, site scrape and search query to create printed matter from content found on the web. Library of the Printed Web includes self-published artists' books, photo books, texts, zines and other print works gathered around the casual concept of "search, compile and publish." Artists featured in *library of the printed web* drive through vast landscapes of data to collect and transform digital information into analog experience; every work in the collection is a printed expression of search engine pattern discovery. Many of the works in *lotpw* share common production and publishing techniques (e.g., print-on-demand), even as the content itself varies widely.

Founded in 2013 by artist Paul Soulellis, *lotpw* presents evidence of a strong, emerging web-to-print-based artistic practice focused on the search engine and other algorithmic operations. As this view matures, the inventory of *lotpw* will grow to reflect new concepts and methodologies.

Rather than draw boundaries or define a new aesthetic, this collection of printed artifacts is presented as a reference tool for studying shifting relationships between the web (as culture), the artist (as archivist) and print publishing (as a new/old self-serve schema for expressing the archive).”

THE HYBRID

Ludovico, Alessandro. 2014. "Post-digital Publishing, Hybrid and Processual Objects in Print". A Peer-Reviewed Journal About: Post-Digital Research.

"Not only have digitalisation processes failed to kill off traditional print, 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 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' customisation — the consumer 'choice' of combining existing features and extras, where the actual customising is almost irrelevant. The way the aggregators are assembling the selected sources (and so 'customising' the selection) is limited by available screen space, or technological compatibility, missing the whole point of the real multiplicity of sources on the 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 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 customised 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.

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 (Borsuk), poetry can be read in its 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 in 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 everystep is here stopped to stick with the product. Many possibilities emerge from the combination of digital and print, especially when networks become involved (and therefore infinite supplies of content that can be reprogrammed or recontextualized at will). 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 realised in 2009 (Bridle). 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 Tweet-ghetto (a poster version).

Another very popular ‘web sampling’ strategy focuses on collecting amateur photographs with or without curatorial criteria. Here we have an arbitrary narrative, employing a specific aesthetic in order to create a visual unity that is universally recognisable 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 (Wolf).

Finally, there’s also the illusion of instant-curation of a subject, which climaxes in the realisation 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 2GF24S-MEZZ2XMCVI5 ... A Novel, which is a long sequence of insignificant captcha texts, crowd-sourced and presented as an inexplicable novel in an alien language (Raspet).

There are traces of all the above examples in Kenneth Goldsmith’s performance Printing Out The Internet ↗ (Goldsmith). 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 (Kirschbaum). It is what artist Paul Soulellis calls “publishing performing the Internet” (Soulellis).

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 visualise 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, denaturalising 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" (Shatzkin).

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 (Cramer). 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 (Hundred Thousand Billion Poems ↗). Here a natural gesture 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 poetry. 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 generating a text' and printing it, or randomly assembling bits and pieces of (eventually printed) content in digital form. A hybrid product should have a strategy composed by its software part, which would provide some content through a process, and an analogue part which would frame and contextualise it. The level that this hybridisation can reach is only

limited by the conceptualisation 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 (Fuchs). Though it is 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 ‘crowdfunding’ platform), 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 crowdfunding; computer-processed information; hybridisation of print and digital forms — 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 ↗ (Chatonsky). 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 skilful automatic assembly of content. In Capture the software process is able to create a narrative that can be almost universally read, potentially ‘updated’ for every print (or anytime), and eventually infiltrating some of the alternative music histories, resulting as a future fake reference, accepted and historicised.

Another example of an early hybrid is American Psycho ↗ by Mimi Cabell and Jason Huff (Cabell). 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 last advertisement-free refuge. 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 their 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 a unstoppable commercial mechanism, transducing a

literature work into the language of advertisement through the ‘quoting email’ which then become active agents in the process.

