On #Materiality

Josephine Diecke, Bregt Lameris, Laura Niebling

Abstract

The discussion of media often meanders between the way media objects are perceived as written texts, projected audiovisual messages, or recorded music on the one hand and material objects on the other. Materiality in the sense of physical matter is considered multi-sensory and in a direct relation to the perceiving body, traditionally – particularly in the arts – associated with processes of valorisation as in the term and concept of 'aura'. But media studies have long established perspectives beyond simple notions of matter. Even light, sound, and energy have entered the discourse, and materiality can be traced in any and all understandings of media. This special section brings together some of the latest post-digital perspectives on the long-standing discussion of materiality in our ever-changing media landscapes. The contributions represent today's broadness of the field and discourse, connecting media from their analogue pasts to their materially ambiguous futures.

Keywords: materiality, analogue, digital, media ecologies, senses, post-digital

One might subsume the eliminated element in the term 'aura' and go on to say: that which withers in the age of mechanical reproduction is the aura of the work of art. This is a symptomatic process whose significance points beyond the realm of art.[1]

On 30 July 2022, Florida-based crypto entrepreneur Martin Mobarak claimed to have burned a work by Mexican painter Frida Kahlo so that it would only exist virtually in the form of Non-Fungible Tokens (NFTs) – as a series of ownership certificates on a blockchain.[2] On Youtube, a video allegedly

showed the event: a pool party can be seen, where a picture is taken out of a frame to the music of a mariachi band and becomes the food of flames in a cocktail glass on dry ice. Under the name 'Fantasmones siniestros' (eerie spirits) it is listed on the website FRIDA.NFT, identified as a sheet torn from Kahlo's diary, on which the artist sketched fantastic creatures in watercolours around 1944.[3]

While Mobarak claims that 'part' of the proceeds are to go to a charity, the Mexican Ministry of Culture is investigating whether he committed a crime by deliberately destroying an authentic work of art. And Mobarak is not alone in this attitude to destroy a physical object to increase the value of its digital simulacra. Back in early 2021, activists burned a Banksy print, sold it as NFT, and made a profit.[4] Damien Hirst, one of the most successful contemporary artists, who often plays with market mechanisms, even launched an art project called 'The Currency', centred on value-creating or value-destroying burnings.[5] Anyone who buys one of ten thousand colorful images that look like banknotes will receive it on paper – or as an NFT, in which case the corresponding sheet will be burned. The fact that more than half of the buyers chose the physical option shows the interdependence of analogue and digital, respectively unique, and reproducible manifestations of materiality. That raises the question of how matter is differently valued depending on many circumstances.

The physical and medial staging, recording, and dissemination of this process of the simultaneous destruction and creation of art encompasses diverse aspects that can be examined under the term materiality. It invites perspectives on the constitution (tangibility) of the material objects, on the process of releasing and transforming energy and matter into analogue (burning) and digital (photographed artwork and audio-visual recording of the event), and eventually on the monetisation of an infinitely reproducible artwork through artificial scarcity with the help of non-fungible tokens. Structurally this event centres around the recurring questions of which definitions and values are attached to concepts of materiality in the post-digital age of media production.

In 1935, Walter Benjamin coined the term *aura* in his famous essay 'The Work of Art in the Age of Mechanical Reproduction', which marked a shifting moment in the way materiality was approached in relation to art. This shift was related to the increasing use of reproduction technologies, which allowed for a multiplication of the visual representation of the work of art. The unique materiality of such reproduced artworks was felt to be lost, and with it the 'aura' of their unique place and time.[6]

Benjamin's essay provided generations of art historians, film, and media scholars with a basis for discussion with regard to the value of artworks in the 21st century. Benjamin could have hardly anticipated the extent of the digital reproductions to come. And yet his thoughts on an object's aura detached from the material basis are (once again) more relevant than ever. The digital has turned media practices into storage machines through duplication. Copy and paste are probably the most familiar and used commands in the digital world nowadays, and we save and attribute importance to things by duplication. The Kahlo incident is a conscious contradiction of these practices; and we are asked to read the incident not as a destruction, but a transfer – the aura of the analogue Kahlo painting, which according to Benjamin's definition is unique, is now attached to a presumably unique digital image.

