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Off the Digital: Neo-analogue Hybrids

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This paper examines recent artistic engagements with analogue media in audiovisual art practices, commonly known as neo-analogue media practices. These practices and cultures of creative production often revive and repurpose older media technologies as well as devise analogue-digital media hybrids. These hybrid forms are commonly affiliated with a post-digital aesthetic, prone to blur established dichotomies between old and new media, as well as digital and non-digital realms. Neo-analogue hybrids can then be understood as a reaction to the post-digital condition by taking a critical stance towards common connotations of the term digital and engaging media hybridisation as a form of resistance against the hegemony of digital technologies.

1. An Aesthetics of Repurposing

There has been a growing interest in analogue media in the past two decades by a generation of artists, hobbyists and enthusiasts in diverse areas of artistic practice that are often labelled as neo-analogue. These practices commonly reuse, recycle and repurpose analogue media through do-it-yourself (DIY) or do-it-with-others (DIWO) creative strategies. These strategies are commonly developed as offline modes of creative production and distribution, by engaging materials and methods that are not mediated through computational networks or the Internet, such as crafting, handmade and artisanal modes of production. As such, these practices adhere to a DIY culture of creative production that "stands for anti-institutionalism, outside either white cubes or creative industries," and also implies "anti-aestheticism wherever it frames itself as technical practices that can be picked up by everyone" (Cramer 2019, 68).

Neo-analogue practitioners follow a bottom-up social dynamics[1] and position themselves critically against "a completely digital life" while also resisting "the ubiquitous and non-stop surveillance of the Internet" (Ludovico 2012, 154-155). Thus, neo-analogue artworks often result in media forms that, ultimately, can no longer be categorised as analogue or digital media but as hybrids. But rather than devising a "new hybrid visual language of moving images" (Manovich 2013, 254) converged through software and distributed digitally, tied to what scholar Lev Manovich describes as an aesthetics of hybridity, this kind of neo-analogue hybridity[2] is more closely related to what researcher Alessandro Ludovico describes in his book *Post-digital Print* (2012). Within the context of "post-digital publishing" Ludovico addresses these modes of cultural production in which:

> [a new generation of artists is] able to make use of various new and old media without the burden of ideological affiliation to any particular one of them, [they] will surely be in a position to develop new and truly hybrid publications, by creatively combining the best standards and interfaces of both digital and print. (Ludovico 2012, 156)

The merging of features and processes of different media results in "new and truly hybrid" forms (ibid.) which broadly correspond to a post-digital aesthetics. According to the scholar Florian Cramer, the term post-digital "describes a perspective on digital information technology which no longer focuses on technical innovation or improvement" and consequently eradicates the "distinction between 'old' and 'new' media, in theory as well as in practice" (Cramer 2014, 18).

1. Neo-analogue practitioners create offline networks for production and distribution that evoke a "bottom-up structure and peer-to-peer ethic" that resemble Internet communities but, at the same time, oppose a "'go all digital' philosophy which advocates a completely digital life" (Ludovico 2012, 154). As scholar Florian Cramer writes, the World Wide Web "had been a DIY publishing medium in the 1990s, [but] digital DIY has become difficult in a medium defined by only four corporate players (Google, Apple, Amazon, Facebook)" (Cramer 2012).

2. These forms of hybridity should not be confused with Lev Manovich's "aesthetics of hybridity" (2013) that reflects a shift in the visual language of moving images, from mid-1990s and early 2000s, categorised by software-based modes of production and a combination of techniques emulated and brought about by software, such as the combination and remixing of multiple imagery layers (Manovich 2013, 254–77).

This stance towards digital technologies can be seen in neo-analogue hybrids that combine and remix analogue and digital media resulting in non-traditional art forms which are no longer reducible to the specificity of a single medium. Namely, neo-analogue practices combine and experiment with a diverse range of media in order to create idiosyncratic relations between sound and image, which not only include the reuse of analogue media[3], but also electronics, custom-made software, hardware and a wider range of digital media technologies. In short, neo-analogue media hybrids not only highlight the materiality of (audiovisual)[4] media through their hybridisation but also reject the media-based categorisation of artistic forms.

