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**ON REMEMBERING A POST-  
DIGITAL FUTURE**

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We have always been post-digital or at least I cannot recall a time when art wasn't?

To claim this is surely ridiculous, as the post condition demands the prior instantiation of a digital state that purportedly did not begin until the mid 1970s.[1] Yet if, for a moment, we entertain the idea that art *has* always been post-digital, in what way might this make sense? How might this enable a re-reading of *pre-digital* practices and inform our understanding of future *post-digital*[2] practice?

## 1. The case of a post-digital anthrax

In pursuing this question we should of course take note of the precedent of Latour's *We Have Never Been Modern* (Latour, *Reassembling the Social* 17). In its function as antecedent to the Post-Modern, Latour's claim appears not to be susceptible to the same redundancy as that made in regard to the post-digital. The modern does not after all explicitly refer to its precedents in the way the terms post-modern or post-digital might. However, in Latour's attempt to reconnect the social and the natural worlds by denying the distinction between nature and culture, *We Have Never Been Modern* operates from a similar retroactive position — a position in which the Modern assumes distinction from that which came before it. In this sense the Modern, too, was always *post* conditional. This is not simply a case of semantic positioning but reflects fundamental aspects of Latour's work on irreductions in regard to discovery and prior events.

*We always state retrospectively the previous existence of something, which is then said to have been discovered (Latour, The Pasteurization of France 84).*

In as much as naming something might be considered a discovery of sorts, the post-digital has always existed just as anthrax bacillus existed before Pasteur named it. (Latour, 1988) Discovery is not creation. More than this then, naming, like discovery, works backward in time, creating that which existed before its existence was known.[3] "Once again time does not move in one direction" (Latour, *The Pasteurization of France* 145).

In arguing as he has that time is a configurable control mechanism pursuant to a force of labour beyond subjective or objective perception (Latour, *Aramis* 88), Latour challenges an anthropocentric world-view that promotes humans as the arbitrator of existence. The post-digital, like anthrax, may always have existed. It is not a state created by our observance of it or something metaphysically conjured up exclusively for our amusement. It may previously quite happily have gone about its business un-disturbed by human interest.

While the logic of a mind-independent existence is clearly viable in regard to extant entities such as anthrax, we must go one step further to accept phenomena such as the post-digital in this way. For surely a human idea cannot exist before it was thought of?

Extending Latour's assertion that the world is comprised of relational networks formed by independent actants, Graham Harman's Object Oriented Ontology (OOO) allows for thoughts to operate as active agents that are on an equal footing with objects (Harman). For Harman, ideas are simply objects and thus capable of existing independently of our recognition of them. Here there is a subtle but significant difference with Latour's notion of "irreduction" as it affects our reading of the post-digital. Harman's light-hearted aside that "I am a genius in something that doesn't exist yet" (Harman) should be read not as a claiming

that all ideas have been thought and are simply waiting for humans to discover them — this would suggest some universalizing apeiron that Harman clearly rejects. Rather Harman's statement should be seen as talking about the phenomena of *being* a genius rather than the subject of his genius. Thus it can only be in hindsight of brilliance that we declare someone to be a genius as the knowledge they have *created* becomes recognized. The idea of genius, like the idea of the post-digital, is like a programming variable waiting for instantiation in that it must be declared before it can be defined.

We must consider then the possibility that the post-digital as a recognition-independent phenomenon existed not simply before Nicholas Negroponte claimed the digital revolution to be over in 1998 (Negroponte) or Kim Cascone coined the term in 2000 (Cascone), but before the digital itself. Indeed Cascone, in coining the term, grounds the post-digital in pre-digital practices of the early twentieth century.[4] It is, according to Cascone, this shift in focus from foreground to background — from notes to noise — which leads to the *glitch* in digital sound processing (Cascone 13). While Cascone tends to draw on historical practices as precursors to the emergence of the post-digital glitch, I want to suggest that practices such as those of John Cage and Futurists are not simple groundwork for an emergent genre but are in fact recognition of an existing post-digital practice. If you like — the post-digital before the *discovery* of the post-digital.

In this sense the post-digital might be far closer to Latour's anthrax bacillus than first acknowledged. It too may have been quite happily going about its business oblivious to the accolade of critical recognition. Furthermore if Cascone can find examples of the post-digital before even the digital era, the very nature of the digital must also be called into question.

