
Art imitates the Digital

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Abstract: Where is art in the digital era? This essay identifies the digital as an abstract, formal system. Since art has always relied on formal, abstract systems to carry and deliver itself, what are the implications for art in the digital era? Is the digital a site for art, or is it the other way around? Can there be digital art? Identifying limit and boundary problems as the crucial existential problems for the digital, the essay shows that art has always concerned itself with such problems. This prompts the question as to whether it is possible that human existence and art become the same thing in the digital. Because the digital is currently primarily manipulated in the service of globalist economics, this is clearly not (yet) the case, so what does this mean for art? The essay then briefly examines the self-declared movements of *dada*, *post-digital* and *post-internet* art, concluding that these movements are not capable of questioning the digital as digital, before going on to examine some artists whose practice may be providing guiding lights toward a genuinely digital art.

Keywords: Art. Digital Art. Formal, Abstract systems.

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A arte imita o Digital

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Resumo: Onde está a arte na era digital? Este ensaio identifica o digital como um sistema formal, abstrato. Uma vez que a arte sempre se baseou em sistemas formais e abstratos para se transportar e se entregar, quais são as implicações para a arte na era digital? Seria o digital um lugar para a arte, ou é o contrário? Pode haver arte digital? Identificando limites e problemas de fronteira como os problemas existenciais cruciais para o digital, este ensaio mostra que a arte sempre esteve preocupada com tais problemas. Isto leva à questão de saber se é possível que a existência humana e a arte tornem-se a mesma coisa no digital. Pela razão de que o digital atualmente é manipulado principalmente a serviço da economia globalista, isto claramente (ainda) não é o caso, mas o que isso significaria para a arte? O ensaio, então, brevemente examina os movimentos autodeclarados da arte *dada*, da *pós-digital* e da arte *pós-internet*, concluindo que estes movimentos não são capazes de questionar o digital enquanto digital, antes de examinar alguns artistas cuja prática pode estar fornecendo luzes orientadoras para uma arte genuinamente digital.

Palavras-chave: Arte. Arte digital. Sistemas formais e abstratos.

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Introduction

Art has, throughout its development within human history, always relied on formal, abstract systems to carry and deliver itself. What happens, then, when human history itself suddenly shifts to relying on a formal, abstract system to carry and deliver itself? This is the situation of the digital era. Inasmuch as the digital can be said to be anything, it is above all a formal, abstract system. The digital formalises and abstracts everything, all things, material and conceptual. We can no longer talk of *technology* as if it were separate from, or even an extension of, humanity. We can speak only of the digital. When we speak of the world, we are speaking of the digital. This renders the concept of the tool meaningless. We can no longer speak of tools that extend or augment human ability; rather, if any notion of a tool can be spoken of at all, it can be only to acknowledge the human as a tool for the digital to augment its ability, which is universal.

The digital, in its universalising aspirations and its inception, then must deal with certain questions of limit and boundary that art has always taken as its subject. These limit and boundary questions are epistemological, of knowledge and knowing, and yet also ontological. Is it possible to know what can be known? Is it possible to know that what is known is true? Are there truths that cannot be known but nonetheless remain true? These are questions that art has much experience in dealing with. The digital, on the other hand, has only recently realised that these are the existential questions born of the very birth of the digital. Computer science articulates this as the *P v NP problem* which, to simplify, asks if there is a class of problems for which an algorithm simply cannot exist for solving such a problem in so-called polynomial time (i.e., an amount of time that varies as a polynomial function of the ‘size’ of the input) but for which the solution can be verified in polynomial time. It suffices to say, without going into the details of this technical problem, that it is the most important open question in computer science today, because if P does not equal NP - which most scientists believe to be true, though it has never been proven - then there are problems which simply cannot be algorithmised. In other words, the only way to discover the solution to such a

problem is by stumbling upon it, even if the stumbling is carried out as a highly organised exercise. This is related to Gödel's famous undecidability problem that caused the existential breakdown of certainty within mathematics at the very apotheosis of its anthropocentric aspiration to formalise all knowledge. Art calls this problem, quite simply, art.

