**Postdigital: A Term That Sucks but Is Useful**

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**Introduction**

At this place I’d need a ca 300-word bio, modelled as other bios in attached Learning in the age of digital reason book. See also Kim’s interview, <https://link.springer.com/article/10.1007/s42438-020-00209-1> Please provide the text.

Florian Cramer studied Comparative Literature and Art History at Freie Universität Berlin, Universität Konstanz and University of Massachusetts at Amherst, and obtained his Dr.phil. in Comparative Literature in 2006 with a thesis on the history on combinatorial and permutational poetry and literature (*Exe.cut[up]able statements: Poetische Kalküle und Phantasmen des selbstausführenden Texts*, Wilhelm Fink, 2011, Open Access at <https://www.netzliteratur.net/cramer/poetische_kalkuele_und_phantasmen.html>) He worked as a lecturer in Comparative Literature at Freie Universität Berlin’s Peter-Szondi-Institut from 1998 to 2004, after that at Willem de Kooning de Academy/Piet Zwart Institute in Rotterdam, an art and design school that is part of the Rotterdam University of Applied Sciences in The Netherlands; first as a research fellow and course director of Piet Zwart Institute’s Master Media Design, since 2008 as a reader/practice-oriented research professor. His current focus of work is on self-organized, multidisciplinary and DIY practices in relation to new concepts and understandings of autonomy in the arts, among others in the larger research projects *ACKnowledge: Artists Community Knowledge* and *Making Matters: Bridging art, design and technology through Material Practices.*

Outside academia, and from 1989 to today, he collaborated in DIY, small publishing, and activist projects with Lloyd Dunn/PhotoStatic, Stewart Home, John Berndt, tENTATIVELY, a cONVENIENCE and Istvan Kantor (in- and outside of the context of Neoism), Karlheinz Essl, Heinrich Dubel, Sebastian Luetgert, Rafael Horzon, Luther Blissett/Wu Ming 1, Eva & Franco Mattes, Cornelia Sollfrank, Alan Sondheim, mez breeze (in the larger context of net.art and codeworks), Tatiana Bazzichelli, Katrien Jacobs (on alternative pornography and network culture), Coolhaven, Jeroen Kuster, Mariëtte Groot, filmwerkplaats collective, Lukas Simonis & Ergo Phizmiz, De Player (in Rotterdam’s DIY arts and experimental music/filmmaking communities), Jan Van Den Dobbelsteen , Paolo Davanzo & Lisa Marr, Wilhelm Hein & Annette Frick, Rasheedah Phillips, Moor Mother (helping to organize the 2015 festival “Afrofuturism Now”), Frank Rowenta, Goodiepal & Pals, Clara Balaguer and Woodstone Kugelblitz/The Voluntary Fire Brigade of the Apocalypse. In 1998, he won an electronic literature award for the website *Permutations* which reconstructs historical, pre-electronic combinatorial poetry as computer-generated poetry (<http://permutations.pleintekst.nl/>).

Publications include the essay collection *Anti-Media* (NAi010 Publishers, 2013) and a series of essays on post-digitality published between 2012 and 2016:

Cramer, Florian. “Afterword.” *Post-Digital Print*, by Alessandro Ludovico, Onomatopee, 2012.

---. “Post-Digital Writing.” Electronic Book Review, vol. 5, 2012.

---. “Post-Digital Aesthetics.” *Jeu de Paume, Le Magazine*, 1 May 2013, http://lemagazine.jeudepaume.org/2013/05/florian-cramer-post-digital-aesthetics/.

---. “What Is ‘Post-Digital’?” *New Media, Old Media: A History and Theory Reader*, edited by Wendy Hui Kyong Chun et al., 2nd edition, Routledge, 2015, p. 48.

---. “Post-Digital Literary Studies.” *MATLIT*, vol. 4, no. 1, 2016, pp. 11–27, doi:<http://dx.doi.org/10.14195/2182-8830_4-1_1>.

---. “Depression: Post-Melancholia, Post-Fluxus, Post-Communist, Post-Capitalist, Post-Digital, Post-Prozac.” *A Solid Injury to the Knees*, Rupert, 2016, pp. 60–107.

---. “Nach dem Koitus oder nach dem Tod? Zur Begriffsverwirrung von ‘Postdigital’, ‘Post-Internet’ und ‘Post-Media.’” *Kunstforum International*, vol. 242, 2016, pp. 54–67.

This has been followed be a series of essays on the ‘Crapularity’:

---.“Crapularity Hermeneutics.” in: Chun, Wendy Hui Kyong, Steyerl, Hito, Apprich, Clemens and Cramer, Florian, *Pattern Discrimination*. University of Minnesota Press, 2018. *www.upress.umn.edu*, 23-58.

---.“Crapularity Aesthetics.” *Making and Breaking*, 2018, <https://makingandbreaking.org/article/crapularity-aesthetics/>.

---. “Welcome to the Crapularity: Design as a Problem.” *Archined*, Nov. 2019, <https://www.archined.nl/2019/11/welcome-to-the-crapularity-design-as-a-problem/>.