As the case of the burned painting confirms once again, reactions around objects and their aura are a well-established debate that never stopped to exist in different domains. The public discourses continue to be binary, revolving around the material or (supposed) immaterial status of an artwork and its higher or lower (dis)approval. But does this still really reflect the possibilities of media technologies – and has it ever? And how have film and media studies approached these questions in the past, and how do they today?

Materiality: Concepts and meanings

The terms materiality and material hold ambivalent and partially opposing meanings. On the one hand, *materials* represent physical properties and realities of structure and form in the sense of concrete material objects, made from (re)usable matter. On the other hand, 'material' stands for something non-physical and abstract such as a piece of information or an idea that, in

turn, can be used to create something of solid object-matter. On the other end, being material can also refer to quantities and a particular state of mind: being greedy or covetous, as Madonna famously sang about in the 1980s.

Many of these meanings are already anchored into etymological debates. The Latin word *materia* refers to the first meaning of material as (building) matter and was framed in that sense by the Ancient Greek philosopher Aristotle. Around the same time, however, the Greek word ὕ λ ε (wood, stuff) was also charged with mystical and metaphorical understanding, e.g. by Plato and his definition of matter as 'repository, childminder, or mother',[7] referring to it as the vessel of nature. According to German philosophers Immanuel Kant and Georg Wilhelm Friedrich Hegel, materials and their aesthetic appearance were to be regarded as something 'secondary', 'superficial', and even 'worldly' as opposed to an idealised 'substance' (Kant) or 'mind' (Hegel).[8] The subsequent separation of 'material' and 'content' or 'material' and 'form' has strongly influenced the evaluation of (fine) art ever since. Karl Marx's critique of the value of art as a commodity [9] resonated in the writings of scholars such as Walter Benjamin, who considered a unique manifestation of a material artwork more important than the offspring of technical reproduction such as printing or photography.[10] His strongest complaint was directed against the loss of what he framed as 'aura'.

Inscribing meaning into an object, defining it as art or another category, implies a certain type of value. For material objects, these discussions are particularly found in museum theory and cultural anthropology and its related reflections on collecting and archiving. A significant strand of this discourse is the emergence of material culture (theory), a 'branch of cultural history or cultural anthropology',[11] which in the 1980s aligned long-established archival and curation processes with a broader theoretical discussion of artifacts. Interestingly, again, the term material culture then described both 'the study through artifacts of the beliefs – values, ideas, attitudes, and assumptions – of a particular community or society at a given time' as well as 'the artifacts themselves, to the body of material available for such study' – that is cultural value and object.[12] As the Polish philosopher Krzysztof

Pomian explains in his book *Der Ursprung des Museums* (1988), an object that turns into a museum's object, furthermore becomes what he calls a semiophore. This means an object referring to its past and a given role in history, of which it is becoming a part. Donna Haraway pushes this even further with the concept of the material-semiotic knot, explaining that '...personal lived material experience is already knotted with how we read and make theory'.[13] This becomes particularly relevant once materiality becomes a topic of media research.

Materiality in media and film studies

In all, materiality has been defined and conceived in multiple ways, and as Jeehee Hong from the Chicago School of Media Theory explains: 'This multivalence of material, often accompanied by the word "materiality," has surfaced as one of the crucial aspects framing the characteristics of media.'[14] To understand the varying approaches to materiality in media studies, an overview of some of the prominent positions outlined in the contributions to this issue is helpful.

Interestingly, in film and media studies, there is a tendency to conceptually separate the projection context from the moving images, sounds, or the texts we see, hear, or read, or as Leora Auslander writes:

> ...both computers and cinemas, because they are tangible, touchable things, fit within the category of material culture, whereas the film shown or text displayed within or upon them do not.[15]

This has created a scholarly situation in which the study of the material dimensions of media is often encountered with a sense of discomfort. Why study the materiality of a medium when it is actually the visual or textual content or even artwork that enchanted us into becoming media scholars in the first place?