In this sense, art and human existence have become the same thing. Existence, for humans, has become a formal, abstract system. While the philosophers, and indeed the artists, will rightly protest 'but it has always been so, it's just that people didn't realise,' they will not be thinking literally enough. Human existence has *literally* become a formal, abstract system, which we all call the digital. Certainly, humans have had plenty of practice over the millennia via the 'gateway' systems of religion and economics, and it all led to the digital, which subsumes religion and economics just as it subsumes everything. Economics contributed to religion the idea of popular active participation. Where religion relied on the *passive* participation of all its subjects in order to maintain a rigid and harshly maintained hierarchy of ever smaller groups of the elite exercising power over ever larger groups of the wretched, economics requires the *active* participation of the wretched in order to maintain the privileged, powerful position of ever smaller groups of the elite. Perhaps because of vestigial notions of justice inherent in religion, or perhaps because of a lingering attachment to the natural world as empirically observed, economics maintained a set of checks and balances which, while ever diminishing in effectiveness as the governmental instruments of these checks and balances slowly merged with the ever increasing amoral influence of the economic system itself, nonetheless maintained at least the theoretical concept that checks and balances must be implemented and tuned in order to keep the system running. The digital has no such checks and balances.

Art also recognises no checks and balances, for how can there be checks and balances on the questioning of knowledge? The only checks can emerge from the constitution of the questioning itself. The very act of questioning is an unbalanced act. The act of questioning expects resistance in its very conception, and deals with resistance by simply incorporating it into its ontology. As does the digital. So, art and

the digital only deal seriously with limit and boundary problems. Again, what does it mean when human existence and history itself becomes a formal, abstract system wrestling with its own limits, a role that was previously the domain only of art?

Limits and boundaries emerge as the practical answer to this question, because we are not faced with a sharp cut as if one day we were subject to global economics and the next day to the digital. The boundary between them is thick, porous and historical in its constitution. It is an excruciatingly slow transfer, subject to the accumulated influence of the global economy in the uptake of the digital. In other words, the digital is used primarily, almost exclusively, in contemporary times as the delivery mechanism for global economics. Eventually, this situation will recede and the digital, ascendant, will bear a similar relationship to economics as economics now bears to old religion. But this will take a long time. In the meantime, much rhetoric acts as a kind of future redolence, a stream of aspirational platitudes along the lines of empowering the people with access to information. But this putative access to power will in fact be the ‘right’ to continue as an individual subject of global economics while further enriching an even smaller group of the elite than ever before. Currently, those elite reside and work primarily in California, where they devise ever more bereft and repetitive devices (hard and soft) to allow wretched individuals to enslave themselves to the production of spectacle in the service of data gathering.

Big Dada

Data is the currency of today, but the meaning of this little word with big aspirations is regularly conflated with the words ‘information’ and ‘knowledge’, a misleading conflation that elides the ideological, teleological, act inherent in the gathering of data and its subsequent re-presentation as information as if simply gathering data automatically produced information, which in turn magically morphed into knowledge. This is big data, which seems incapable of facing its own constitutional crisis, i.e., that, in order to service the global cult that is slave-powered (QIU, 2016, p.93) by credit-card wielding wretched individuals, it must rely on the input of those individuals at the same time as generifying all data such individuals

produce in order to produce more data, in order to have such individuals consume this data, in order to gather such data, and so on. It is a circular logic that makes sense only within the psychotic confines of the broken logic of global economics. Most importantly, while it may perform gestures toward questioning, often via its obfuscatory cry of ‘disruption’, it never actually questions. Above all, it must not question, since it works only on the assumption that it works. Data equals information without question, information equals knowledge without question and knowledge equals data. Without question.