**About the Interview**

Here I will add details about how the interview arrived into being. I do this for all interviews, to provide context to readers. See, for instance, Kim’s interview, <https://link.springer.com/article/10.1007/s42438-020-00209-1>

**Postdigital Magic**

**Petar Jandrić (PJ):** In *Words Made Flesh: Code, Culture, Imagination*, you wrote: ‘Material creation from the word is an idea central to magic in all cultures; it is precisely what magic spells perform. Magic therefore is, at its core, a technology, serving the rational end of achieving an effect, and being judged by its efficacy.’ (Cramer 2005: 14-15) Moving to the case of computer software, you continued: ‘The technical principle of magic, controlling matter through manipulation of symbols, is the technical principle of computer software as well. It isn’t surprising that magic lives on in software, at least nominally.’ (Cramer 2005: 15) 16 years after you wrote these words, I would argue that the magical character of software beyond nominal; a typical case in the point are recommender systems that know our desires better than we do. Yet our time is radically different from the time of ancient shamans and religions. What are the defining features of today’s postdigital magic?

**Florian Cramer (FC):** I am not sure whether ‘analog magic’ is a thing of the past – shamanism, for example, is still a global practice and embedded into everyday life in many parts of the world, (prominently) including the high-tech country South Korea. Much of my knowledge of ethnological study of magic, beyond the Western hermetic tradition, came from studying with the literary scholar and author of *Zaubertexte: Die Wiederkehr der Magie und die Literatur 1880–1945* Robert Stockhammer (2000). In the 1990s, in Robert’s seminar I read – among others – the anthropologist Stanley Jeyaraja Tambiah. Michael Oppitz’ documentary *Shamans of the Blind Country* and Lindsey Merrison’s documentary *Friends in High Places* on Nat spiritualism in Myanmar were eye-openers, and more recently social media videos on magical practices in the Philippines shared by my friend and collaborator Clara Balaguer.

What I learned from Robert and took away from the other sources is that magic is, first of all, an everyday technology. In most places and situations, it is radically pragmatic and goal oriented. You perform an act of magic in order to achieve a specific objective, and the magic will ultimately be judged according to its efficacy. Conversely, software and algorithms are judged by their efficacy, but in many if not most cases without knowing how they internally work – a problem that becomes even more prominent with neural network/Deep Learning-based artificial intelligence (AI) where internal decision-making criteria of the software are, by default, opaque and very difficult to reconstruct.

Here, the term ‘postdigital’ strikes me as still being useful – because from a postdigital perspective, you would no longer consider ‘analog’ magic and digital-algorithmic magic two different things. Instead, you would analyse them as one comprehensive phenomenon, perhaps using the methodologies and criteria of Tambiah rather than those of New Media Studies, or combining the two. In such an analysis, one may end up finding that the criterion of ‘analog’ versus ‘digital’ is not the most important – and that others, such as the relation between metaphysics and ontology in these acts and technologies, might be more relevant to investigate.

**PJ:** Magic and belief have always been political, and the power of secular democratically elected leaders is closely tied to religion. [A good recent case in the point is Donald Trump and his relationship with Evangelical Christian movements in the US (McLaren 2020)]. Instead of delving into daily politics, however, I would like to examine the political nature of algorithmic code at a deeper level, using your (now textbook) example of Richard Stallman and his Free Software movement.

The popular, anonymous hacker credo that ‘information wants to be free’ supposes a political semantics embedded into formal, digital code, by its technical virtue of boundless and lossless replication. … The Free Software movement translates the logic of executable code into a number of other executable codes: the GNU manifesto as a political instruction code, the GNU licenses as a legal code, free software documentation as a technical instruction code. (Cramer 2015: 50)

Politics is not only a consequence of usage of software; it is also inscribed in the very structure of software code. Yet politics is inscribed into code by people who live and work in a certain political economy, thus closing a full dialectic between software creation and usage. What is your take at this dialectic?

**FC:** The quote above is from a text I wrote in 2004 when I was a fellow at Piet Zwart Institute in Rotterdam as part of larger research project on software studies initiated by Matthew Fuller and Femke Snelting.[[1]](#footnote-2) This essay summed up my own experience as a Debian GNU/Linux user since 1997, a member of the Berlin Linux User Group[[2]](#footnote-3), contributor to the organization of the Wizards of OS[[3]](#footnote-4) conferences in Berlin which were initiated by Volker Grassmuck and investigated the intersections of Free Software and culture from 1999 to 2006. During the 1999 conference (and a bit longer), Richard Stallman lived at my place.

A major inspiration for Wizards of OS and its attempt to investigate the bigger picture of Free Software, code, society, and culture in their interrelatedness, was Lawrence Lessig’s (1999/2006) book *Code and Other Laws of Cyberspace*. Lessig, a legal scholar, suggested that software – and algorithms – function like the law and had amounted, through the Internet and its corporations, to a new legal regime. I thought that Lessig’s observation was important, but lacking elaboration. His analysis in the book, in my opinion, did not live up to the radicality of his basic observation.

Today, it seems as if the field of media studies, and critical analysis of digital technology, software and now also artificial intelligence, is still in the process of grasping and analysing the consequences of this observation. Cybernetics had of course reflected on the politics of control processes early on, among others with Norbert Wiener’s *The Human Use of Human Beings* (1950). However, cybernetics did not yet think of software and algorithms as forces in their own right, but only as parts of larger feedback and control systems. This continued in media theory – including Friedrich Kittler’s infamous claim that ‘[t]here is no software’ – until the early 2000s.[[4]](#footnote-5) My quote must be seen as belonging to a particular discourse among a particular generation and network of people who co-authored the MIT Press *Software Studies: A Lexicon* (Fuller 2008), to correct that oversight, and think of software in broader cultural and political terms, i.e. as having its own culture and politics.

