

# In the State of Nature Nothing Will Be Lost

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‘What is a bank heist compared to founding a bank?’  
— Berthold Brecht, *The Threepenny Opera*

‘Users of the world unite! You have nothing to lose  
but your blockchains!’  
— Thomas H. Ford, Tweet

**O**N 20 JULY 2016, THE AUSTRALIAN ARTIST NICHOLAS MANGAN OPENED HIS SURVEY exhibition *Limits to Growth* at the Monash University Museum of Art (MUMA) in Melbourne, Australia. Mangan’s complex installation work, comprising documentary film, found images and objects, deconstructed texts, and so forth—in such regards, exemplary of a certain critical strain in contemporary art—confronts the materiality, means, and manner by which centres of colonial capital invest in the so-called ‘periphery’ in order to exploit, expropriate and accumulate profits from the non-renewable mineral resources of particular earths.

The show, moreover, revisioned Mangan’s existing *oeuvre* through a radical technical extension: a working Bitcoin mining rig integrated into the display,

which visitors to the exhibition could witness blinking and whirring as it ground away on its mission. *E-flux* announced:

*Nauru—Notes from a cretaceous world 2009-10* explores the boom and bust economy of Nauru; *Progress in Action* considers Indigenous activism against mining corporations in Bougainville, Papua New Guinea; while a newly commissioned work, titled *Limits to Growth*, takes as its starting point the ancient currency Rai, comparing these large stone coins from the Micronesian island of Yap to one of the newest global digital currencies, Bitcoin (*e-flux*; see also Cormack; Mangan).

Mangan used the Bitcoins mined by the rig to fund the production of high resolution photographs of pre-inflationary Rai, which he then sold as part of the work: contemporary art participating in a self-professedly compromised hi-tech recapitulation of the processes of transformation of minerals-to-images as the essence of art itself. Art, in presenting images made *from* minerals (what are photographs but confections of silver halides?) *of* ancient money made of minerals exposes its own production history as the constitutively inegalitarian extraction of minerals for energy to produce more money to produce images of minerals in order to produce more money to produce... more (mineral) images of (mineral) money. Art is the heart of money, and that heart beats to a mineral drum.<sup>1</sup>

If Mangan's project encrypts more intellectual and practical complexities than this vignette can provide, I want to emphasise his *rematerialised exposure* of the extractive, destructive labours required to produce anything at all. In doing so, he also pinpoints the peculiarity of money as something that, while neither simply arbitrary nor conventional, is not for that quite necessary either. If cryptocurrency enthusiasts ceaselessly spruik their disdain for the contingencies and inequities of so-called 'fiat currencies', Mangan's art exposes that there are *only fiat* currencies—and that that *fiat* retains an 'aesthetic' component, that is, a possibility for unexpected im-material transactions not immutably inscribed in the memory of any *one* system itself.

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<sup>1</sup> As Ana Teixeira Pinto summarises: 'The Rai stones are large stone disks reaching up to 12 feet in diameter that are made of limestone, which the Yapese quarry in Palau, since there is no limestone in Yap. This makes the Rai stones at once impossible to counterfeit, rare, and difficult to procure; they are, one could say, a faithful record of the labour time spent in their production' (Pinto 152).

As the Italian philosopher Emanuele Coccia asserts: 'The most ancient human things of which testimony remains are stones. Indeed, it is in stones that the human intelligence departed the space of interiority and consciousness and incarnated itself in the world of things. Whether used, worked upon or sculpted, the stone is the primordial object, the most ancient vehicle of the human spirit, the first form of culture ... there is a mineralogy of the spirit that still awaits being written' (Coccia 14). I would like to thank Nicholas Heron for alerting me to Coccia's book, and for providing an initial translation of the passage.

Money can only function when it can couple the disparity of things according to a convention of immanent transcendence; otherwise it remains simply one thing among others, incapable of acting as a general equivalent. Moreover, *sublimed with mineral fury* (as John Milton puts it in *Paradise Lost*) as all currencies are—even those that purport to escape their mineral bases through dissimulation of their own production processes—Bitcoin’s attempted technical purification of transactional ambiguities is simultaneously a neolithic ambition *and* a creative image unable to sustain itself without contradiction (see Ferguson). Naturally, Bitcoin’s appeal and power are not in the slightest vitiated by its contradictory archaisms.<sup>2</sup>

In fact, Bitcoin, and, *a fortiori*, the blockchain, should be understood as a kind of political theology, which a new use of new technology revivifies, radicalises, and disavows. In his ground-breaking work on *Liturgical Power*, Nicholas Heron identifies the development of the doctrine of ‘instrumental cause’ as, well, *instrumental* in the historical extension and intensification of governmental power as both indissociably *vicarious* (‘distributed,’ ‘decentred’) and *performative* (effective only as ‘enacted’). Governmental power is not concentrated in a sovereign, but distributed throughout the system, and, in being so, functions only insofar as it is supported by the ongoing actions of office-bearers. These officers ‘work all at once with little coordination,’ as Nakamoto ‘himself’ says, unknowingly echoing generations of Christian theologians (Nakamoto 8). It is in the celebrated *horizontal* of such distributed government that the *form of hierarchy* is not only preserved, but extended and intensified—even as it is practically disavowed. The fact that nobody sits on the vacated throne is not a proof of the dissipation or destruction of the Authority (to speak like Philip Pullman), but rather of His absolute presence (see Heron; Agamben). As such, Bitcoin literally constitutes *a principal program of power* for the present age.