This kind of resurrection of analogue media becomes possible due to the ever-increasing discarding media technologies, given the surplus of media brought about by the accelerated consumption and wide diffusion of digital media since the 1990s. Examples of this are artist-run film labs[5] and their networks, which could only be established when the film "industry started dropping small format equipment in the 1990s" (Rey 2018, 66), such as the discontinuation of the film format super 8mm. More recently, the artist-run film labs have expanded with the discontinuation of industrial analogue film production.[6] In this way, artist-run film labs and collectives recover and acquire the surplus of the photo-chemical cinema industry and its discarded machinery allowing a "younger generation [of] media-critical artists [to] rediscover analog information technology" (Cramer 2012).

Consequently, artists have been reusing and repurposing these technologies in neo-analogue creative practices that emphasis cooperation, community and sharing of knowledge around nearly forgotten media devices, as a retrospective creative engagement with analogue technologies. But rather than mere nostalgic revivalism of older or obsolete media technologies, "such practices can only be meaningfully called 'post-digital'" when they "functionally repurpose them in relation to digital media technologies" (Cramer 2014, 18).

Following this idea, neo-analogue media practices correspond to an aesthetics of repurposing since they functionally revive obsolete media into new hybrid forms. Discarded media are repurposed and "recycled into new assemblies", which can be characterised as "Zombie Media" that are resurrected "to new uses, contexts and adaptations"[7] (Hertz and Parikka 2012, 429). By doing so, they also highlight that "media never die but remain as toxic waste residue" (Parikka 2015, 48). In this sense, the neo-analogue can also be understood as a form of media archaeology, as media excavations wherein the "past is brought to the present, and the present to the past; both inform and explain each other, raising questions and pointing to futures that may or may not be" (Huhtamo and Parikka 2011, 15).

3. This can include discarded analogue media such as film, slides and overhead projectors, modular synthesisers, tape recorders, cassette tapes, vinyl records, analogue video, CRT televisions, VHS, miniDV, obsolete electronics as well as light bulbs and many other physical objects.

4. As media theorist Marshall McLuhan has pointed out, hybrids are "the meeting of two media" where "a new form is born" (McLuhan 1964, 62). In this sense, audiovisual art has always been a hybrid art form that intersects both sound and image in many different ways, be it in simulated, representative, figurative or abstract forms. However, audiovisuals have always been tied to their medium, the carrier of information, for example a film reel, a DVD, software or the Internet.

5. Artist-run film labs are collectively organised spaces for filmmakers and artists who work with analogue film (see http://www.filmlabs.org).

6. As the artist Nicolas Rey explains, this was only possible "in the period from 2012-2015, when the switch to digital film exhibition led to the disappearance of many commercial film laboratories around the world" (Rey 2018, 68).

These creative practices thus devise idiosyncratic audiovisual artworks that ultimately reject the market-driven narratives of technical progress, opposing ideas that equate the "digital" to high resolution, innovation and other hypes of consumer digital media technologies. Neo-analogue hybrids become offline provocations[8] and counter-reactions to "the messy state of media, arts and design *after* their digitisation" (Cramer 2014, 17). They react critically to the post-digital condition, as a result of the current ubiquity of digital computational technologies as they permeate all aspects of daily life and become interwoven within the physical world.