## 2. Grounding the rabbit-hole

Before we chase our own post-digital rabbit-tail down a futile, rhetorical rabbit-hole, it would be sensible to ground this argument within a digital ontology in the hope that it may provide some terra firma in which to burrow.

If the digital is grounded in the material world as John Wheeler would have us believe, it should help solidify the position of the post-digital as a state of practice (Wheeler 311).

At the bottom of Wheeler's ontological rabbit hole is the '*it* from the *bit*' (Wheeler 309) — the notion that every aspect of the physical world stems from a yes/no immaterial source. *It from bit* brings an abrupt dead-end to the rabbit hole and levels the ground by reducing the apeiron that is so scorned by Harman and other Speculative Realists, to a simple binary decision at the lowest level. There is no master plan or grand scheme; simply a 0 and 1 — a digital response in which nothingness cedes to physics through the act of observation.

This binary function is the fundamental nature of the digital that operates as a set of discrete packets of information as opposed to the analogue that adopts a smooth and continuous state. The oppositional relationship between the digital and the analogue that is the basis for Digital Philosophy's claim that the world is ultimately finite (Miller) stems from Lewis's mathematically grounded definitions of the digital as discrete, and the analogue as continuous forms of representation (Lewis 321).

Indeed the seduction of the digital era was the distinction that it drew in regards to the analogue by offering an enlightenment in which each unit was perfect and

infallible — infinitely lossless re/production at all levels. The analogue, by contrast, with its lax attitude to the world was degenerate and impure.

If anything, the post-digital is a rejection of this either/or dichotomy and an acknowledgment that an epistemic agent cannot establish whether nature is analogue or digital in nature (Floridi, *Against Digital Ontology* 160). It simply does not follow that the world is ontologically either digital or analogue simply because it appears so.

Instead we are left with the alternative position that the perception of a discrete or continuous mode is dependent on the level of abstraction assumed by an epistemic agent. As Luciano Floridi's level of abstraction argument succinctly puts it, "reality can be observed as being either digital or analogue, depending on the epistemic position of the observer... and the level of abstraction adopted" (Floridi 161). Drawing both on Kant's antinomies and Young's interference experiment, Floridi[5] suggests that the oppositional digital / analogue framework that Wheeler's "its from bits" relies on, is untenable. (Floridi 168-172)

In refuting the distinction between the analogue and the digital, it is as if Floridi has stripped non-human agents of agency and reduced matter to an indeterminate grey mush in which the digital and the analogy are only distinguished in our perception of them. Although verging on an anthropocentric model, how, within such a framework, can we understand the nature of digital materiality that is central to our positioning of post-digital art practice?

As the digital loses its allure in the afterglow, as Transmediale's 2014 thematic statement proposes (Transmediale 2014), we have seen the proliferation of practices that are distinctly or inherently disinterested in the distinction between digital and analogue materiality. The digital has become

simply another studio material that no longer assumes a privileged position as it vies for studio space alongside paint and plaster. Indeed the fusion of digital and analogue functions — as typified by 3D printing, robotics and sensor inclusive practices — exemplifies the untenable position of an "its from bits" argument that promotes a universal materiality.

Instead we see an engagement with materiality from the perspective of the work — a sort of conceptual-materialism that brings both analogue and digital materiality into play with each other. But how do either analogue or digital states possess materiality as non-corporeal concepts, neither being bound to a substance?

While affirming material agency, binding materiality to substance denies objects the potential of a primary role in a Latourian network and denies the idea of equity between physical and metaphysical objects that is proposed by Speculative Realism. Instead, materiality might be treated as a non-corporeal state that is distinguished from material substance not just by a parallel etymology[6] but, as Kant suggests in his treatment of material as differentiated from substance (Kant 24-27),[7] and Heidegger in his assertion of "thingness" that "does not lie at all in the material of which it consists, but in the void that holds it" (Heidegger 167). While both Kant and Heidegger support in different ways the reading of substance-independent materiality, they maintain an anthropocentric position[8] that conflicts with the flat ontology of Speculative Realism.

It is Graham Harman again who reconciles this anthropocentric conflict in his critique of Heidegger's *Zuhandenheit* — readiness-to-hand (Harman, *Tool-being* 19). In Harman's theory of objects,[9] objects are not ontologically exhausted by human perception. They remain independent and able to enter into a non-human Latourian network.