From the 1960s onwards, film studies, structuralism, semiotics, and neo-formalism privileged the supposedly non-material projections and reflections as the essence of film. This division between the tangible and non-tangible side of media fed into theoretical and methodological separations between the two. As a result, studies often focused on either the material and technological side of media as a transmitter or the texts, images, and messages that were transmitted as content or context. For example, early film history books often either discuss the technological history of cinema or the history of film titles, directors, and actors of certain countries and nationalities. The material equipment that made the projection possible in the first place was considered secondary, superficial, and worldly instead of a fundamental part of media.

In contrast to this, early media studies also developed a rather object-centred perspective on technology, infrastructures, and theory. In his 1964 book *Understanding Media: The Extensions of Man*, Marshall McLuhan proposed the concept of media as an extension of our bodies, putting high relevance on their material status. In his focus on media technologies, machines help us improve our imperfections and enlarge our capabilities. The 'message', he says, 'of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs'.[16] And the 'content' is secondary to the technology, he argues, because 'the "content" of any medium is always another medium' which he illustrates with the idea that speech is the content of writing, and writing is the content of print.[17] McLuhan's focus on media is directly tied to an understanding of the (im)material, which transforms with the changes in media technology as an instrument of transmission. Telegraph infrastructures, for instance, replaced roads and the telegraph marked a significant change, because through it the message was taken off a human messenger and 'information [...] detached itself from solid commodities as stone and papyrus'.[18]

Another perspective on the materiality of media came from Jean-Louis Baudry's apparatus theory and his reflections regarding the 'appareil de base' and 'dispositif', which became highly influential in film studies in the 1970s. It outlined how technology and materiality were shaped following the ideology of a renaissance

perspective. As a result, Baudry described the film camera as a follow-up technology of the camera obscura. The projection and perception of a film, he stated, should smooth out the material basis of the moving images, creating fiction – a dream world the spectator can believe in to the fullest. If the projection's smoothness is disrupted because of mechanical failure, the continuity of the experience is terminated:

> We should remember, moreover, the disturbing effects which result during a projection from breakdowns in the recreation of movement, when the spectator is brought abruptly back to discontinuity-that is, to the body, to the technical apparatus which he had forgotten.[19]

As a result, Baudry argues, the material groundings and fundamentals of a film experience traditionally should not be perceivable in the case of the screening of fiction films in the Hollywood tradition and following renaissance laws of perspective. In the end, Baudry meditated upon the materiality of the film screening to make clear that it should be hidden so the performance of a film could be experienced in the most immaterial way.

With the archival turn in film and media studies, which happened between the late 1970s and the 1980s, film and media studies developed a stronger interest in the forgotten and lesser-studied histories. Unknown films that were 'found' in the archives became the main objects of study for both film analytical and historical studies. Also, the production and presentation history of media was increasingly studied and explored. Archivists and historians started to emphasise the material starting point of the audiovisual representation, be it through projection or on a television or computer screen. The different versions of the same film work that were found in film and television archives started a reflection on how the material carriers and their fragility and changeability affected their objects of study.[20] Also, archivists started to publish critical editions of films, commenting on the fact that audiovisual objects were not just unique works of art, but that they existed as multiple objects, as the same text of work in different material forms.[21]

In addition, the study of film theatres, programming histories, and projection contexts was increasingly considered. As a result, Baudry's idea and theory that the

materiality of projection and film needed to be hidden instead of shown was contested. For example, it became clear that other forms of cinema, such as fairground cinema, foregrounded the projector, presenting it as a technological miracle, an attraction in itself. Instead of hiding it, this type of cinema emphasised its materiality and technological origins.

