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WHAT IS 'POST-DIGITAL'?

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Typewriters vs. imageboard memes



Figure 1: "You're not a real hipster – until you take your typewriter to the park."

In January 2013, a picture of a young man typing on a mechanical typewriter while sitting on a park bench went 'viral' on the popular website Reddit. The image was presented in the typical style of an 'image macro' or 'imageboard meme' (Klok 16-19), with a sarcastic caption in bold white Impact typeface that read: "You're not a real hipster — until you take your typewriter to the park".

The meme, which was still making news at the time of writing this paper in late 2013 (Hermlin), nicely illustrates the rift between 'digital' and 'post-digital' cultures. Imageboard memes are arguably the best example of a contemporary popular mass culture which emerged and developed entirely on the Internet. Unlike earlier popular forms of visual culture such as comic strips, they are anonymous creations — and as such, even gave birth to the now-famous Anonymous movement, as described by (Klok 16-19). Other important characteristics of imageboard memes are: creation by users, disregard of intellectual property, viral dissemination among users, and potentially infinite repurposing and variation (through collage or by changing the text). As lowresolution images with small file sizes, they can be created and disseminated almost instantly, in contrast with the much slower creation, editing and distribution processes characteristic of traditional publishing media.

The 'digital' imageboard meme portrays the 'analog' typewriter hipster as its own polar opposite — in a strictly technical sense however, even a mechanical typewriter is a digital writing system, as I will explain later in this text. also, the typewriter's keyboard makes it a direct precursor of today's personal computer systems, which were used for typing the text of the imageboard meme in question. Yet in a colloquial sense, the typewriter is definitely an 'analog' machine, as it does not contain any computational electronics.

In 2013, using a mechanical typewriter rather than a mobile computing device is, as the imageboard meme suggests, no longer a sign of being old-fashioned. It is instead a deliberate choice of renouncing electronic technology, thereby calling into question the common assumption that computers, as meta-machines, represent obvious technological progress and therefore constitute a logical upgrade from any older media technology — much in the same way as using a bike today calls into question the common assumption, in many Western countries since World War II, that the automobile is by definition a rationally superior means of transportation, regardless of the purpose or context.

Typewriters are not the only media which have recently been resurrected as literally post-digital devices: other examples include vinyl records, and more recently also audio cassettes, as well as analog photography and artists' printmaking. And if one examines the work of contemporary young artists and designers, including art school students, it is obvious that these 'old' media are vastly more popular than, say, making imageboard memes.[1]

Post-digital: a term that sucks but is useful

1. DISENCHANTMENT WITH 'DIGITAL'

I was first introduced to the term 'post-digital' in 2007 by my then-student Marc Chia - now Tara Transitory, also performing under the moniker One Man Nation. 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 seem even 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 'postdigital' 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.

2. REVIVAL OF 'OLD' MEDIA

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-what?

POST-DIGITAL = POSTCOLONIAL; POST-DIGITAL ≠ POST-HISTOIRE

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-philosophical 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



Figure 2: Popular take-away restaurant in Rotterdam, echoing an episode from 19th-century Dutch colonial history, when members of the Chinese minority living in Java (Indonesia, then a Dutch colony) were brought as contract workers to a government-run plantation in Suriname, another Dutch colony.

iconography pioneered by the *Mad Max* films in the 1980s).

None of these terms — post-punk, post-feminism, post-communism, postcolonialism, 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.

'DIGITAL' = STERILE HIGH TECH?

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 lan 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,

Figure 3: Figure 3. Google.nl image search result for 'digital', October 2013.

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.



Figure 4: 'Digital' camera tripod.

'DIGITAL' = LOW-QUALITY TRASH?

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.

Digression: what is digital, what is analog?

DIGITAL ≠ BINARY; DIGITAL ≠ ELECTRONIC

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.[2]

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.