Appealing to the history of art, it might be tempting to wish a Dada movement upon Big Data, a Big Dada movement, that might *Cut with the Kitchen Knife through the Ripped Abs of Big Data*[1]. But such a wish lasts only as long as it takes to realise that the digital, in its voracious universalising and generic levelling, is already enacting all the nihilistic positivism of Dada, a performative farce of nonsensical juxtaposition, where everything is generically equal and therefore without value. The value of no value. Any ‘kitchen knife’ we might wield will have been ordered from Amazon via Echo, delivered by drone and recorded forever as a purchase to inform the guidance of our gaze. Or we may wish to order up art on demand by messaging SFMOMA, where the ‘creative technologists’ will instantly deliver an artwork to your phone on whatever keyword, colour or “even an emoji” that you choose [2]. Big Dada indeed, where “contemptuous meaninglessness” (FOSTER *et al*, 2011, p.138) reigns as an ersatz version of Tzara’s Dada manifesto (1918): “If I shout ... Knowledge, Knowledge, Knowledge ... the satisfaction of pathological curiosity a private bell for inexplicable needs.”[3]

In such a condition, where the global digital incessantly runs simulations of possible solutions to all of the questions that the history of art has asked, all at the same time, and only in the present, how can art possibly ask any questions that are not all already present? The Dadaists were onto something when they insisted that art is not primarily a visual phenomenon. They were presaging the fundamentally performative nature of the digital, where every modulation into a sense register is a performance unique to that time and place, and where every such performance *is* the original work. This is something that Boris Groys both understands, in that he

recognises the fundamentally performative nature of the digital and therefore its dissolution of types or kinds of art (visual, sonic, etc), and at the same time misunderstands by insisting on an invisible original that approximates a religious unknowable (GROYS, 2008, p. 84).

“Digital as a dimension of everything,” except art

Similarly, the concept of the *post-digital* misunderstands the universalising nature of the digital, especially in its understanding of art, and immediately runs into limit and boundary problems. Florian Cramer makes several careful and nuanced attempts to situate post-digital art as a site of resistance to all-consuming global digital capitalism. In one of these, *What Is Post-digital?*, Cramer (2014, p.9) - who is certainly not uncritical of the both the concept and contemporary usage of the term - states that *post-digital* artists “dismiss the notion of the computer as the universal machine”, and then conflates “digital computational devices” with “media”. There are two main problems with this approach.

First, trying to dismiss the notion of the computer as the universal machine is both misleading and, in terms of discovering what art might be able to do in the digital era, terminally distracting. The notion of the ‘universal machine’ is being conflated in this formulation with the foundational concept of digital computing, that of the ‘universal computing machine’, i.e., that a Turing machine is a computing machine that can become *any* computing machine. In Alan Turing’s own words, in the same paper that both founds computer science and, crucially, proves there are problems that are not computable, “it is possible to invent a single machine which can be used to compute any computable sequence” (TURING, 2001, p.241). This distinction is fundamental to an understanding of the digital *as* the digital, as opposed to the digital in the service of global economics. That digital computers are now used to control or simulate (rather than *become*) actual machines that already exist is an unsurprising outcome that is due to the imperial imperative of globalist economics, not due to any inherent imperative of the digital itself, a distinction that is elided by the 70% of art students that apparently dismiss the digital as “commercial

and mainstream" (CRAMER, 2014, p.3). But without this distinction, a computer would be just another machine in a long line of historical machines, and the digital will not have contributed anything new to the world, but this is patently untrue.

Second, the computer, or the digital, is not a *medium* because the digital has eliminated the concept of media (CLEMENS; NASH, 2015). As long as we artists continue to think of the digital as just another medium (or as just another tool), we will be surrendering, not to the digital, but to those capitalists who have an interest in perpetuating the notion that the digital must be produced and controlled by an elite group. Returning to the concept of the universal computing machine to illustrate, what can be achieved by art insisting that using, say, a (pre-digital) tape recorder questions the hegemony of the digital? Certainly there is no doubt that the digital can be, and is, used to simulate the operations of said tape recorder, and that it remains a simulation, and that the tape recorder is not a digital machine. But this is already known, and therefore it contributes nothing to the questioning of the digital. Neither does it challenge globalist economic assumptions, since tape recorders are also a product of globalist economics, produced within the very ideology of ever greater sonic fidelity that the tape-recorder wielding *post-digital* artists identify as a problematic site of digital teleology. It becomes, then, a kind of wistful nostalgic yearning for the old master, a "retro-trend or revisionist resurrection" as Jan Verwoert (2007, p.6) puts it, with "hordes of ghosts pressed into the service of the market and other ideological programmes."