2. Digital, Analogue and the Neo-analogue

The word "digital" was popularised during the 1990s following the marketisation of digital media together with the writings on digital technology by scholar Nicholas Negroponte in his *Wired Magazine* column and his book *Being Digital* (1995). Negroponte proclaimed "four very powerful qualities" of the digital age, or digitality, as being "decentralizing, globalizing, harmonizing, and empowering" and posited that "digital technology can be a natural force drawing people into greater world harmony" (Negroponte 1995, 229-230). However, this sort of advocacy of digital technologies is at odds with the current post-digital age, wherein their "powerful" socio-cultural effects translate into the centralisation in one proprietary platform/software, global mass internet surveillance, electronic waste and environment devastation as well as the widespread of conspiracy theories, fake news and misinformation on social media. Scholars Hertz and Parikka write that:

> Chronologically, digital media have moved from a speculative opportunity in the 1990s to become widely adopted as a consumer commodity in the 2000s and have now become archaeological. As a result, studying topics like reuse, remixing, and sampling has become more important than discussions of technical potentials. (Hertz and Parikka 2015, 152)

Reacting to this cultural phenomenon of digital media commodification, neo-analogue media practices emerged at a time when the term "digital" also lost significance as a qualifying feature of media technologies and, in turn, "has become a meaningless attribute because almost all media are electronic and based on digital information processing" (Cramer 2012).

This loss of significance is due not only to the ubiquity of "digitality" and "computation" but also to their banalisation. As Florian Cramer clarifies, the meaning of "digital" does not necessarily signify digital computation, as is often misunderstood in an artistic context. The technical meaning of digital "simply means

7. Hertz and Parikka distinguish *dead media* from *zombie media*: the first as obsolete and inert dead media that "creeps back as dangerous toxins into the soil" and the latter as "media that is not only out of use, but resurrected to new uses, contexts and adaptations" (Hertz and Parikka 2012, 429).

8. As stated by Andersen et al. these are offline reactions and withdrawals from the "computer, which was originally developed as a military technology but redefined as emancipatory and revolutionary by Apple and others, [but which] is now back again where it began: as a military intelligence technology" (Andersen, Pold, and Riis 2014, 164).

that something is divided into discrete, countable units" (Cramer 2014, 15).[9] Similarly, the term "analogue" is often misunderstood and regarded as something non-computational, but there are analogue forms of computing.[10] Cramer also clarifies that the term "analogue" simply "means that 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" as well as "the flow of electricity in any circuit including a computer chip" (ibid., 16). According to this view, what is often called analogue cinema has technically always been a digital-analogue hybrid technology:

> [...] 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. (Cramer 2014, 16)

Reacting to common misconceptions of the digital and analogue, neo-analogue media hybrids express a desire to eradicate such binary distinctions as analogue/digital and old/new media as well as the way these binaries are influenced by modernist medium-based conceptions of the arts.[11] Thus, they engage in an aesthetics of hybridisation without ideological affiliation to any particular medium.

Therefore, discussing the meanings of "digital" and "analogue" is useful to clear up misapprehensions of their associations to artistic works, given that their common understanding relies heavily on ideas that are "mainly cultivated by product marketing and advertising," and which have "been unquestioningly adopted by the 'digital humanities'" (Cramer 2014, 20). In this sense, curator Christiane Paul, writer of the book *Digital Art* (2003), describes "digital art" as interchangeable with "new media art," defined as a broader range of artistic works and practices that are not described by one unified aesthetics, as a hybrid field that can be loosely divided into two broad categories:

> [...] art that uses digital technologies as a tool for the creation of more traditional art objects – such as a photograph, print, or sculpture – and digital-born, computable art that is created, stored, and distributed via digital technologies and employs their features as its very own medium. The latter is commonly understood as 'new media art'. (Paul 2003, 12–13)

9. The binary system of zeros and ones to sample information is one form of dividing things up. One example that Cramer suggests is "the floor mosaics made of monochrome tiles" (Cramer 2014, 15). The tiles are divided into discrete samples to compose images, a digital system which does not necessarily involve digital computers.

10. As Cramer explains, one form of analogue computing is to use "water and two measuring cups to compute additions and subtractions—of quantities that can't be counted exactly" (ibid.). This is a form of computing that does not use digital computation. An example of this is the artwork *Fluid Memory. Fluidic Computer* (2019-20) by Ioana Vreme Moser that explores computing using water.