Analog = undivided; analog ≠ non-computational

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 digitalanalog 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 technicalscientific definitions of 'analog' and 'digital' in favour of a purely colloquial understanding of these terms.

Post-digital = against the universal machine

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 audio-visual 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, audio-visual 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

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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.

What, then, is 'post-digital'?

(The following is an attempt to recapitulate and order some observations which I have formulated in previous publications.[3])

POST-DIGITAL = POST-DIGITISATION

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 cubecompatible. 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 newspapers 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 coverage of the NSA's PRISM programme — they effectively transform themselves into postdigital or post-digitisation media.

POST-DIGITAL = ANTI-'NEW 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 historicophilosophical 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 = HYBRIDS OF 'OLD' AND '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 gualities (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.

POST-DIGITAL = RETRO?

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 smartphone apps such as Instagram, Hipstamatic and iSupr8. But there is a qualitative difference between simply using superficial and stereotypical ready-made effects, and the



Figure 5: Cassette Store Day: 2013 twist on Record Store Day.

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 anti-blogs or non-blogs, vinyl as anti-CD, cassette tapes as anti-MP3, analog film as anti-video.

Post-digital = 'old' media used like 'new media'

At the same time, new ethical and cultural conventions which became mainstream with Internet communities and Open Source culture are being retroactively applied to the making of non-digital and post-digital media products. A good example of this are collaborative zine conventions, a thriving subculture documented on the blog fanzines.tumblr. com and elsewhere. These events, where people come together to collectively create and exchange zines (i.e. small-circulation, self-published magazines, usually focusing on the maker's cultural and/or political areas of interest), are in fact the exact opposite of the 'golden age' zine cultures of

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the post-punk 1980s and 1990s, when most zines were the hyper-individualistic product and personality platforms of one single maker. If we were to describe a contemporary zine fair or mimeography community art space using Lev Manovich's new media taxonomy of 'Numerical Representation', 'Modularity', 'Automation', 'Variability' and 'Transcoding' (Manovich, The Language of New Media, 27-48), then 'Modularity', 'Variability' and - in a more loosely metaphorical sense — 'Transcoding' would still apply to the contemporary cultures working with these 'old' media. In these cases, the term 'post-digital' usefully describes 'new media'-cultural approaches to working with so-called 'old media'.

DIY vs. corporate media, rather than 'new' vs. 'old' media

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.[4]

Semiotic shift to the indexical

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.[5]

Technically, there is no such thing as 'digital media' or 'digital aesthetics'

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-digitalto-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.

DIGITAL = ANALOG = POST-DIGITAL...?

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,[6] 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 unguestioningly 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.

Revisiting the typewriter hipster meme

The alleged typewriter hipster later turned out to be a writer who earned his livelihood by selling custom-written stories from a bench in the park. The imageboard meme photo was taken from an angle that left out his sign, taped to his typewriter case: "One-of-a-kind, unique stories while you wait". In an article for the website The Awl, he recollects how the meme made him "An Object Of Internet Ridicule" and even open hatred.[7] Knowing the whole story, one can only conclude that his decision to bring a mechanical typewriter to the park was pragmatically the best option. Electronic equipment (a laptop with a printer) would have been cumbersome to set up, dependent on limited battery power, and prone to weather damage and theft, while handwriting would have been too slow, insufficiently legible, and lacking the appearance of a professional writer's work.

Had he been an art student, even in a media arts programme, the typewriter would still have been the right choice for this project. This is a perfect example of a post-digital choice: using the technology most suitable to the job, rather than automatically 'defaulting' to the latest 'new media' device. It also illustrates the post-digital hybridity of 'old' and 'new' media, since the writer advertises (again, on the sign on his typewriter case) his Twitter account "@rovingtypist", and conversely uses this account to promote his story-writing service. He has effectively repurposed the typewriter from a prepress tool to a personalised small press, thus giving the 'old' technology a new function usually associated with 'new media', by exploiting specific gualities of the 'old' which make up for the limitations of the 'new'. Meanwhile, he also applies a 'new media' sensibility to his use of 'old media': user-customised



Figure 6: C.D. Hermlin, the alleged typewriter hipster.

products, created in a social environment, with a "donate what you can" payment model. Or rather, the dichotomy of community media vs. mass media has been flipped upside-down, so that a typewriter is now a community media device, while participatory websites have turned into the likes of *Reddit*, assuming the role of yellow press mass media — including mob hatred incited by wilful misrepresentation.