**PJ:** Politics of today’s artificial intelligences and other ‘self-thinking’ entities is progressively getting more and more distant from the politics of their creators. As we ‘teach’ our AIs using large datasets, their conclusions and practices start to live their own lives. What kind of political agency is emerging in our age of rapidly developing AIs?

**FC:** Having tried to describe a larger cultural – poetic and speculative – history of executive codes in this essay from 2004, I must however admit that I got fed up with the subject. In my private life, too, I ended up tinkering and experimenting with computers much less, becoming more interested in photography and moving images. Just recently, I tried to revisit and more precisely pin down this ennui in a conference paper on what I propose to call ‘the kaleidoscope constraint’.[[5]](#footnote-6) Any algorithmic or otherwise automated system that manipulates symbols, or any automated creativity, in my experience boils down to a glorified kaleidoscope; interesting and maybe fascinating to observe in the beginning, yet repetitive and tedious on the long term even when the output contains no literal repetitions. Working with younger-generation DIY-cultural artists who did not really care about digital/analog divides, and collaborating with Alessandro Ludovico in my school’s research program, eventually led me to think of postdigitality.

But maybe I can answer your question pragmatically, not as a scholar, but as someone who has become a political activist in the last four years with the Dutch intersectional political party BIJ1[[6]](#footnote-7) and affiliated anti-fascist and anti-racist movements, and from my 2016 analysis of the American ‘Alt-Right’ movement. Today, political activism boils down, to a major degree, to feeding Internet platform filter algorithms, and trying to estimate and control the algorithmic-social dynamics of messages you place. In other words, political agency has become about meme-ing, ‘going viral’, and gaming algorithms for this purpose. This collaboration and cohabitation of human and algorithmic actors could probably simply be described and analysed with Latour’s actor-network theory.

**PJ:** Speaking of agency, we immediately ended up in a deeper question of posthumanism. While some authors see today’s relationships between humans and technologies in terms of radical equality, others are more careful and speak of a symmetry. For instance, Chris Jones claims that ‘all actors cannot be treated as completely symmetrical for research purposes because of the particular access that we have to accounts of experience from human actors’ (Jones 2018: 51). What is your take on this radical equality, and / or symmetry, in our postdigital reality?

**FC:** I probably understand ‘postdigital’ differently from how it is being used now – namely literally as a perspective that does not find the distinction between ‘digital’ and ‘non-digital’ very useful or interesting anymore, and thus also breaks with the ‘new media’ paradigm. Going back to our example of magic, I would argue that the same arguments on human versus technological actors can be made for traditional magic, so I do not think that current times introduce something fundamentally new in this respect. As to whether we should think of their relation in terms of equality or symmetry, I have to pass.

What I however find questionable in many posthumanist models is that they ascribe autonomy to machine processes often simply out of a lack of insight and understanding of the economic, political, engineering design etc. powers and agendas that are shaping them. That was also the software studies critique against earlier anti-, post- and transhumanist schools of media theory and ‘cyber culture’. An old favourite quote of mine is by the artist Ulrike Gabriel who said, in a personal conversation 2001, that there is no such thing as randomness in computing because the fact of the machine standing there, is itself not a random occurrence. This can be broadened to machine autonomy, and machine agency, in general. You first need to ask who put it there, and with which agenda.

**Arts and Speculative Machines**

**PJ:** You participated, in various forms and capacities, in many artistic movements and (sub)cultural networks since 1990s including Neoism and net.art, which serve as important influences on today’s movements such as Anonymous (Moioli 2016). Building on previous question, what is the relationship between technology and contemporary artistic practice?

**FC:** I wasn’t really involved in net.art but knew and am friends and occasional collaborators with a number of net.artists. Neoism, in my opinion, is better characterized as underground DIY than art. Coming from this background, I was never actually interested in the relationship of technology and art per se – which would be the traditional domain of ‘Art/Science’ and media art. Instead, I am interested in cultural shifts, revisions, or even revolutions, that go hand-in-hand with new technologies and get accelerated through them. For example, major shifts addressed by Neoism as well as in Internet piracy and meme culture, are the collapse of traditional categories of authorship, (art)work, and ownership. In Neoism, this took place through the use of shared identities such as Monty Cantsin and open advocacy of plagiarism and anti-copyright. The cultural shifts also refer to automation and viral multiplication versus traditional authorship and traditional mass media. The computer interested me in its potential as a speculative machine that simplified and escalated certain poetics, such as permutational poetry, aleatoric composition, cut-ups, bots, anti-copyright – but I have never been interested in arts that take the machine as their point of departure.

**PJ:** What you describe here, also represents a blurred relationship between arts and activism. For instance, Neoist use of shared identities in 1980s and 1990s has been soon appropriated by the Anonymous movements. And open advocacy of plagiarism and anti-copyright today takes many shapes such as Marcell Mars and Tomislav Medak’s Public Library project, which is equally at home in arts, activism, and information science. What is your take about this dynamic between arts, activism, and social change?