If materiality is neither a default state of substance nor an attribute of human perception, the very idea of materiality seems doubtful unless we allow for a form of co-constitution that is formed by the relation between objects.

It is precisely this co-dependent dynamic between human and non-human actants that Leonardi clarifies in regard to digital-media (Leonardi 13). Arguing for a definition of materiality that is inclusive of instantiations of non-corporeal agents, Leonardi stresses the affordance of materials rather than their physical properties, stating that it is in the interaction between artefacts and humans that the materiality is constituted.

This alternative, relational definition moves materiality 'out of the artefact' and into the space of the interactions between people and artefacts. No matter whether those artefacts are physical or digital, their materiality is determined to a substantial degree by when, how and why they are used. These definitions imply that materiality is not a property of artefacts but a product of the relationships between artefacts and the people who produce and consume them (Leonardi 13).

At risk of falling into another anthropocentric stance, Leonardi fails to extend the argument to allow for a materiality constituted solely between non-human actants. Drawing again on Heidegger we can see how – in the example of the jug (Heidegger, 20), materiality is defined by a co-constitutional relation with the water that fills it.

Co-constituted materiality then might be thought about as an Object Orientated Philosophy form of Merleau-Ponty's '*intentional-arc*' in which the object extends beyond itself while remaining within itself. To reinterpret Young's reading of Merleau-Ponty: Co-constituted objects such as materiality thus loop through objects, loop through objects and the world and loop through the objects and the virtual world (Young 65).

It is the ability of the co-constituted object to overreach itself while remaining embodied, to transcend subjectivity by entering into a relational schema, that emerges as a method by which materiality is actualised. Materiality is both an independent object — in an OOO sense — and an object that is dependent on the structural method of the actant network that realises it. Of course this definition of materiality as a structural method applies equally to both analogue and digital modes. In fact, it is these continuous and discrete states that constitute the underlying structural methods, which ultimately underpin materiality.

The term *structural method* is perhaps confusing given that it tends to suggest alliance with Structuralism that through its anthropocentric stance appears to conflict with OOO's flat ontology. Indeed this is the problem that Jane Bennett addresses as she attempts to navigate around "the throbbing whole of relations" with her formulation of *vital matter* (Harman, *Materialism Is Not the Solution*). While Bennett's vibrant materialism seems to dabble a little too much in the occult of the Latourian plasma,[10] her development of Deleuze and Guattari's *assemblage* grounds materiality in method (Bennett 23). Like a structural method Bennett's assemblages are emergent properties that are distinct from each actant. In a state of becoming, an assemblage emphasises the dynamic method through which parts are related and from which the underlying materiality of practice is derived. Digital materiality, then, is a method of practice that promotes discrete structures regardless of the ontological affiliation of its constituted parts.

### 3. The life of Zoog – a post-proposition

The central role of structural method in materiality is played out in the more than confusing linguistic parallels between Object Oriented Programming (OOP)[11] and Object Oriented Ontology (OOO). As a core feature of the OOP, the nature of the object as an abstract concept has clear parallels to the nature of physical objects, to the extent that in many introductory OOP texts the first object class named is a Person, Car or, as is the case with Daniel Shiffman, a Zoog – a ‘Processing-born being’ (Shiffman 16). Shiffman’s Zoog, like a person, has a childhood, must learn to walk and eventually reproduce through the programmed Variables, Conditionals and Functions that define it.

Object Oriented Programming’s use of concepts like object, inheritance and encapsulation are more than metaphorical aids. They are indicative of the interconnectedness of physical and technological digital materiality that grounds the digital in a material structural method well before Kim Cascone’s work on *The Aesthetics of Failure* recognised post-digital disillusionment.(Cascone)

*Object oriented methodology with a promise “[...] everything in life is an object” seemed more like common-sense even before it was proven to be meaningful. (Mehta)*

It is no surprise then that OOP terminology emerged at MIT in the early 1960s[12] at precisely the time when Lucy Lippard’s ‘ultra-conceptual’ artists were dematerialising the art object and rethinking materiality. As Jacob Lillemose explains, Lippard’s dematerialisation of art as an object is not an argument for the disappearance of materiality

but a rethinking of materiality in conceptual terms (Lillemose). When Lippard describes conceptual art as having emerged from two directions – “art as idea and art as action” (Lippard, ix) — she failed to recognise that an action can be an idea, and thus the misnomer that conceptual art is not concerned with materiality doesn’t hold.[13]