Finally, why can’t a hybrid art book be a proper catalogue of artworks? Les Lien Invisibles, an Italian collective of net artists have assembled their own, called Unhappening, not here not now (Les Liens Invisibles). 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 what we consider to be ‘reality’. The catalogue, indeed, looks and feels plausible enough, and only those who read it very carefully can have doubts about its authenticity.”

Ludovico, Alessandro. 2012. “Post-Digital Print — The Mutation of Publishing since 1894”

“Conceptual differences and similarities between print and blogs:

- Production:
  Print has high production costs, must usually be paid for in order to be read (an exception is free newspapers or other publications whose business model depends entirely on advertisement). It usually requires professional editors and often contributors. The content once printed cannot be changed. Blogs have low production costs and can be read for free. They usually have one editor (who is the writer, or one of the writers, of the blog) or a very small number of editors. Distribution is cheap (through Internet hosting) — distribution costs are directly proportional to the blog’s popularity. Published content can always be altered or corrected later on.

- Access:
  Print is always available, but not searchable. The availability of blogs depends on access to the Internet and to electricity. Blogs are searchable.

- Aesthetics:
  Print is externally illuminated. It usually aims for a more thoughtful and less spontaneous tone. Its content is fixed forever in its original graphic design. Print involves sight, touch, smell, and hearing, and printed texts are usually longer than those posted online. Blogs, like most other screen-based content, are mostly read on a backlit medium. They usually aim for a tone of inspired spontaneity. The graphic appearance of previously published content can be entirely changed anytime after publication. Blogs involve only the sense of sight, and perhaps also to some degree hearing (starting with the mouse clicks), and usually consist of short texts and possibly reader comments.

- Functionality:
  Print is never a ‘real-time’ production — the very nature of the printing process requires at least a minimal production period. Print usually refers to events that took place within a certain range of time before publication. It is usually published according to a schedule (which may also be flexible). If needed, a printed publication could conceivably be converted into a blog format. Blogs are published according to a ‘real-time’ production model, more or less instantaneously, as soon as they have been written. They happen to be updated actively and frequently tends to increase the blog’s reputation.”

04 THE PRESENT AND FUTURE OF POST DIGITAL PRINT

#PRINT-ON-DEMAND #PAPER VS SCREEN #SELF-PUBLISHING #SCREEN-BASED #USER-GENERATED #ZINE #DO-IT-YOURSELF #E-BOOKS

(1) Cramer, Florian. 2015. "What Is 'Post-digital'?". Postdigital Aesthetics: Art, Computation and Design, David M. Berry e Michael Dieter (eds.), pp. 12-26. Hampshire; new York: Palgrave Macmillan.

(7) Ludovico, Alessandro. 2012. "Post-Digital Print — The Mutation of Publishing since 1894" Eindhoven: Onomatopee.

"IS PRINTED PAPER TRULY DOOMED?"

Ludovico, Alessandro. 2012. "Post-Digital Print — The Mutation of Publishing since 1894" Eindhoven: Onomatopee

"In this post-digital age, digital technology is no longer a revolutionary phenomenon but a normal part of everyday life. The mutation of music and film into bits and bytes, downloads and streams is now taken for granted. For the world of book and magazine publishing however, this transformation has only just begun. Still, the vision of this transformation is far from new. For more than a century now, avant-garde artists, activists and technologists have been anticipating the development of networked and electronic publishing. Although in hindsight the reports of the death of paper were greatly exaggerated, electronic publishing has now certainly become a reality. How will the analog and the digital coexist in the post-digital age of publishing? How will they transition, mix and cross over?

We've all heard the news: print is dead. At the same time, (independent) bookshops are withering and falling like so many autumn leaves. Digital publishing, on the other hand, is now a booming business, with traditional publishers embracing every new standard or technology in an often desperate effort to impress their sceptical shareholders. And yet, there are still plenty of newsstands and bookshops around, well-stocked with a wide variety of printed products. And if you are reading these words on paper (which you probably are) then you have, for some reason, chosen to go with the 'old' medium. Why? Probably because it still comes with the very best 'interface' ever designed. So is print really dead? Is it going to die anytime soon? There are many different and often contradictory signals to be considered here, but it is crucial to see them within a historical perspective. We shall attempt here to collect and systematise as many of these signals as space allows — examining various technologies, experiments, and visionary works of art.