11. Digital art or new media art are persistently defined by media specificity or as "an autonomous genre by virtue of its technical medium," which is tied to the use of digital technologies, or software, as an artistic medium. This view follows a modernist rhetoric of "medium specificity" in the visual arts according to Clement Greenberg's conception "driven by the paradigm of a self-referentiality immanent to the artistic medium," together with Marshall McLuhan's view that "the medium itself–or the »

» choice of a medium–carries one, if not the central message" (Daniels 2016, 51).

However, the combination of analogue and digital technologies, as devised by neo-analogue practices, does not seem to fit into those categories because these hybrids do not merely use digital technologies as a tool neither are they, exclusively, "digital-born, computable art" (ibid.). It also seems problematic to define digital art by its tools, or software, given that this view often ignores the hardware aspect as an integral part of digital technologies. The scholar and media theorist Friedrich Kittler goes further to claim that "there is no software" because "all code operations [...] come down to absolutely local string manipulations [...], to signifiers of voltage differences. [...] software does not exist as a machine-independent faculty" (Kittler 1995). Software instructions and processes run as analogue voltage differences at the machine level. The shrink-wrapped software marketisation, be it in a physical package or somewhere in the cloud, is a business that does not exist separately from hardware. In the words of scholar Wendy Hui Kyong Chun, both "software and hardware (like genes and DNA) cannot be physically separated" (Chun 2005, 28).

Adding to this emphasis of the materiality of software, as embodied in hardware, Cramer writes that "media, in the technical sense of storage, transmission, computation and display devices, are always analogue" (Cramer 2014, 20). In short, what Cramer argues is that "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" (ibid.).

12. Hyde explains further that the physicality aspect is emergent in contemporary "sound art which explores physical space and acoustic phenomena" (Hyde 2020, 198).

This focus on the materiality of media technologies and on the analogue nature of their tangible and sensorial aesthetic manifestations is also at stake in neo-analogue hybrids. As the scholar Joseph Hyde acknowledges, neo-analogue practices seem to stress physicality and emphasise primarily "sound and light as physical materials as opposed to electronic signals or media" (Hyde 2020, 198).[12]

As a form of media archaeology, neo-analogue practices engage not only in repurposing discarded analogue media but also in creating a clash of temporalities through hybridisation— one that disrupts the notion of the old and the new within digital media ideologies and imaginaries. They excavate the past as "an attempt to challenge the techno-social constructions of contemporary interface culture" (Andersen, Pold, and Riis 2014, 157).

Ultimately, creative practices that devise neo-analogue hybrids also question whether in the post-digital era—in times when digital computational technolo-

gies permeate all aspects of daily life, and where there is no apparent difference between being online or offline—it is still relevant to categorise something as *being digital*.[13]

13. In the words of scholars Berry and Dieter, "the term 'digital' describes a historical world of discrete moments of the computational" (Berry and Dieter 2015, 3).

3. Neo-analogue Creative Practices

Neo-analogue practices often reclaim hybridisation of analogue and digital media, be it through the exploration of analogue media such as film, electronic video or through analogue-digital media assemblages. Some of these practices include a mesh of handmade film and expanded cinema as well as audiovisual installation or performance. These practices reuse and repurpose analogue media as a reaction to the supremacy of digital video through a media archaeological approach that often follows a DIY methodology.

As the artist and scholar Philip Hoffman explains, "experimental filmmakers bring back to life analog technologies and repurpose them for the present" as a means of sharing "past knowledge for future development" (Hoffman 2018, 39). This is an example of a wide diversity of neo-analogue creative practices that reuse and revive analogue media and fabricate analogue-digital hybrids as an artistic move away from the hype of digital technology.