The desire for agency

Cascone and Andrews partly contradicted themselves when they defined the concept of 'post-digital' in the year 2000. Though they rejected the advocacy of 'new media', they also relied heavily on it. Cascone's paper drew on Nicholas Negroponte's Wired article "Beyond Digital" (Negroponte), while lan Andrews' paper referenced Lev Manovich's "Generation Flash", an article which promoted the very opposite of the analog/digital, retro/ contemporary hybridisations currently associated with the term 'post-digital' (Manovich, "Generation Flash"). We could metaphorically describe post-digital cultures as postcolonial practices in a communications world taken over by a military-industrial complex made

up of only a handful of global players. More simply, we could describe these cultures as a rejection of such dystopian techno-utopias as Ray Kurzweil's and Google's Singularity University, the Quantified Self movement, and sensor-controlled 'Smart Cities'.

And yet, post-digital subculture, whether in Detroit, Rotterdam or elsewhere, is on a fundamental level not so different from such mainstream Silicon Valley utopias. For (Van Meer), the main reason why art students prefer designing posters to designing websites is due to a fiction of agency — in this case, an illusion of more control over the medium. Likewise, 'digital' cultures are driven by similar illusions of free will and individual empowerment. The Quantified Self movement, for example, is based on a fiction of agency over one's own body. The entire concept of DIY, whether non-digital, digital or post-digital, is based on the fiction of agency implied by the very notion of the self-made.

Each of these fictions of agency represents one extreme in how individuals relate to the techno-political and economic realities of our time: either over-identification with systems, or rejection of these same systems. Each of these extremes is, in its own way, symptomatic of a systems crisis - not a crisis of this or that system, but rather a crisis of the very paradigm of 'system', as defined by General Systems Theory, itself an offshoot of cybernetics. A term such as "post-Snowden" describes only one (important) aspect of a bigger picture:[8] a crisis of the cybernetic notion of 'system' which neither 'digital' nor 'post-digital' - two terms ultimately rooted in systems theory — are able to leave behind, or even adequately describe.

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Notes

[1] (Van Meer); also discussed later in this text.

[2] Even the piano (if considered a medium) is digital only to the degree that its keys implement abstractions of its analog-continuous strings.

[3] (Cramer, "Post-Digital Writing"), (Cramer, "Post-Digital Aesthetics").

[4] In a project on Open Source culture organised by Aymeric Mansoux with Bachelorlevel students from the Willem de Kooning Academy in Rotterdam, it turned out that many students believed that website user account registration was a general feature and requirement of the Internet.

[5] It's debatable to which degree this reflects the influence of non-Western, particularly Japanese (popular) culture on contemporary Western visual culture, especially in the field of illustration which accounts for an important share of contemporary zine making. This influence is even more obvious in digital meme and imageboard culture.

[6] For example (and six years prior to the typewriter hipster meme), Linda Hilfling's contribution to the exhibition MAKEDO at V2_, Rotterdam, June 29-30, 2007.

[7] Hermlin writes: "Someone with the user handle 'S2011' summed up the thoughts of the hive mind in 7 words: 'Get the fuck out of my city.' Illmatic707 chimed in: I have never wanted to fist fight someone so badly in my entire life." [8] A term frequently used at the Chaos Computer Club's 30th Chaos Communication Congress in Hamburg, December 2013, and also very recently by Gurstein.

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