A perspective similarly engaged with the technological components of media was the field of media and film archaeology, which also emerged around the 1970s in conceptual reference to writings such as Foucault's *Archéologie du savoir* (1969).[22] The work of Friedrich Kittler, Wolfgang Ernst, Thomas Elsaesser, Wanda Strauven, Jussi Parikka, and Erkki Huhtamo focused on material objects in combination with questions on materiality, tangibility, and technology, albeit following slightly differing perspectives on their research objects.[23] A fundamental aspect of many of these approaches, however, is research on media materiality, as Parikka shows: 'Media archaeology exists somewhere between materialist media theories and the insistence on the value of the obsolete and forgotten through new cultural histories that have emerged since the 1980s.'[24] Here, the question of something 'below the surface' is perhaps discussed most prominently. But media archaeology is not only a conceptualised look at media history, a 'theoretically refined analysis of the historical layers of media in their singularity',[25] according to Parikka. As Michael Goddard points out: it is the conjunction of a particular media history writing, 'a rupture within contemporary media theories and histories, rather than a new discipline',[26] with thoughts on materiality, that creates a distinction from other approaches:

> [O]ne of the key values of media archaeology is its insistence on the materiality, and material ecologies of media objects, systems and processes, contrary to the still lingering tendency to view informational technologies and processes in disembodied and immaterial terms.[27]

Interestingly, the discussion again refers to the dichotomy between on the one hand media as objects with material grounding and on the other hand the disembodied and immaterial perspectives on media objects – this time to convince others of the importance of studying the materiality of the media instead of the moving images, sounds, or information they mediate. Of all media archaeology schools,

Experimental Media Archaeology surely makes the greatest didactic use of materials and materiality. In experiments with old technology the 'functionalities ascribed to the materiality of the object (what can and cannot be done with a device)' are researched and taught alongside its 'symbolic nature (design)'.[28] Here, again, a sort of dichotomy is at play, but it is mainly associated with the possibility to develop a broad methodological toolbox to encompass more aspects of a media object.

The perspectives raised in media archaeology are flanked by discourses in media philosophy, which developed from Germany's schools of media philosophy discussing materiality, among other things, as 'manifest materiality', but also, according to Dietrich Mersch, not the 'superficially material things [...], rather something that only occurs from there: appearance that contains no particular "something"'.[29] He argues for a perspective of

> what 'media' create, represent, transfer or mediate, so that 'medium' itself is not an adequate object of inquiry. Instead, one should look at the underlying materialities, dispositives, and performances that accompany medial processes i.e., are integrated into them without disclosing themselves.[30]

What is significant about an approach that follows this logic is that it – again – gives a 'trace of materiality'[31] a place in any discussion of mediality. For medium (which Mersch seeks to replace as a term) and material, the following can be formulated with Christoph Kleinschmidt, with extended reference to Niklas Luhmann's tradition of thought – i.e. as medium and objective form – as well as to Ferdinand de Saussure's semiotic relation – i.e. possibility and appearance: 'Medium and material can [...] be grasped in an asymmetrical conditional relationship: every medium also always implies a materiality through which the medium appears, but not every concrete material has a mediality function'.[32] What Kleinschmidt discusses in the distinction between intermediality and intermateriality is precisely the dichotomy already referenced before. But it becomes more complex with the multi-sensorial aspects inscribed into its medial forms. Elodie A. Roy outlines them in *Media, Materiality and Memory* for musical objects and frames it as a fragmentary relationship:

> Musical objects are complex, multilayered and multi-sensorial objects: although they can be visually seized as mute and purely aesthetic objects, they can also be played and mediate a recorded content. Here, materiality appears as a fragmentary and multi-sensorial realm, one which prompts us to engage fully with the aural, visual and tactile nature of experience.[33]

Here, the field of phenomenology becomes particularly relevant. Media scholars in their approach to audiovisual media often find that audiovisual representation equally relates to the embodied spectator. It can activate touch, taste, and smell through processes of cross-modal perception and embodied memory, as the 2012 NECSUS special section #Tangibility has shown.[34] As Michael Goddard notes, concepts of media ecology can be discussed from at least two sides. There are 'phenomenological approaches centred on an assumed human body and sensorium', and archaeologically or other centred 'material ecologies of human, non-human and machinic entities, the inorganic, organic and, as we shall see, geological strata that underlie technical media systems and networks, but which are frequently ignored in conventional media studies'.[35] Often, however, the terms are interwoven, and concepts cannot be separated clearly.