Ultimately, the *post-digital* wants to be characterized as a kind of *DIY* or *punk* attempt to rationalize and internalize the "disruption" caused by the advent of the digital era and "functionally repurpose [pre-digital technologies] in relation to digital media technologies" (CRAMER, 2014, p.12). Correctly identifying the digital as an ongoing reticulated system of constant modulation between analog (which is physical) and digital (which is conceptual) phenomena, Cramer forces the conclusion that all perception is analog and therefore the digital is ultimately but a minor element in art. In a laudable attempt to consider the concept of the digital more critically, the baby is thrown out with the bath water, the question of what art can do

in and of the digital is forgotten, the universalising performativity of the digital is ignored, old media divisions are resurrected, and the limit is not approached.

This kind of hopeless resignation to the global situation of unexamined power exercised by digital capitalists through their cynically centralised (anti) social networks is also displayed by the *post-internet* artists who, apparently having totally bought the power rhetoric that only a specially privileged kind of *smart* young male can actually do anything with the digital, have abdicated all motivation to question the digital [4].

On display here is the kind of hopelessness that emerges from a sense of a total lack of agency, perhaps similar to that felt by the wretched in old-time religion. Today, digitally-instrumentalised globalist economics like religion because a small, self-appointed elite group of libertarian digital capitalists has managed to convince us all that our passive participation in their networks is actually an active and empowering act for us. They have managed to do this by exploiting the hopeless lack of agency felt by individuals on social networks combined with the instrumentalising of a cynical capitalist understanding of the nature of global digital networks. This relies on an unbalance between the transindividual tendencies of the digital, on the one hand, and the anxietyproducing concept of the *individual* on the other [5].

Claire Bishop's crucial question, “[w]hile many artists use digital technology, how many really confront the question of what it means to think, see, and filter affect through the digital?” (BISHOP, 2012), remains relevant and largely unanswered. But embedded even in Bishop's keen question is an apparent assumption that art itself cannot *be* digital, that there is or can be no digital affect. This is highlighted by her throwaway references to the work of artists who do in fact confront her question: Cao Fei, Miltos Manetas, Cory Arcangel, Amy Sillman, who are all a paragraph later unceremoniously bundled into a cart called ‘new media art’ and labelled irrelevant to art, which is defined as “the mainstream art world” (BISHOP, 2012). This move demands a curious, but common and enervating, reversal of the imperative of art, that any new art conform to the existing parameters and definitions of art, rather than new art offering new parameters and definitions of art, which evolves in response to the question. Taking the *post-digital* analog fetishists to task,

and correctly identifying *modulation* as a key element of the digital, Bishop nonetheless falls victim to an expectation, prompted by Manovich, that (human) communication becomes the “subject of an aesthetic” (BISHOP, 2012). In other words, that the digital is nothing but an enabling tool, just another medium, in a meagre McLuhanist reading of the term, which is simply used to do something that can already be done. The examples Bishop gives of artworks that answer her question in the positive are all videos, *digital* videos, to be sure, but digital video is a simulation of a pre-digital medium that can no longer be said to exist in the digital age. Such simulations expose nascent tendencies or abilities in the medium that is being simulated, which can paradoxically only be exploited in the digital, but this is a qualitatively different proposition to what art can do in the digital without *necessarily* referencing or simulating pre-digital media.

This inability to recognise the relationship of the digital to art as anything but some kind of didactic tool or retro-enabling device is found throughout writing on contemporary art. Such an attitude simultaneously freezes art in time, rendering it an historical phenomenon that finished at the advent of the digital, and disavows any possibility of art working in the digital. It surrenders fully to the proposition that experience has become a formal, abstract system and therefore art is not possible. Perhaps this is a positive formulation, life is now art. But the hand wringing and anxious nature of the commentary suggests it is a hopeless, resigned and negative formulation. Holland Cotter’s 2015 piece for the *New York Times* considers the digital only as consumer devices that prevent anyone from properly experiencing non-digital art, never considering that the digital itself may actually constitute a site for art (COTTER, 2015). Kara Walker’s video work *An Audience* is an observation of 19 audiences at her extraordinary installation *A Subtlety or The Marvellous Sugar Baby* using digital devices to memorialise their visit via selfies and joking around, but never considers the possibility of art as digital (CORBETT, 2014). The Tate Modern’s *Tate Digital Strategy 2013–15: Digital as a Dimension of Everything* should append the phrase “*Except Art*” to its title, since there is no mention of art as digital in the document, which is exclusively concerned with providing information, audience

engagement, communication and other such terms that reflect a concern with digital only as a support for non-digital art (STACK, 2013).