*[I]nstead of understanding dematerialization as a negation or dismissal of materiality as such, it can be comprehended as an extensive and fundamental rethinking of the multiplicity of materiality beyond its connection to the entity of the object. (Lillemose)*

Meanwhile around the same time in MIT computer labs OOP was attempting to make sense of dematerialised objects by establishing a programming structure grounded in material objects. While I accept the argument that, like most metaphorical terms, OOP’s object analogy now wears thin through over use (Ewert), I also assert that OOP’s ability to model the world is less significant than its ability to inform the world about its own material state. In developing a programming language grounded in object metaphor, OOP reflected back to us something new about the state of the material world – the structural methods that underpin objects.

While we can thus see both the development of OOP and the dematerialisation of art as symptomatic of a broader desire to re-engage with materiality,[14] seminal conceptual art works such as Alan Kaprow’s *18 Happenings in Six Parts* (1959),[15] deepen the connection by engaging systems that are clearly aligned to digital structural methods. [16]

Kaprow’s Happenings generated an environment that immersed the viewer inside the work, not just by putting them inside the performative space but by making them

active agents in the work through tightly prescribed instructions, that — in the case of *18 Happenings in Six Parts*, fragmented narrative by breaking the audience up, moving them around and creating ambiguous ‘free’ time within the work (Rodenbeck).

Kaprow can be seen as effectively treating both human (performers and audience) and non-human objects as programmable units that execute simple ‘non-matrixed’ actions that embody and make the idea concrete (Kirby 35). Their function as programmable objects within the work is discrete and autonomous. Each actant is performing a task that is self-contained and digital in a way that parallels methods of encapsulation and instantiation in OOP.

What I propose is occurring in *18 Happenings in Six Parts* (Kaprow), then, is an instance of a digital structural method that is a function of both a shared agency and a fragmented isolation that relocates the individual at the spatio-temporal centre of the materiality that is the work. What we have is not one continuous material but multiple co-constituted materialities all of which are inter-connected in the relational network of the piece.

In illustrating the ability of non-technological practices to realise a digital materiality by operating through a digital structural method, the work liberates the digital from technology and from the specific delineators of the digital era. The digital is no longer the exclusive domain of the computer. It is a material state defined by a structural method. The potential for the digital to exist prior to the advent of digital technology re-positions not only the digital but also the post-digital that might now be considered as more than simply a refutation of digital technologies.

The idea that art has always been post-digital now seems less ludicrous not simply because the digital has been shown as an enduring material state but because of the

parallels between post-digital disillusionment and an unbounded digital materiality.

The post-digital’s disinterest in the distinction between digital and analogue materiality is a levelling of the material playing field so that any distinction between them is no longer the definitive factor. Both are objects not as form but as method. In an ironic twist, the promises of a digital immateriality made by technology have instead found reality in the co-constituted interactions of human and non-human agents as material methods.

As a structural method *the digital* is not dependent on the technological constructs of the digital era that it is commonly associated with. The body — perhaps the most analogue of all objects — has been shown, through the example of Kaprow’s work, as capable of constructing a co-constituted digital structure, thus chronologically freeing *the digital* from specific media histories. In this sense *the digital* predates the development of digital-technologies, rather than being a condition determined by it.

## 4. After the coup?

If a new materiality in the guise of the post-digital has risen up and overthrown the governance of technologies that have for so long appeared to dictate its condition, what comes next? Is the new regime as susceptible to corruption as the old, or are we witnessing some new world order?

If the digital afterglow attempts to find anything, it is not a new pathway in the wasteland of the digital aftermath (Transmediale, 2014), but the retracing of a pathway that appeared long buried in the plethora of digital gadgetry that litters the material landscape.

There is nothing new about the post-digital, at least not in the sense of it being chronologically tethered to the digital era.

Rather, the post-digital is a renewed interest in the materiality of the world that includes digital materiality. It is the epiphany that the digital as a structural method was a material long before the first 8-bit string.

The rethinking of digital practices as proposed by the post-digital is not really that radical after all, then. While it may be that the so-called post-digital is a symptom of resistance to the commodification of digital culture, it is not simply a nostalgic yearning for the Jurassic technologies as postulated by Andersen and Pold (Andersen). The post-digital might instead be considered as a *neo-material* state in which the materiality of “objects” is better understood not as a physical condition but in non-corporeal terms as a relational structural method.