Overall, with materiality as a socio-ecological category media ecology can be instrumental to new forms of critique of media matter. Representatives of sustainability movements and new materialism, for instance, criticise the existing destructive approaches of modern industrial societies to consumption. The productive alternative would seek to reduce and reuse human-made materials which destroy our environment in the sense of physical habitats and species. Looking at a musical context, for instance, Samuel Wilson even called into question a 'crises of materiality',[36] which is representing a broader debate of music media objects, in which the series *Music & Material Encounters* is but the latest example. As Kyle Devine analysed in 2015, here, too, a dichotomy might be at play: the

> earthy and potentially ugly material realities typically go unnoticed in musical discourse, probably because they clash with a longstanding but mistaken belief that music is somehow an immaterial phenomenon.[37]

The same, one could say, extends perhaps to all media. It is only now that we find digital media are increasingly discussed with regard to their material status and environmental footprint due to their mode of production.[38]

A stronger and more dominant perspective had conceptualised digital – particularly virtual (that is visualised) worlds (again) as immaterial and detached from physical realities. Christine Browaeys summarised this effect as a 'denial of materiality'.[39] She argues that the digital is not immaterial but 'other' in its partial invisibility and tangibility. Research and discussion about materialities, therefore, do not end with the study of material or immaterial objects but acknowledge 'a process, a flow and connections'[40] surrounding matter and materials as well. Human ways of thinking are implemented into digital foundations of data processing, storage, and AI. Through them our cultural and social life materialise in and rely on analogue and digital technologies, unique and/or reproducible.

This issue: New perspectives on post-digital materiality

With this special section, we would like to provide a platform for the debate on media and materiality as it has been evolving with the digital turn and its subsequent discussions of post-digitality. This post-digital world, in which we once again define materiality and material media, has lost its initial fascination with the digital systems which themselves have increasingly turned historical. It is a 'contemporary disenchantment with digital information systems and media gadgets',[41] as Florian Cramer states. This brings about a 'critical, reflective and practical revision of the digital',[42] which was subversively reflected in almost all papers of this issue and directly discussed by Rémy Bocquillon and Joost van Loon in their contribution on NFTs.

By approaching the topic of materiality and its effects based on singular objects, different paths and debates opened up. Whether through a historical analysis of an object's meaning, its relationship with the media environment, or its access and (digital) reproduction with the help of interfaces, questions of the material and immaterial constitution of objects have arisen from almost all perspectives. In this special section we aimed for bringing some of them together to explore the numerous levels of materiality in the media objects surrounding us. Looking at objects, the experimental media archaeological contribution by Tim van der Heijden and Mirco Santi on the Pathé Baby opens up perspectives on its (im-)materiality,

particularly acknowledging that media histories not only run simultaneously but have plural meanings in the process. Approaching this from the materiality of the objects of study, new ideas are created, and results can be obtained that differ from those coming from more traditional historical research.

Although the materiality of media has always mattered, the discursive boundaries between materiality/immateriality, old/new, waste/innovation, and obsolete/modern have seemed to gain new significance in the post-digital era in particular.[43] Previously established and standardised media objects are disappearing from public and private spaces, such as analogue film projectors, radio receiving equipment, CRT television, and VCRs. Contrary to some misconceptions, materiality has not vanished with the transition to digital. In fact, digital technologies are not immaterial either, which means that digital materiality and how it relates to media practices still needs to be reflected upon – not only because, as a famous saying in IT goes, 'your cloud is just someone else's computer'. In this context, the transition from analogue to digital has opened new paths for investigations into the conservation and preservation of analogue media practices with the help of digital tools.[44] Jens Schröter emphasises and illuminates this material side of the digital in his article on the archaeology of the materiality of the laser and its functionality in the material storage of digital code on for example CD-ROMs and now DVDs.