The traditional role of print is unmistakeably being threatened by the new digital world; but it is also, paradoxically, being revitalised. Both media share a certain number of characteristics, and yet they are fundamentally different — and they also fulfil different needs (for example, digital is built for speed, while print ensures stability)."

Cramer, Florian. 2015. "What Is 'Post-digital'?". Postdigital Aesthetics: Art, Computation and Design, David M. Berry e Michael Dieter (eds.), pp. 12-26. Hampshire; new York: Palgrave Macmillan.

"There is a peculiar overlap between on one hand a post-digital rejection of digital high tech, and on the other hand a post-digital rejection of digital low quality. Consider for example the persisting argument that vinyl LPs sound better than CDs (let alone MP3s); that film photography looks better than digital photography (let alone smartphone snapshots); that 35mm film projection looks better than digital cinema projection (let alone BitTorrent video downloads or YouTube); that paper books are a richer medium than websites and e-books; and that something typed on a mechanical typewriter has more value than a throwaway digital text file (let alone e-mail spam). In fact, the glitch aesthetics advocated by Cascone as 'post-digital' are precisely the same kind of digital trash dismissed by 'post-digital' vinyl listeners."

THE FUTURE OF POST DIGITAL PRINT

Ludovico, Alessandro. 2012. “Post-Digital Print — The Mutation of Publishing since 1894” Eindhoven: Onomatopee

“So does print still make sense, in a society which is by now almost entirely networked as well as screen-based? Print does have a number of unique characteristics which are yet to be superseded by anything else. The first of these characteristics is the way print uses space. The space taken up by printed materials, whether in the shape of document folders, stacks of printed pages on a table, or a library of shelves filled with books, is real and physical. This is entirely different from something existing only on a screen, since it relates directly to our physical space, and to a sensorial perception developed over (at least) thousands of years. When everything is reduced to the display screen, some kind of ‘simulation’ of space becomes necessary, since everything now must fit within these few inches. Also, in order to make the simulation understandable and/or realistic, any system for finding one’s way (‘navigating’) within this virtual space should include a consistent interface, allowing for multiple perspectives and levels of viewing. Unfortunately, there has never been a clear standard for implementing this. The different strategies, symbols (icons, pictograms) and navigational structures of various competing systems have not yet succeeded in presenting readers of virtual printed content with a set of standards that they can easily become accustomed to. The result is that a so-called ‘clean’ virtual reading space remains more unfamiliar than the ‘messy’ physical one.

Another important characteristic of paper is the ‘repeatability’ of traditional print. Reading a magazine or a book means being part of a community of customers all reading exactly the same content, so they can all share a single reference. The message of the print and of typography is primarily that of repeatability.” Theoretically, a digital file represents the very essence of repeatability, since it can be endlessly copied from one machine to another. In practice however the slightest change in the file’s content, or even in the technical protocol or features of the machine on which it is being rendered are enough to undermine the document’s consistency and suddenly turn it into a quite different object. And finally, a newspaper or magazine can be folded for convenient transport, can be dropped down the stairs without disastrous consequences, can be cut up for clippings, can be re-used for many different purposes. Do all these features suddenly become obsolete, simply because the ethereal nature of the online environment does not include them? Perhaps. But hundreds of years of reading and handling habits can’t be discarded just like that. Print has specific qualities which remain as of yet undisputed.

Holding a printed object in one’s own hands, or seeing it on a bookshelf, remains an essential experience in (at least some parts of) our cultural environment. And the ‘balance of power’ between print and digital (if we still assume the end result to be some kind of printed product) seems now to lie with one technology which, more than any other, is allowing the printed page to survive the ‘digitisation of everything’: print on demand.