**FC: It seems to me as if these multidisciplinary, blurry-boundary practices are now at the core of many, if not, most contemporary arts practices, if one takes the term “contemporary arts” literally instead of understanding it, like the philosopher Peter Osborne and others, as a certain style and period of post-minimalist white cube art. I should add that these practices aren’t limited to blurring art and activism, or combining art with social change, but overlap with other – potentially even: any - field of practice and knowledge. This is also happening in the established contemporary art system if you look, for example, at the upcoming Documenta which will be curated by the Indonesian ruangrupa collective. My own work, and that of my co-workers in the research unit of my school, focuses on such hybrid practices, and on how to transform art and design education from their original focus on hyper-individual work portfolio development towards studying and working in such multidisciplinary projects and contexts.**

**PJ:** In your recent article, you draw a parallel between Luther Blissett’s Q and QAnon (Cramer and Ming 1 2020). What is the role of the arts in relation to growing conspiracy movements, fake news, and post-truth condition?

**FC: The conspiracy movements reenact and reuse practically everything from the arsenal of subversive conceptual and performance art (particularly you think of its pre-1989 Eastern European versions) and from ‘culture jamming’ and ‘tactical media’ of the 1990s. This started at least with Vladislav Surkov’s blend of theater and pro-Putin propaganda in early 2000s Russia, but maybe – as a Croatian – you would know earlier examples from ex-Yugoslavia. Here in the Netherlands, a former artist co-organizer of the 1990s tactical media conference “Next 5 Minutes” is now the chief ideologist and second-most important politician in the faction of the right-wing populist Geert Wilders. Just today, I’m following social media discussions among protagonists of 1990s net.art and tactical media to which degree this type of art has been discredited, or at least obsoleted, by fake news cultures. If we take the Italian Luther Blissett project, or the YesMen in the USA, then much of their work literally consisted of fake news production. Conversely, there’s also the question to which degree contemporary trolls, memers and influencers haven’t demonstrated a superior visual-cultural literacy to artists and designers (who are supposed to be the ‘professionals’ in this field), and how artists can stay with the trouble and get their hands dirty (rather than resorting to art as a safe space in a problematic sense). I’ve been part of a research project on “Urgent Publishing” where we addressed exactly this question – my colleague Clara Balaguer is an expert on it – and will have a paper “What is Urgent Publishing?” out on this subject very soon.**

**PJ:** The world of art is now in a paradoxical situation. On the one hand, art seems to be everywhere. On the other hand, social conditions of artists are rapidly deteriorating (especially with Covid-19), and artistic work is rapidly becoming even more elitist than in the past. How do you go about this dynamic?

**FC:** I don’t have an answer. This is precisely what we are investigating and exploring in our research program. But a possible outcome could be that the entire concept of ‘art’, which is highly specifically Western and has been, in its contemporary dictionary meaning, around for less than three centuries, will gradually lose importance or survive only in niches such as gallery art and artistic research labs. ‘Culture’ has been a Marxist contender to ‘art’ since the 1960s, ‘creative industries’ became a neoliberal contender in the 1990s, others may follow, but will likely not be Western. With the ongoing political, economic, and cultural hegemony shifts from the West to East Asia, I am not a very competent person to predict what will eventually replace it.

**PJ:** One consequence of these developments is the increasing blurring of borders between arts and academia – and you seem to work somewhere in the middle.

**FC:** I am actually not an artist, and never had an education or professional career as one. In the arts, most people consider me a theoretician and academic. So it’s funny when in academia, people conversely think I’m an artist. But that brings me closer to colleagues I have in highest regards, such as Johanna Drucker, Douglas Kahn, and Anna Poletti, who work in similar grey zones.

**PJ:** Can you describe these grey zones in more detail? What are the main advantages and disadvantages of working in them?

**FC: Johanna, Douglas and Anna were artist book makers, sound artists, respectively zine makers before or while they became academics, and are – in my opinion – excellent theorists because they know their material first-hand, from their own practice, down to the gory details, and they are in touch with the most recent developments in their respective fields, because they have first-hand knowledge of the artists and curiosity for their work, and don’t care whether someone has been institutionally or scholarly recognized. If you are a musicologist, it is self-understood that you are able to play musical scores on the piano, and conversely if you are a musician or composer (like Kim Cascone), that you can write research papers on music. “Artistic research” is really an old hat in electronic music. I sometimes miss that fluency in other humanities disciplines.**

**PJ:** In 2001 you did an interview with Cornelia Sollfrank at the annual convention of the Computer Chaos Club. You asked her: ‘is hacking art and does hacking have something to do with art?’ (Cramer 2001: 58) Twenty years later, how would you reply to your own question?

**FC:** At our art school, Willem de Kooning Academy, we even have course modules called hacking from the second to the fourth Bachelor study year. So my answer would not only be yes, but that hacking has become mainstream fare in the creative industries. In our school, it has been traditionally advertising students who are taking the hacking courses to learn about memetic campaigning and apply ‘tactical media’ approaches to their commercial work. All the while, ‘hacking’ itself has become a mainstream industry term. Just go to any ‘hackathon’, or to most ‘hack labs’ and maker spaces, which mostly lack the critical politics of the older hacker movement of, among others, Richard Stallman and the GNU project[[7]](#footnote-8), the German Chaos Computer Club[[8]](#footnote-9) and its feminist group Häcksen to which Cornelia Sollfrank was associated.