3.1. Materiality and Tangibility

Neo-analogue practices explore handmade cinema by experimenting with film as a material, through a hands-on approach. In analogy to a metalworkers' "intense intimacy with their material", this attitude expresses the "desire of the craftsperson to see what a metal can *do*, rather than the desire of the scientist to know what a metal *is*" (Bennett 2010, 60). Adding to this idea, scholar Jussi Parikka writes that a photo-chemical "film artist with a media archaeological bent knows the amount of combination needed in testing and experimenting with chemicals or materials" (Parikka 2015, 55). Therefore, instead of employing mechanical film processing, artists have been hand-processing their films and sometimes creating their own emulsions. This attitude shows "a move from machine-built control to the circuitous processes of serendipity" (Hoffman 2018, 43). In other words, a move from industrial cinematic modes of production to a post-digital craft and handmade way of filmmaking

This artistic move not only shows the "reconfiguration of film from industrial to artisanal – a quality closely tied to authenticity in its emphasis on craft and rejection of the division of labour" – but is also a statement on "the work

and care of the hand, an investment in palpable materiality that recruits the power of anachronism to debunk the false promises of progress and innovation" (Balsom 2018, 76).

This haptic and often intimate relationship to film and its palpable materiality can be seen, for example, in the black and white 16mm film *All That Is Solid* (2014), by the artist Eva Kolcze, that explores "utopian visions that inspired the Brutalist movement and the material and aesthetic connection between concrete and celluloid" (Kolcze 2014). The work stresses hands-on manipulation and materiality by using travelling shots of brutalist architecture that face the surface of the film, as a material substance manipulated by hand using chemicals and physical processes.[14]

14. Moving images of Brutalist buildings disintegrate in molecular artefacts of matter, reminding us that all matter turns to dust. The 16mm film was further transferred to digital video and is also accessible online: https://www.evakolcze.com/new-page.

Another intimate approach to the materiality of film is seen in the work *Ways + Means* (2015), by the artist Leslie Supnet, a city symphony of Toronto shot with a Bolex 16mm film camera and edited in-camera using several multiple exposures and pixilation techniques.[15] The film, which is a goodbye letter to the city and portrays hectic city life as well as daily life, was first presented as a 16mm loop on a pedal-powered hand-built artisan projector, created by Martin Heath and Petra Chevrier. The "film's projection speed is dependent on how fast or slow the user is peddling" (Supnet 2015), thus, if the audience-collaborator stopped peddling the film projection would fade to black. The work delegates control to the audience as an alternative way of powering the projector and of raising awareness on the functioning of the cinematic apparatus. This process subverts traditional modes of cinematic presentation in order to create coexistence, cooperation and exchange among audiences, the artwork and the artist. The choice to use a hand-cranked Bolex camera for its production and a pedal-powered projector for its presentation demonstrates a post-digital move to an offline, neo-analogue media attitude.

15. The film exists in both 16mm and as digital video and is accessible online: https://lesliesupnet.ca/films/ways-means-16mm-11-minutes-colour-digital-sound-2016.

Figs. 1 and 2. Ways + Means (2015) by the artist Leslie Supnet, Art Spin/Pleasure Dome event, 2015. Photo by Priam Thomas.

The performance *Second Star* (2015) by Scott Fitzpatrick, which combines film loops, similarly deconstructs and expands traditional modes of cinematic presentation. During the performance, the abstract film loops run through the optical sound reader of the projector, creating rhythms that are manipulated in real-time using a looper effect pedal. The classic technique of direct translation of light-to-sound through the optical sound reader in combination with the looper effect pedal enables further sound manipulations in real-time. In this way, the optical sound is highlighted as a second cinematic "star" or as a fundamental element of the cinematic experience that is often overshadowed by the moving images.

These works foreground the haptic manipulations of film, as a material medium that can be directly intervened, be it through the filmstrip surface, projection speed or loops running on projectors. They also emphasise hybridity by combining analogue media and offline modes of production with digitalisation and online distribution.

3.2. Repurposed and Resurrected Media

Figs. 3 and 4. Electrostatic Bell Choir (2012-13) by Darsha Hewitt, Blackwood Gallery, 2013. Photo by Toni Hafkenscheid.