Print on demand (POD) is an extremely simple concept: the customer produces a PDF file of a magazine or book, and the POD service charges the customer a fee (there are cheaper and more expensive services, depending on the quantity and quality of services provided) to prepare and adjust the files for the production chain of a high-resolution, large-format, continuous digital copier. The customer can order any number of copies (even a single one) and the product is typically delivered within a week or so."

"Traditional print publishing (...) is increasingly presenting its products as valuable objects and collector's items, by exploiting the physical and tactile qualities of paper. It thus acts as a counterpart to the digital world, while looking for ways to cope with a gradually shrinking customer base – particularly in its traditional sectors such as newspaper production and distribution (where costs are becoming unsustainable) or paper encyclopaedias (which have already become vintage status symbols rather than practical information tools). A number of products will thus need to be re-invented in order to still make sense in print. At the time of writing, the development towards print as a valuable object can best be observed in the contemporary do-it-yourself book and zine scene. Until the late 1990s, this scene was mostly focused on radical politics and social engagement; the contemporary scene however is more fascinated with the collection of visual-symbolic information into carefully crafted paper objects. Despite its loyalty to print, this new generation of DIY publishers has created offline networks for print production and distribution which, in their bottom-up structure and peer-to-peer ethic, very much resemble Internet communities. At the same time, the work they create is meant to remain offline and not be digitised, thus requiring a physical exchange between publisher, distributor and reader. This ethic is squarely opposed to the so-called 'go all digital' philosophy312 which advocates a completely digital life, getting rid of as much physical belongings as possible, and relying only on a laptop and a mobile phone filled with digitised materials.

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 digitalisation of print to produce very original and still partially unpredictable results."

Cramer, Florian. 2015. "What Is 'Post-digital'?". Postdigital Aesthetics: Art, Computation and Design, David M. Berry e Michael Dieter (eds.), pp. 12-26. Hampshire; new York: Palgrave Macmillan.

"When hacker-style and community-centric working methods are no longer specific to 'digital' culture (since they are now just as likely to be found at an 'analog' zine fair as in a 'digital' computer lab), then the established dichotomy of 'old' and 'new' media — as synonymous in practice with 'analog' and 'digital'— becomes obsolete, making way for a new differentiation: one between shrink-wrapped culture and do-it-yourself culture. The best example of this development (at least among mainstream media) is surely the magazine and website Make, published by O'Reilly since 2005, and instrumental for the foundation of the contemporary 'maker movement'. Make covers 3D printing, Arduino hardware hacking, fab lab technology, as well as classical DIY and crafts, and hybrids between various 'new' and 'old' technologies. The 1990s / early 2000s assumption that 'old' mass media such as newspapers, movies, television and radio are corporate, while 'new media' such as websites are DIY, is no longer true now that user-generated content has been co-opted into corporate social media and

mobile apps. The Internet as a self-run alternative space — central to many online activist and artist projects, from The Thing onwards — is no longer taken for granted by anyone born after 1990: for younger generations, the Internet is associated mainly with corporate, registration-only services. The ‘maker movement’ — as manifested in fab labs, but also at zine fairs — represents a shift from the symbolic, as the preferred semiotic mode of digital systems (and of which the login is the perfect example), toward the indexical: from code to traces, and from text to context. 1980s post-punk zines, for example, resembled the art manifestos of the 1920s Berlin Dadaists, while 1980s Super 8 films, made in the context of the Cinema of Transgression and other post-punk movements, proposed underground narratives as an alternative to mainstream cinema. The majority of today’s zines and experimental Super 8 films, however, tend to focus less on content and more on pure materiality, so that the medium, such as paper or celluloid, is indeed the message — a shift from semantics to pragmatics, and from metaphysics to ontology.”

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