**PJ:** Your early thinking on the concept of the postdigital in works such as ‘Post-Digital Writing’ (Cramer 2012), ‘Post-digital Aesthetics’ (Cramer 2013), ‘What is “Post-digital”?’ (Cramer 2015), and others, has significantly shaped art theory. Please assess relevance of the concept of the postdigital for today’s arts.

 **FC:** I think that, in the meantime, the term postdigital has become rather useless in the arts, because it is constantly being conflated and confused with the too-similar-sounding and much better-known ‘Post-Internet’. This is a tendency in contemporary art that peaked with the Berlin Biennial 2016[[9]](#footnote-10) and eventually boiled down to gallery art in the visual language of the Internet’s popular visual culture. But aside from this, all the contemporary artistic tendencies that I closely follow – such as the Black Quantum Futurism collective[[10]](#footnote-11) from Philadelphia and the Display Distribute collective[[11]](#footnote-12) in Hong Kong –, mix art with other forms of work and knowledge, as well as online and offline activities. While it thus could be called ‘postdigital’ – in the sense of transcending older divides between ‘contemporary art’ and ‘digital art’ - even the attribute ‘postdigital’ doesn’t make much sense any more since almost all art except mainstream gallery and collector art has become postdigital in that sense.

One needs to understand that from ca. 1990 to 2010, ‘contemporary art’ and ‘digital art’/‘media art’ were two separate systems with separate institutions, separate canons and separate artists. Artists who chose to go into the ‘digital art’/‘media art’ system risked damaging their contemporary art career opportunities, because contemporary art curators used to consider digital art a gadget and would, in most cases, not touch it with a ten foot pole. This also has to do with Western contemporary art discourse struggling with the legacy of Clement Greenberg and his demand for ‘modernist’ art to be ‘medium-specific’. To contemporary art people, any form of ‘media art’ seemed like an outmoded or even reactionary Greenbergianism. Conversely, the most visible media art institutions such as ZKM[[12]](#footnote-13) and ars electronica[[13]](#footnote-14) privileged gadgety ‘interactive’ art and thus did their best to reinforce the prejudice.

Both ‘postdigital’ (a term more common for music and design) and ‘Post-Internet’ (a term only used for fine art) overcame that systemic divide, but also obsoleted themselves in this process.

**Postdigital: A Term That Sucks but Is Useful**

**PJ:** The concept of the postdigital may have become less useful for the arts, yet *Postdigital Science and Education* journal and book series have developed the concept towards humanities and social sciences, where we still find it very productive. Please describe your personal road to postdigital thinking; how did your understanding of the concept change over time?

**FC:** Most credits go to Tara Transitory, who studied with us at Piet Zwart Institute from 2007-2009 and, as an electronic musician, introduced me to the term and Kim Cascone’s essay. Alessandro Ludovico, who wrote the book *Post-Digital Print: The Mutation of Publishing since 1894* (2012) as a fellow in our research program, prompted me to further explicate the term since his book uses it in a rather implicit manner. More credits go to the artist-run spaces WORM[[14]](#footnote-15) (with its artist-run film lab and modular synthesizer studio), De Player[[15]](#footnote-16) and Extrapool[[16]](#footnote-17) (with its Riso printing workspace) in the Netherlands, along with the projects of many students at Piet Zwart Institute (including among others Linda Hilfling, Ivan Monroy Lopez, Stéphanie Vilayphiou, Dennis de Bel, Albert Jongstra, Darija Medić, Lieven van Speybroeck, Amy Suo Wu and Nan Wang), plus artists such as Goodiepal and Black Quantum Futurism whose practices transcended the artificial divides between ‘analog’ and ‘digital’, ‘old’ and ‘new’ media.

In the period between 2006 and 2010, when I worked as a course director of a media design program, I simply saw that terms such as ‘new media art’, ‘net art’, and ‘software art’, were over-specific and failing younger generations of artists. Unlike the net.art generation of the 1990s, our students no longer associated computing, the Internet and digital file sharing with a DIY commons counterculture to traditional institutions and to ‘ancien régimes’ of authorship and ownership. They lived and worked in a time of upcoming social media and Internet platform capitalism and their new regimes. So it was only logical for them to imagine and practically experiment with alternative systems and regimes that were no longer aligned to the analog/digital divide. This is what the term ‘postdigital’ was capturing for me, and so I found it a good idea to take it up from Kim Cascone and help updating it for the 2010s.

**PJ:** I’ve got this presentation, ‘creatively’ entitled Postdigital Science and Education, which serves to introduce the concept of the postdigital and the Postdigital Science and Education publishing ecosystem to new audiences. As you can imagine, I’ve given this presentation more times than I can think of… In one slide, speaking of problems associated with the term ‘postdigital’ I just show your ‘definition’ from ‘What is “Post-digital”?’ (Cramer 2015): ‘a term that sucks but is useful’. Every time I show this slide, from Europe, America, and Australia to China and Russia, I inevitably hear audiences chuckle…

While we try to avoid too much navel-gazing, Postdigital Science and Education community has extensively debated the concept of the postdigital; reasons why it sucks, and why / how it can be useful. What, in your opinion, are the main problems and potential contributions of the concept in year 2021?