Other neo-analogue practices may explore the appropriation and reuse of discarded video technologies and the manipulation of electronic video signals in engagements with hardware hacking, cracking, modifying or bending. This repurposing of discarded analogue devices can be defined as Zombie media, resurrected into new forms and contexts.

For example, the installation *Electrostatic Bell Choir* (2012-13) by the artist Darsha Hewitt, uses the static electricity emitted from discarded CRT televisions to make several electrostatic bells ring that stand in front of the CRT televisions. The TVs are programmed using a microcontroller to switch on and off in order to compose different sequences of light and sound, triggering subtle bell ringing sounds that reverberate through the dark space. In this manner, the compositions materialise electrostatic energy while, at the same time, foreground that

all media devices are dependent on electricity as a “stream of electrons moving in a current” (Bennett 2010, 26) that becomes a “choir” of nonhuman agents defining the flow of the work.

Fig. 5. Föhnseher (2011) by Julian Oliver.

Another example is the modification of discarded or obsolete devices as is the work *Föhnseher* (2011) by artist Julian Oliver, a modified analogue TV converted into a new device, the *Föhnseher*, a wordplay on the German words *Fernseher* (television) and *Föhn* (warm wind). The Föhnseher resurrects an analogue TV modified into a media device that “captures and displays images downloaded by people on surrounding local wireless networks” (Oliver 2013). This media device thus reveals the illusion of online privacy and security, while giving a tangible expression to wireless networks as electromagnetic waves travelling through the air.

These examples resurrect analogue devices with custom-made software into new media assemblies and seek to make tangible their invisible driving forces, such as electrostatics, electricity, electromagnetic waves or wireless networks. As such, they make tangible what is often described as immaterial in analogue electronic or computational media.

3.3. Analogue-digital assemblages

Neo-analogue hybrids are also explored in analogue-digital media assemblages that, rather than disrupting or resurrecting existing media technologies or devices, suggest a media ecology of balance and entanglements across several media technologies.

More concretely, the audiovisual performance *10,000 Peacock Feathers in Foaming Acid* (2007) by Evelina Domnitch and Dmitry Gelfand explores the generative structures of soap bubbles, together with a laser light beam that is controlled by custom software. This process generates visuals of "large-scale projection of molecular interactions as well as mind-boggling phenomena of non-linear optics" (Domnitch and Gelfand 2007). This performance defies the common expectation of computational generative visuals through an analogue-digital assemblage for generating abstract visuals.

A similar combination of analogue media and custom software is explored by artist Sally Golding in the performance *Light Begets Sound* (2016). The work captures the flickering projected light of a film projector and translates it to sound as an integrated feedback loop through an audiovisual assemblage that results in a hallucinogenic experience. The performance combines analogue film projectors with LED lights, camera flashes, custom software and light-reactive DIY instruments, as separate but interconnected elements that create a balanced media ecology.

Like the previous DIY approaches, *Bulbble* (2019) by the artist Viola Yip, is an electronic self-built instrument that deviates from standardised media technologies. It has a variable configuration and assembles 4-12 channels of incandescent light bulbs and produces a "pulse-timbre continuum of acoustic sounds that are generated from relays" (Yip 2019). Its electronic circuit was built as a score but the score became entangled with the instrument, together with unexpected elements such as switches' interferences or electricity. The instrument itself becomes the composition, unfolding in time as a network of complex relations between the relay's buzzing sounds and lights bulbs flickering, together with performative gestures and unexpected behaviours as well as the artist's animated shadow.

Fig. 6. Bulbble (2019) by the artist Viola Yip. Photo by Youi Shih.

3.4. Neo-analogue Post-digital Hybridisation

With their different approaches, comprising hands-on manipulation of media materiality, the computational resurrection of obsolete devices or devising customised analogue-digital assemblages and ecologies, neo-analogue creative practices also move between offline modes of creative production and distribution. They rely on hybridisation as a means to reject the rhetoric of the digital, with a critical view on media digitisation and online surveillance, withdrawing from the computer as the sole means of creative production and reacting to the dominance of our current online mode of cultural consumption.