But as discussed above, the materiality of media and the corresponding artifacts and concepts have always also been culturally charged with new values, connotations, and symbolic perspectives, including and reaching beyond their historical functions for example as user objects or design tokens. These manifold values and positions are the topic of an extensively growing media theoretical debate with new experimental practices of media research, art, and curating. Equally, artistic practices are returning to analogue formats with an increasing number of analogue laboratories and stand-alone artists pushing a practice-oriented counterculture of experimental filmmaking with photochemical processes, providing a varied range of new kinds of knowledge.[45] Taking sound as a starting point, Işıl Karataş dives into this practice, emphasising the topic from a new materialist perspective, reflecting the interrelationship between the animate and inanimate.

In all, the definition of materiality varies from a narrow understanding of a solid manifestation of energy in an object to a fluid and re-/deformable mass of matter. All these notions have been shaped over centuries by philosophers and scientists and became the central subject of interest for physics in the middle of the 19th century.[46] And the fact that light should also be part of this definition is now more closely examined by Schröter. This issue shows that nowadays materiality is studied in objects, (in)tangible, multi-sensuous, and attributed with diverging values of its form.

To conclude some of the thoughts discussed in this introduction: there is a dichotomy in thinking about media that can be traced back to the way media objects are perceived as written texts, projected audiovisual messages, or recorded music on the one hand and material objects on the other. For the latter, we assume that materials in the sense of physical matter are multi-sensory, that they can be perceived by our senses of sight, smell, touch, taste, and hearing, and as such have a direct relation to the perceiving body. And to further broaden the scope, following one of the authors in this special section, we might also argue that in a post-digital perspective on media everything including light and sound is matter and therefore material. That would imply that a projected film or a text appearing on a screen is just as much physical matter, relating to our bodies, as the projector, camera, or chair we sit in. In 1995 Michel Chion already argued that this is the case for sound in *La musique au cinéma*. He described sound as having a bi-sensorial nature, because it not only resonates in the ear but also in the skin and bones.[47] There are, one could argue, always traces of materiality in any and all perspectives on media – whether felt, seen, or heard. They create a complex referential point and, as the perspectives on media and film studies show, might be the *one* thread silently connecting all media history from its analogue past to its post-digital future.

Thanks

This issue saw a phenomenal quantity of abstracts when we originally put out the call for papers. We started with a robust selection, which we saw slowly diminished by the many crises we as academics now face – from the ongoing pandemic

to new geopolitical uncertainties. Challenges to the everyday material world, be it physical, political, or financial, have ended up reflecting on this issue way beyond media theoretical framings. As editors of this issue, we would like to extend our heartfelt thanks to our authors – those published and those who unfortunately had to withdraw what could have been amazing contributions. Also the colleagues responsible for the observant and empathetic peer reviews of this issue, and the NECSUS board for all the amazing work it does. The initial responses to this issue promise a bright future for material media studies, so let's keep talking about #Materiality.

Authors

Josephine Diecke is a postdoctoral researcher in Film and Media Studies at Philipps-Universität Marburg and the Academic Coordinator of the project Digital Cinema-Hub (DiCi-Hub), funded by the Volkswagen Foundation (2021-2026). Her research interests include film and media historiography and archaeology, moving image archiving and conservation practices, and digital methods. After graduating in film studies from the universities of Mainz and Frankfurt in Germany, she supervised and assisted in a number of film digitisation projects in the framework of the research project Film Colors. Technologies, Cultures, Institutions at the University of Zurich and as film lab technician for German and Swiss service providers. In 2022 she received her PhD with a thesis on the discursive construction of the German color film process Agfacolor. She is co-editor of the Open Media Studies Blog and serves as co-leader of the NECS workgroup Digital Methods.

Bregt Lameris is an Assistant Professor in Media Studies at the Open University in The Netherlands. She is working on her habilitation manuscript 'Feeling Color' for the University of Zurich, based on her work for the ERC Advanced Grant project FilmColors. Other research interests are media archaeology, film archiving, film historiography, affect, emotions and subjectivity in film, media and mental health. In 2017 she published her first monograph *Film Museum Practice and Film Historiography: The Case of the Nederlands Filmmuseum (1946-2000)*, which is available in open access through Amsterdam University Press. She is currently a member of the Steering Committee and the Open Scholarship Committee of NECS, as well as one of the workgroup leaders of the Open Media Studies workgroup of the Gesellschaft für Medienwissenschaften (GfM). She has a Ph.D. in Media and Culture Studies (Utrecht University), and a BA and MA in Cinema and Theatre Studies (Radboud University).