**FC:** The term sucks and is counter-intuitive, because we’re not living in postdigital times in any literal sense. When, for example, more and more aspects of daily life depend on Internet platforms during the pandemic – from food delivery to teleconferencing – or when economic analysts describe Tesla’s competitive advantage that its cars have been constructed as a central piece of software with an attached engine, as opposed to traditional cars which have software as an add-on to their components; when in other words, almost every aspect of life becomes more, not less digital, then the term ‘postdigital’ doesn’t seem to make sense. But when that happens, ‘digital’ ceases to describe a difference and simply has become the default state or condition.

To pick a simple example: Almost nobody would still call a digital camera ‘digital camera’; people simply refer to it as a camera. This was different when I wrote my essay ‘What is “Post-digital”?’ (Cramer 2015); at that time, my school still had a Bachelor program called ‘Digital Photography’. Even less people would call a digital audio recorder a digital audio recorder because they might not even know that reel-to-reel audio recorders existed. On the contrary, most people would likely find the use of a film camera or a reel-to-reel audio recorder more remarkable and end up calling it an ‘analog camera’, respectively an ‘analog recorder’. Factually, these devices have become postdigital through most users digitizing their film pictures and tape recordings at some point in post-production – aside from the fact that even an ‘analog’ 35mm film camera is actually a hybrid digital-analog system, since its (countable, discrete) frames technically constitute a digital system.

The best possible contribution of the concept ‘postdigital’ in 2021 is, in my opinion, that it can help to complicate the terms ‘digital’ and ‘analog’, particularly in the humanities and social sciences. It could also be used for fields of technology that are literally post-digital, such as biocomputing and continuous variable quantum computing.

**PJ:** I would argue that there are other important contributions as well! For instance, postdigital theory has always had a strong interest in publishing (e.g. Ludovico 2012). In a recent paper, ‘Hybrid Publishing: Between Print and Electronics, Art and Research’, you argue that ‘[f]or new forms of interdisciplinary and artistic research, there is a corresponding need for new forms of publishing that go beyond the traditional academic textbook’ (Cramer 2018). Obviously, modes of publishing are closely related to modes of knowledge production… Which new forms of knowledge are now emerging in our postdigital condition? What is their relationship between (artistic and non-artistic) modes of publishing and dissemination?

**FC: Probably the best-known contemporary example is the Forensic Architecture research collective, which uses digital design tools in audiovisual media as both as research tolls and forms of dissemination. Another one is the *Feral Atlas,* an exploration of “ecologies that have been encouraged by human-built infrastructures, but which have developed and spread beyond human control”.[[17]](#footnote-18) It is being developed as a simultaneous research and online publication platform by a multidisciplinary collective that involves anthropologist Anna Lowenhaupt Tsing, visual culture researcher Jennifer Deger, environmental anthropologist Alder Keleman Saxena and graphic designer Feifei Zhou. Outside academic institutions, I could mention against the work of artist-research collectives such as Display Distribute from Hong Kong (which, among others, runs an international courier service “Light Logistics” as a research project), Black Quantum Futurism from Philadelphia (which among others explores alternative concepts of time through workshops, zines, exhibitions and books),[[18]](#footnote-19) and Jatiwangi art Factory from Indonesia (which conducts material artistic research, residencies and community projects that explore “Tanah” [clay, soil, earth] as a local resource.[[19]](#footnote-20) Much of this has been traditionally framed as “artistic research” because it manifests itself in formats that are traditionally associated with contemporary art, but I would argue that these practices manifest new types of research, gathering and dissemination of knowledge beyond their significance as contemporary artistic practices. In all these examples, digital and non-digital practices and media are being mixed and interconnected, by the way**

**PJ:** In Postdigital Science and Education community, relationships between the digital and analog are just one aspect of the concept. In our mission statement article, we wrote: ‘The postdigital is hard to define; messy; unpredictable; digital and analog; technological and non-technological; biological and informational. The postdigital is both a rupture in our existing theories and their continuation.’ (Jandrić et al. 2018: 895). With the advent of Covid-19, the community has started to pay much more attention to the interplay between biological and informational systems. Following immense developments in biotechnology, these days ‘biology is digital information and digital information is biology; one cannot be divorced from the other. Humanity’s newly acquired technological ability to deal with this dialectic now builds the basis of biodigitalism and biodigital technologies that represent a new revolutionary way forward where technology leads science.’ (Peters, Jandrić, and Hayes 2020)

Biotechnology is a blend of analog *bios* and digital *techne*, so ‘[b]iotechnology is foundational to our postdigital condition, inasmuch our postdigital condition creates conditions for development of biotechnology’ (Peters, Jandrić, and Hayes 2020). These days, the rapidly developing field of bioart opens up numerous ethical and other questions arising from the dialectic between biological and informational systems. What do you make of such direction of development of the postdigital idea? Can you say more about possible contributions of bioart to postdigital thought?