Abstraction, visualisation, actualisation, virtualisation

"First of all, *abstraction* is the opposite of *information*", says Jan Verwoert (2007), who also maintains that abstraction in art implies an agency which is opposed to the contemporary paradigm of data-information-knowledge. Verwoert says that abstraction can do this because it subverts our sense of time. At the same time that it calls out to concepts that are yet to be thought, it also resonates with echoes of concepts forgotten. Verwoert calls this *latency*, casting it in opposition to a contemporary fetishisation of actualisation, completion, comprehension and, I would add, visualisation. The beholder of the abstract is not immediately rewarded (or is it punished?) with some kind of positivist quantification, bereft of questions and ignorantly smug in its self-fulfilling anxious need to understand, to explain. Rather, the beholder of the abstract is invited to engage in a collaborative unfolding of multifarious meaning that changes over time. Emotional and personal yet universal and observant, the abstract provokes a performance, taking the time to contemplate time, basing it on shifting sands of transindividual improvisation.

So what can constitute *abstraction* in the digital, since it is already an abstract, formal system? Clearly the idea of the visual as primary form needs to be dispensed with, so that there is no confusion with the idea of abstract art that evolved over the 20th century as a tussle with representation and the distracting problem of figure and ground. This is as simple as remembering that music has never needed to work through this problem, starting as it does as an abstract phenomenon by virtue of it not labouring under the imperative of representation. The modernist work that was carried out in 20th century music, largely in the American idiom of jazz, and contemporaneously with abstract visual art, always involved devising different methods of rearranging already-abstract systems, always performative and always in and through time.

The contemporary mania for so-called *data visualisation* might on first blush seem to be enacting a kind of music or dance of digital data, but its primary imperative is representation. Representation, the opposite of abstraction in this sense, is a friend and enabler of globalist economics. Your credit card represents you, the individual, computable and quantised. Data visualisation is inevitably marshalled in the service of making sense of data because it relies on a fallacious assumption of hylomorphism that makes no sense at all in the digital context. Digital data can be made to make any sense at all, and in that sense, it makes no sense. It is non-sense.

Vibeke Sorensen's artwork *The Mood Of The Planet* [6], presented at the ADM Gallery at the Nanyang Technological University, Singapore in 2015 [7], perhaps represents an approach to abstract visualisation that recognises the wilful or teleological tendencies of contemporary digital data visualisation while using its techniques of real-time (so-called) *data mining*, but which in Sorensen's work might be better thought of as transindividual collaborative data *musing*. The work consists of a large gate, reminiscent of the entrance to temples throughout Asia, of clear acrylic, filled with crushed glass and LED lights, with a large mirror on either side, recursively reflecting the gate and its lit crushed glass to a fading eternity (Fig.1). Digital social networks are constantly monitored for keywords that might reflect a *mood* (recall the title of the work) and are used as data to modulate into display via the LED lights, which are refracted through the crushed glass and reflected through the mirrors. It is an ongoing work of transindividual performativity, always becoming, a collaboration between not only Sorensen and potentially countless millions of unknown people, but between them and their relationship with the dominant digital capitalist structure, both soft and hard. There is no way that a visitor to this installation, or even the artist herself, could map in a linear way the relationship between the language-based activity of people on digital social networks and the modulated, totally immersive and transporting, display of the artwork in the gallery. It is an abstraction rather than a visualisation, actualising the virtual in both a Simondonian/Deleuzean sense and the more prosaic digital-virtual sense, a thoroughly digital work, relying on the global production of digital data, facilitating and responding digitally to digital affect, routing through digital algorithms and back

to the sense world repeatedly in a chain of reticulating amplifications to create a work that both comprehensively responds to Bishop's question and more importantly asks questions of art in the digital, with the digital, through the digital.