Although *neo-materialism* in its Marxist positioning of human subjects as objects of labour (Simon 5) shares much in common with the post-digital’s rejection of the technological object, my use of the term here is in regard to the materiality of the digital and the post-digital. In this way, *the post-digital* is an affirmation of the significance of method rather than form in materiality in a way that is not only compatible with a *neo-material* positioning of labour relations but a further affirmation of the relevance of Speculative Realism’s non-anthropocentric positioning of objects in regard to materiality.

Whatever we call this *rediscovered* state of materiality that is emerging as post-digital, it is not a cybernetic post-human fusion of the co-constituted technological flesh in which the digital is grafted onto the body to realise a new materiality. (Mitchell 221).

Even if the *neo-material* body turns out to be digital after all, as it might conceivably do once we accept materiality as structural method, this is not a wetware art dream in which we find out that the body has always been digital. Far from being a dream, though, the so-called post-digital has simply woken

us up to what other non-human objects knew all along.

Art has always been post-digital; we are only now remembering that it is.

## Notes

[1] Although there is no definitive starting point I take the release of the Apple-1 in 1976 as marking the proliferation of digital technologies typified by the *digital age* and marking a point at which *the digital* became analogous with the technological rather than to its function as a structural method as I have previously argued. (Charlton).

[2] Although this paper hopefully makes some contribution to ongoing debates about the post-digital I am not interested in define it as such here. Rather accepting Cramer's position on the post-digital regarding the redundancy of differentiating between digital and analogue states, I seek to understand how this might play out in regards to notions of materiality (Cramer, 162-166).

[3] Georgios Papadopoulos has suggested that it is important to distinguish between natural facts and human constructs such as the post-digital (Papadopoulos). While this question requires fuller elaboration, that is outside the scope of this paper, the terms in which I reframe a co-constituted post-digital materiality here leave open the possibility that a socially constructed structural method can pre-date the awareness of its human agents. To think otherwise would seem to support an anthropocentric model that works against a flat ontology. It is also possible if not probable that humans engage in social structures without having a global awareness of their actions. Certainly there seem to be ample examples from male chauvinism to post-structuralism that support this contention. Post-structuralism and for that matter the post-digital did not exist simply because two words were conjugated! It existed as a condition of *practice* in order for it to be named as such.

[4] Cascone identifies both the Futurists and Cageian attention to noise from the 1950s as key identifiers of post-digital music.

[5] Florridi's papers against a digital ontology lay the groundwork for Informational Structural Realism.

[6] As explained by JeeHee Hong, material and materiality are ambivalent terms that refer both to physical and non-physical matter (Hong).

[7] That the philosophical concept of substance is an *a priori* condition for our experience.

[8] For Heidegger, "humans are both a kind of entity and the clearing in which entities can be manifest" (Dombrowski 27).

[9] First laid out in *Tool-Being* 2002 and later developed by Levi Bryant into Object Oriented Ontology in 2009.

[10] In *Resembling the Social*, Latour defines plasma as an epistemic agent. "I call this background *plasma*, namely that which is not yet formatted" (Latour 244).

[11] OOP is a programming language organized around objects rather than actions.

[12] Although Simula 1965 is the first recognized OOP language its origins can found in MIT's artificial intelligence group work in the late 1950's and Ivan Sutherland's Sketchpad (1963), <http://www.computerhistory.org/timeline/?category=sl>.

[13] Lippard acknowledges the deficiencies off the term in regard to materiality of objects in the preface to *Six Years: The dematerialization of the art object [...]* (Lippard, 1973).

[14] The counterculture movement of the 1960s is taken as a rethinking of materiality as an idea and in action.

[15] Kaprow's Happenings are seen as 'a touchstone for nearly every discussion of new media as it relates to interactivity in art' (Wardrip-Fruin 2003: 1). More than simply providing a precedent for current approaches to interactivity, early works such as Kaprow's *18 Happenings in Six Parts* also highlight *inter*-action as an exchange in which the materiality of the work is co-constituted by independent agents.

[16] A fuller analysis of materiality in Kaprow's Happenings will be included in the upcoming publication *Digital Movement: Essays in Motion Technology and Performance* (Popat & Salazar).

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