**FC: I have to pass on the question because I’m not knowledgeable enough on the subject of biotechnology. As far as bio art is concerned, I however perceive that it is in the same institutional isolation, and even happening in more or less the same institutions, as digital/media art before post-digital and Post-Internet arts broke up the contemporary-versus-media art dualism.**

**PJ:** Technologies are constitutive parts of capitalism. Based on their focus, recent authors have described various transformations of capitalism using concepts such as data capitalism (Fuchs 2019), algorithmic capitalism (Peters and Jandrić 2018: 32), communicative capitalism (Dean 2009; Ford 2018), surveillance capitalism (Zuboff 2019), technoscientific capitalism (Birch and Muniesa 2020), and high tech and low pay capitalism (Marcy 2009). Coming ‘after mercantile, industrial, and knowledge capitalisms’ (Peters 2012: 105), bioinformational capitalism is ‘based on a self-organizing and self-replicating code that harnesses both the results of the information and new biology revolutions and brings them together in a powerful alliance’ (Peters 2012: 105).

Today, one of the best examples of bioinformational capitalism is the interplay between national politics, international politics, and global pharmaceutical corporate sector, in various struggles over Covid-19 vaccines. Bioinformational capitalism, and our Covid-19 reality, also cause significant reconfigurations in the world of arts (Kuzmanić and Jandrić 2020). What are the main challenges facing arts in this context?

**FC: Frankly, I wonder whether the entire system of the arts – which is pretty much a Western invention of the last three centuries – inasmuch it is centered on public (or semi-public) venues, will be able to survive. I wouldn’t be surprised if it would collapse or at least radically transform. And even if you just remove small pieces from the puzzle, such as the ceaseless international (air) travel of artists and curators, it will be radically reconfigured. And likely end up in a major legitimacy crisis. I can tell from some first-hand insight into cultural institutions that a real fear of their directors and curators is that the pandemic will make people realize that for all their cultural needs, a Netflix subscription is enough and the rest is expendable.**

**PJ:** You are an academic and a teacher. Building on previous answer, what are the main problems and possible ways forward for arts education?

 **FC: [I think that has been answered in my reply on project-oriented -multidisciplinary art education vs. portfolio development.**

**PJ:** With Ana Kuzmanić, I recently published an artist book Arts Without Space (Kuzmanić and Jandrić 2020). The book is based on artistic research, in which we asked artists, curators, art critics, and other workers in the cultural sector about their experience of the pandemic. This was the text of our invitation:

While the Covid-19 pandemic spreads all over the world, the ban of public gatherings has drastic consequences to many occupations including arts and culture. This is a frightening situation; our lives are endangered directly, but also our material and political existence has quickly become uncertain. Reality has become more fiction than fiction, and the idea of the arts in concert halls, cinemas, and white cubes, has become uncertain. Our profession as artists and cultural workers face major challenges. The idea of radical change in the political economy of the arts is no longer merely a utopian construction; it has become a real and urgent question. In this collective project, we would like to hear about the ways in which you—artists, curators, art critics and all workers in the cultural sector—experience this shift in the moment here and now. (Kuzmanić and Jandrić 2020: 1)

Can you please share your own experience?

**FC: [Maybe this has been answered with my reply above on the collapse of the art system?]**

**PJ:** Your recent article, ‘Letters from dystopian and utopian futures of arts education’ (Cramer and Teran 2020), is a piece of speculative fiction aimed at making sense of our present. Yet I cannot help but ask you to play a bit further: What, in your opinion, is the future of arts and arts education after Covid-19?

**FC: This is an open question, and thus a genuine research question – and what I, Michelle Teran and my colleagues at Willem de Kooning Academy and the other research projects that mentioned, are investigating. It would be presumptuous if we claimed to know the future of arts and art education, but the examples of current “blurry” practices I gave before might indicate a larger tendency and development.**

**References**

Barbrook, R., & Cameron, A. (1996). The Californian ideology. *Science as Culture*, 6(1): 44-72.

Costello, E., Brown, M., Donlon, E., & Girme, P. (2020). ‘The Pandemic Will Not be on Zoom’: A Retrospective from the Year 2050. *Postdigital Science and Education, 2*(3) 619–627. <https://doi.org/10.1007/s42438-020-00150-3>.

Cramer, F (2018). Hybrid Publishing: Between Print and Electronics, Art and Research. <https://publications.rasl.nu/read/reflective/hybrid-publishing-between-print-and-electronics-art-and-research?search=Hybrid+Publishing>. Accessed 11 February 2021.

Cramer, F. (2005). *Words Made Flesh: Code, Culture, Imagination.* Rotterdam: Piet Zwart Institute.

Cramer, F., & Ming 1, W. (2020). Blank Space QAnon. On the Success of a Conspiracy Fantasy as a Collective Text Interpretation Game. <https://www.wumingfoundation.com/giap/blank-space-qanon/>. Accessed 11 February 2021.

Cramer, F., & Teran, M. (2020). Letters from dystopian and utopian futures of arts education. In D. P. Gijsbertse, H. A. Van Klink, C. Machielse, & J. H. Timmermans (Eds.), *Hoger beroepsonderwijs in 2030: Toekomstverkenningen en scenario’s vanuit Hogeschool Rotterdam* (pp. 427-464). Rotterdam: Hogeschool Rotterdam Uitgeverij.