Laura Niebling is an academic researcher in the Department of Media Studies at Regensburg University, where she teaches and researches the history and theory of digital media. In her latest book, *Audiowelten – Technologie und Medien in der populären Musik nach 1945* (with B. Burkhart, A. v. Keeken, C. Jost, and M. Pfleiderer, 2021), she has written an object-centred history of record carriers in German pop music after 1945. She is currently working on her habilitation on Western Germany's digitisation of medicine and medical work and *Digitale Medien und Methoden*, the first German handbook on digital media methodology (w. F. Raczkowski & S. Stollfuß). As digital affairs manager, she is part of the NECS Steering Committee and she serves as co-leader of the GfM workgroup Signale (w. S. Miyazaki).

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Notes

[1]   Benjamin 1969 [orig. in 1935], p. 4.

[2] https://fridanft.org (accessed on 25 November 2022).

[3] https://www.youtube.com/watch?v=_M23F73G0Jc (accessed on 25 November 2022).

[4] https://news.bitcoin.com/burned-original-banksy-morons-print-nft/ (accessed on 25 November 2022).

[5] https://currency.nft.heni.com (accessed on 25 November 2022).

[6] Benjamin 1969 [orig. in 1935], p. 4.

[7] Browaeys 2019, p. 3.

[8] Hegel 1998 [orig. in 1820-1823], pp. 69-90.

[9] Karl Marx 1974 [orig. in 1867].

[10] Benjamin 1969 [orig. in 1935], pp. 219-253.

[11] Prown 1982, p.1.

[12] Ibid.

[13] Harley 2019, pp. 539-553.

[14] https://lucian.uchicago.edu/blogs/mediatheory/keywords/materialmateriality/ (accessed 25 November 2022).

[15] Auslander 2012, p. 353.

[16] McLuhan 1964, p. 24.

[17] Ibid., p. 8.

[18] Ibid., p. 90.

[19] Baudry 1974, p. 42.

[20] Gunning 1992; Routt 1997; Tybjerg 2002; Kessler 2002; Musser 2004

[21] Cherchi Usai 1994; Cherchi Usai 2000; Fossati 1996; Koerber 2000. Despite this moment of awareness, many media scholars keep studying audiovisual objects as texts, not taking into account that their object of study is always a duplicate of one of many versions of a work.

[22] Foucault 1969.

[23] Kittler 1986; Elsaesser 2016; Strauven 2013; Strauven 2021; Huhtamo 2011; Parikka 2012.

[24] https://journals.uvic.ca/index.php/ctheory/article/view/14750/5621 (accessed on 25 November 2022).

[25] https://journals.uvic.ca/index.php/ctheory/article/view/14750/5621 (accessed on 25 November 2022).

[26] Goddard 2015, p. 2.

[27] Goddard 2015, p. 2.

[28] Fickers & van den Oever 2019, p. 62.

[29] Mersch 2002, p. 134 (our translation).

[30] Mersch 2013, p. 208.

[31]   Günzel 2014, p. 173 (our translation).

[32]   Kleinschmidt 2012, p. 38.

[33]   Roy 2015, p. 6.

[34]   NECSUS 2012.

[35]   Goddard 2015, p. 2.

[36]   Wilson 2021.

[37]   Devine 2015, p. 367.

[38]   See Gabrys 2011; Marks 2020; Trischler 2021; Crawford 2021.

[39]   Browaeys 2019, p. 7.

[40]   Ibid., p. 4.

[41]   Cramer 2014, pp. 12.

[42]   Smolicki 2018, p. 95.

[43]   See Manovich 2001; Fossati 2009; Elsaesser 2016; Allen-Robertson 2017.

[44]   Fossati 2009; Flueckiger 2012.

[45]   Catanese & Parikka 2018; Knowles 2020.

[46]   Browaeys 2019, p. 3.

[47]   Chion 1995, p. 221