DIY approaches to the reappropriation, resurrection and repurposing of analogue and digital technologies also seek to defy the notion of media standardisation. Assemblies of analogue devices and custom software, analogue electronics and computational processes create media ecosystems that challenge traditional artistic conceptions of medium specificity as well as common screen-based forms of media consumption. Through direct manipulation of light and sound as media materials, neo-analogue practitioners also emphasise haptic engagement with media materiality. They turn into “vital materialists” who are aware of media material capacities and its limitations (Bennett 2010, 111) and thus strategically engage in devising post-digital hybrid forms.

4. Conclusion: Off the Digital Grid

Neo-analogue practices suggest that analogue vs. digital, or old vs. new media, are just two sides of the same coin. Rather than taking analogue or digital media as extremes of "how individuals relate to the techno-political and economic realities of our time," either through "over-identification with systems, or rejection of these same systems" (Cramer 2014, 22), neo-analogue practitioners engage in post-digital hybridisation. Consequently, in neo-analogue practices, there is an implicit sense of agency over the medium that, as Cramer argues, is inherent to post-digital subcultures as an "illusion of more control over the medium" just like digital cultures "are driven by similar illusions of free will and individual empowerment" (ibid.).

Accordingly, the engagement of the neo-analogue practitioner, artist or enthusiast with the self-made is characterised by a dedication to material experimentation, sometimes delegating control to chance processes, as opposed to the granular control enabled by digital technologies. The sense of agency inherent to the DIY attitude is also combined with community building and peer cooperation, knowledge sharing and learning by doing, as key aspects of these cultures of creative production.

By relying on a DIY methodology, with a focus on handmade and artisanal modes of production, these practices also emphasise media materiality infused with computation as well as online and offline networking. However, these forms of tinkering and craftsmanship should not be seen as mere nostalgic revivalism, neither as a search for technical innovation. Rather, they seek to remix and combine characteristics and qualities of both analogue and digital media into neo-analogue hybrids that take a critical stance towards the post-digital condition, or the fact that the digital and computational have become hegemonic – "a condition in which digital disruption is not transcended as such, but becomes routine or business as usual" (Berry and Dieter 2015, 6).

Artists choose to reinvent their own tools by both reviving media technologies through electronic and computational customisation and by exploring diverse tangible manifestations of the computational as something "experiential, spatial and materialized in its implementation, embedded within the environment and embodied", as something that is "touched and touchable, manipulated and manipulable and interactive and operable through a number of entry-points, surfaces and veneers" (Berry and Dieter 2015, 3).

Through assemblages of analogue and digital technologies, neo-analogue practices devise hybrid forms that are no longer defined by their tools or media formats but by their concepts, contexts and ideology. They do so by emphasising media mutation and diversification instead of normalisation and standardisation, as a reaction to, and rejection of, an inevitable entanglement in *the digital* media grid. They stage the possibility of being *off the digital* media grid by incorporating digital technologies and defying medium specificity, thus rejecting the techno-positivist ideologies of *being digital*.

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References

Andersen, Christian, Søren Pold, and Morten Riis. 2014. "A Dialogue on Cassette Tapes and Their Memories." *A Peer-Reviewed Journal About 3* (1): 156–67. Accessed April 10, 2021 https://aprja.net/article/view/116095 .

Balsom, Erika. 2018. "The Ambivalence of Authenticity." *Film in the Present Tense*, 75–77. Archive Books.

Bennett, Jane. 2010. *Vibrant Matter: A Political Ecology of Things*. Duke University Press Durham and London.

Berry, David M. and Michael Dieter. 2015. "Thinking Postdigital Aesthetics: Art, Computation and Design." *Postdigital Aesthetics: Art, Computation and Design*. Berry, David M. and Michael Dieter (eds.), pp. 1-11. Hampshire, New York: Palgrave Macmillan.