Cramer, F. (2013). Post-digital aesthetics. Lemagazine, 1 May. <http://lemagazine.jeudepaume.org/2013/05/florian-cramer-post-digital-aesthetics/>. Accessed 4 February 2021.

Cramer, F. (2015). What is ‘post-digital’? In D. M. Berry & M. Dieter (Eds.), *Postdigital aesthetics: Art, computation and design* (pp. 12–26). New York: Palgrave Macmillan. <https://doi.org/10.1057/9781137437204_2>.

Fuller, M. (Ed.). (2008). *Software Studies: A Lexicon*. Cambridge, MA: MIT Press.

Gerlach, N., & Hamilton, S. N. (2003). Introduction: a history of social science fiction. *Science Fiction Studies, 30*(2), 161–173.

Graham, M., Kitchin, R., Mattern, S., & Shaw, J. (Eds.). (2019). *How to run a city like Amazon, and other fables*. London: Meatspace Press.

Jones, C. (2018). Experience and networked learning. In N. BonderupDohn, S. Cranmer, J. A. Sime, M. de Laat, & T. Ryberg (Eds.), *Networked learning: Reflections and challenges* (pp. 39–56). Springer International. <https://doi.org/10.1007/978-3-319-74857-3_3>.

Kupferman, D. W. (2020). I, robot teacher. *Educational Philosophy and Theory*. <https://doi.org/10.1080/00131857.2020.1793534>.

Kuzmanić, A., & Jandrić, P. (2020). *Art Without Place*. Zagreb: Oaza.

Lessig, L. (1999/2006). *Code and Other Laws of Cyberspace*. New York: Basic Books.

Ludovico, A. (2012). *Post-Digital Print: The Mutation of Publishing since 1894.* Eindhoven: Onomatopee.

McLaren, P. (2020). Networked Religion: Metaphysical Redemption or Eternal Regret? *Postdigital Science and Education*. <https://doi.org/10.1007/s42438-020-00112-9>.

Moioli, C. (2016). *Neoism now & then. In conversation with Florian Cramer*. Brescia: Link Editions.

Neural (2013a). Interview with Florian Cramer. *Neural, 44*, 38-42.

Selwyn, N., Pangrazio, L., Nemorin, S., & Perrotta, C. (2020). What might the school of 2030 be like? An exercise in social science fiction. *Learning, Media and Technology, 45*(1), 90–106. <https://doi.org/10.1080/17439884.2020.1694944>.

Stockhammer, R. (2000). *Zaubertexte: Die Wiederkehr der Magie und die Literatur 1880–1945.* Berlin: Akademie Verlag.

Wiener, N. (1950). *The Human Use of Human Beings*. Boston, MA: Houghton Mifflin Harcourt.

1. Fuller, Matthew, editor. *Software Studies. A Lexicon*. MIT Press, 2008. [↑](#footnote-ref-2)
2. See <https://www.belug.de/home.html>. Accessed 10 February 2021. [↑](#footnote-ref-3)
3. See <http://wizards-of-os.org/>. Accessed 10 February 2021. [↑](#footnote-ref-4)
4. Kittler, Friedrich. “There Is No Software.” *Stanford Literature Review*, vol. 9, 1992, pp. 81–90. [↑](#footnote-ref-5)
5. Cramer, Florian. “A Poetics of Exhaustion: Looking at the Automation of Literature from Its Dead Ends.” *Automation and Creativity: Practice, Aesthetics and Reception of the Digital in Music and Literature (Online Conference) - Forum - TU Braunschweig*, 15 Sept. 2020, https://studip.tu-braunschweig.de/plugins.php/coreforum/index/index/2f9a12c0de6bd98fbe932a138c4e50b2?cid=6a4c969e34c005476f21a8fa4800ded4. [↑](#footnote-ref-6)
6. See <https://bij1.org/>. Accessed 10 February 2021. 1. [↑](#footnote-ref-7)
7. See <https://www.gnu.org/gnu/thegnuproject.en.html>. Accessed 10 February 2021. [↑](#footnote-ref-8)
8. See <https://www.ccc.de/en/>. Accessed 10 February 2021. [↑](#footnote-ref-9)
9. See <http://bb9.berlinbiennale.de/>. Accessed 10 February 2021. [↑](#footnote-ref-10)
10. See <https://www.blackquantumfuturism.com/>. Accessed 10 February 2021. [↑](#footnote-ref-11)
11. See <https://displaydistribute.com/>. Accessed 10 February 2021. [↑](#footnote-ref-12)
12. See <https://zkm.de/en>. Accessed 10 February 2021. [↑](#footnote-ref-13)
13. See <https://ars.electronica.art/news/en/>. Accessed 10 February 2021. [↑](#footnote-ref-14)
14. See <https://worm.org/>. Accessed 10 February 2021. [↑](#footnote-ref-15)
15. See <https://www.deplayer.nl/>. Accessed 10 February 2021. [↑](#footnote-ref-16)
16. See <https://extrapool.nl/>. Accessed 10 February 2021. [↑](#footnote-ref-17)
17. https://feralatlas.org [↑](#footnote-ref-18)
18. https://www.blackquantumfuturism.com [↑](#footnote-ref-19)
19. https://jatiwangiartfactory.tumblr.com [↑](#footnote-ref-20)