Figure 1 - Vibeke Sorensen, Mood of the Planet, installation view. NTU ADM Gallery, Singapore, 2015



Source: Photo by Christine Veras(to Mood of the Planet page) [8]

To create the work, Sorensen used *pd* [9], the open source software developed by Miller Puckette and a community of developers, and this must be considered a crucial element in understanding this work as *digital art*. “*pd*” stands for *Pure Data*, and its operating principle might be framed as ‘data in, data out’. In other words, it takes literally and seriously the fundamental concept of modulation and display that defines the digital. By doing this, and of course Sorensen is keenly aware of this in every decision she makes creating her work, *pd* enacts the invitation of the digital as a formal, abstract system. It makes no distinction between media because such a distinction is meaningless, it simply *doesn’t care* what ‘kind’ of data you give it, or what ‘kind’ of data you want out from it, because digital data is *just* digital data, not information (neither in the common human sense nor Shannon’s theoretical sense) and certainly not knowledge. It is just digital data and can therefore be modulated into *any* display register *whatever*. This is the crucial, fundamental and radical new reality that the digital has inaugurated, that *pd* enacts, and that Sorensen mobilises in her artwork.

There are many other artists genuinely engaging with the questions of art in the digital age when existence itself has become an abstract, formal system. In other words, there are many digital artists. Following the inverted logic of the mainstream art world, these artists are rarely if ever invited into the old-time religio-economic space of commercial galleries, expensive prizes, hallowed biennials and glossy hardbacks. Aside from those already mentioned, Tom Penney’s [10] work with online dating apps and game engines are a moving, hilarious and rigorous investigation into the structure of digital life; Tamiko Thiel and her colleagues at ManifestAR [11] have produced some quite extraordinary interventions into both the digital and the mainstream art world; Joseph DeLappe [12] continues an unflinching examination of the murderous digital. All of these artists use digital software as digital, not as a way to recreate some tool or medium from the pre-digital era, or a means to support or explain non-digital art or affect.

This is art that refuses to accept the libertarian digital capitalist vision of the digital as the vessel of globalist economics and the chains of the wretched, art that not only refuses to resign at the advent of a global formal, abstract system, but uses it

as both the invitation and the means to question the very limits and boundaries of that system, in the name of emancipation. Digital art.

Notes

- [1] This is a reference to Hanna Hoch's 1919 Dadaist work *Cut with the Kitchen Knife through the Beer Belly of the Weimar Republic*.
- [2] See <https://www.sfmoma.org/read/send-me-sfmoma/>. Accessed on July 25, 2017.
- [3] Available at <http://www.391.org/manifestos/1918-dada-5 manifesto-tristan-tzara.html>
- [4] See Tom Penney's PhD dissertation Critical Affection at RMIT University (under examination at 14 the time of this writing) for a good discussion of the implications of post-internet art. Full disclosure, Tom is a colleague of mine at RMIT University, and I supervised his PhD.
- [5] For a full examination of this, see my 'Affect, People and Digital Social Networks', Emotions, Technology, and Social Media, Sharon Tettagah, ed., London: Elsevier, 2016. pp. 3-23.
- [6] See <http://vibeke.info/mood-of-the-planet/23/>. Accessed on July 25, 2017.
- [7] Full disclosure, I also had a work in this exhibition, which was curated by my colleague at RMIT University, Professor Laurene Vaughan.
- [8] See <http://vibeke.info/mood-of-the-planet/> Accessed on July 25, 2017.
- [9] See <http://puredata.info/>. Accessed on July 25, 2017.
- [10] See <http://www.tompenney.com.au> and see footnote 4 in this essay for full disclosure regarding Tom's work. Accessed on July 25, 2017.
- [11] See <https://manifestarblog.wordpress.com>. Accessed on July 25, 2017.
- [12] See <http://delappe.net>. Accessed on July 25, 2017. Full disclosure, I am currently writing a paper with Joseph and others regarding set theory ontology and game design.

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