Chun, Wendy Hui Kyong. 2005. "On Software, or the Persistence of Visual Knowledge." *Grey Room* 18: 26–51.

Cramer, Florian. 2012. "Post-Digital Writing." *Electronic Book Review*, December 12. Accessed April 10, 2021. https://electronicbookreview.com/essay/post-digital-writing/.

Cramer, Florian. 2014. "What Is 'Post-Digital'?" *A Peer-Reviewed Journal About* 3 (1): 10–24. Accessed April 10, 2021. https://doi.org/10.7146/aprja.v3i1.116068.

Cramer, Florian. 2019. "Does DIY mean anything? - a DIY attempt (= essay)." *Anrikningsverket Journal*. 1: Convulsion, Jul 2019, 52-72. Accessed April 10, 2021. https://files.cargocollective.com/667217/Anrikningsverket_Journal_1_2019.pdf#page=52.

Daniels, Dieter.
2016. "What Happened to Media Art? A Summary and Outlook." *Across and Beyond: Post-Digital Practices, Concepts, and Institutions*. Bishop, Ryan, & Gansing, Kristoffer, & Parikka, Jussi (eds.), pp. 44–62. Germany, Berlin: transmediale e.V. and Sternberg Press.

Domnitch, Evelina, and Dmitry Gelfand.
2007. "10000 Peacock Feathers In Foaming Acid." Accessed April 10, 2021. http://portablepalace.com/10000feathers.html.

Hertz, Garnet, and Jussi Parikka.
2012. "Zombie Media: Circuit bending media archaeology into an art method. *Leonardo* 45 (October).

Hertz, Garnet, and Jussi Parikka.
2015. "Zombie Media: Circuit bending media archaeology into an art method." In *A Geology of Media*. University of Minnesota Press.

Hoffman, Philip.
2018. "Vulture Aesthetics: Process Cinema at the Film Farm." Film in the *Present Tense*, 37–45. Archive Books.

Huhtamo, Erkki (Ed.), and Jussi (Ed.) Parikka.
2011. *Media Archaeology: Approaches, Applications, and Implications*. University of California Press.

Hyde, Joseph.
2020. "The New Analogue Media Archaeology as Creative Practice in 21st-Century Audiovisual Art." *Sound & Image: Aesthetics and Practices*, 188–205. Routledge.

Kittler, Friedrich.
1995. "There Is No Software." *Ctheory*. Accessed April 10, 2021. https://web.stanford.edu/class/history34q/readings/Kittler/There_is_No_Software.html.

Kolcze, Eva.
2014. "All that is solid." Accessed April 10, 2021. http://www.evakolcze.com/new-page.

Ludovico, Alessandro.
2012. *Post-Digital Print: The Mutation of Publishing since 1894*. Onomatopee 77. Eindhoven: Onomatopee.

Manovich, Lev.
2013. *Software Takes Command: Extending the Language of New Media*. New York: Bloomsbury Academic.

McLuhan, Marshall.
1964. *Understanding Media: The Extensions of Man*. Signet Books. Canada: The New American Library of Canada Limited.

Negroponte, Nicholas.
1995. *Being Digital*. Alfred A. Knopf, Inc.

Oliver, Julian.
2013. "Föhnseher." Accessed April 10, 2021. https://julianoliver.com/output/foehnseher.html.

Parikka, Jussi.
2015. A *Geology of Media*. University of Minnesota Press.

Paul, Christiane.
2003. *Digital Art*. 3rd ed. Thames & Hudson.

Rey, Nicolas.
2018. "Contemporary Issues of Artist-Run Film Lab Practices." *Film in the Present Tense*, 63–71. Archive Books.

Supnet, Leslie.
2015. "Interview with Leslie Supnet." Interview by Christina Battle. *INCITE* Journal. Accessed April 10, 2021. http://incite-online.net/lesliesupnet.html.

Yip, Viola.
2019. *Bulbble*. Accessed April 10, 2021. https://www.violayip.com/bulbble.