Insofar as Bitcoin’s participating nodes (the ‘peers’) engage in rounds of competitive decryption (‘difficult proof-of-work’), this computational energy-intensive grind constitutes the instrumental operations of the liturgical function: it serves to mediate the network of believers (the ‘active’ and ‘vicarious’ participants in the process) and the outcomes, the proof-of-work for blocks (tokens of salvation). In a second moment, a successful proof-of-work is universally broadcast to be accepted by the other nodes; and ‘nodes express their

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<sup>2</sup> Here, there are suggestive indications in the history of writing itself. For example, the eminent Minoan scholar Louise Hitchcock notes that: ‘when the Mycenaeans borrowed the Minoan script, they used it only for record keeping. And these would be like temporary records that they keep for a year or so and then they’d throw them away. It’s like how you don’t keep your tax returns any longer than you have to. And so they don’t really record events. They record transactions’ (Prewett 262).

acceptance of the block by working on creating the next block in the chain' (Nakamoto 3). This is *acclamation*, the angelic 'song of praise and glorification' (Agamben 147), revived as a technical operation binding process, product, and affirmation across the entirety of the network: governmentality expressed as distributed and decentred gamification.<sup>3</sup>

But there is a further point to be made regarding the structuring of the blocks themselves. In its attempt to 'doubly disintermediate' from both existing financial institutions and state forms (see Dodd 36-7) by creating an immutable record of transactions as fully-integrated authority, I take blockchain to be an instantiation of a key moment of Fregean logicism, reformalised in post-Cantorian set theory, and given its definitive concept by John Von Neumann: the ordinal relation. Here, following some indications given by Adrian Mackenzie, I will very briefly summarise Alain Badiou's own determining presentation of these logico-mathematical developments.<sup>4</sup>

Now, as Badiou suggests, 'the ordinals represent the general ontological horizon of numericality' (Badiou, *Number and Numbers* 52). Why? In a sense they are abstractions from the so-called 'Natural' numbers, that is, the sequence of integers

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<sup>3</sup> The ongoing proliferation of cryptocurrencies is indissociable from technical experimentation regarding alternative means of ensuring the foreclosure of trust. As Daniel Goldman summarises: 'Open, permissionless blockchains, for all their celebrated virtues, come with a major catch: all full nodes in the network must witness and validate every transaction the system processes; the sheer inefficiency of this (relative to centralized digital payment systems, say) is the heart of cryptocurrency's much-discussed scaling challenge. Layer 2 protocols represent one category of approaches to alleviating this burden. They do this (in some way, shape or form) by shifting the burden of global validation of all transactions by all nodes to local validation of some subset of transactions by only the interested parties'. It is worth noting how the putative integration of every node into a totality posited by Bitcoin has very quickly mutated into the interests of partiality (of subsets of multiples engaged in the 'same' project) in the name of scalability/efficiency: the partisans of 'minimal domination' according to the computational topologies of graph theory will surely be having a field day.

<sup>4</sup> Mackenzie makes the absolutely fundamental point of 'treating all databases as attempts to work on multiples and, more specifically, treating them as multiples inflected by 20th-century mathematics of set theory' (337), a methodology which has strong historical and metaphysical justifications in this context. As he continues: 'Whatever approach is taken—philosophical, sociological, or anthropological—the status of a multiple today is difficult to conceive apart from the technical processes of ordering, sorting, counting, and calculating... Databases are a situation in which we materially encounter the doing of the multiple' (338). In my opinion, however, Mackenzie's presentation suffers from a coupled misunderstanding of Badiou's particular position regarding: i) the formalisation of the state (by the power set axiom); ii) the operations of truth (the 'generic' as demonstrated by Paul Cohen). The present paper implicitly essays a correction of these misunderstandings. But it just as much seeks to correct—indeed falsify—my own recently-published take on Badiou's relationship to technology in (Clemens). There I argue that, while Heidegger offers powerful theses for criticising contemporary technology, Badiou's own position on such technology is weak and indifferent. My own misunderstanding there stemmed from an incomprehensible failure to connect Badiou's thinking on mathematics and logic with the ubiquitous contemporary technologies that literally embody them—clear evidence of a failure of thought if there was ever one. For yet another take on this question, see (Clemens and Nash) for an attempt to meld Heidegger and Badiou to produce a 'digital ontology'.

(1, 2, 3, ...). Set-theory distinguishes ordinals from cardinals, the latter not sharing the absolute order of the former. Set theory considers all mathematical relations as sets: elements *belong* to sets; subsets are *included* in sets. Now transitive sets are sets in which every element that *belongs* to that set is also *included* in that set. What's crucial about the formalisation of the ordinals in the current context—and which at once links and decouples them from 'commonsense' understandings of the substance of the integers—is that such formalisation entails the constructivist inter-dependency of each and every component.

Hence the famous definition by Von Neumann, that 'each ordinal is the well-ordered set of all smaller ordinals', whereby the set of natural numbers can be built up from iterating the empty set:

$$\begin{aligned} 0 &= \emptyset \\ 1 &= \{\emptyset\} \\ 2 &= \{\emptyset, \{\emptyset\}\} \\ 3 &= \{\emptyset, \{\emptyset\}, \{\emptyset, \{\emptyset\}\}\} \\ &\dots \end{aligned}$$

The Nakamoto blueprint seizes upon ordinality by intricating published timestamps, whereby 'each timestamp includes the previous timestamp in its hash, forming a chain, with each additional timestamp reinforcing the ones before it' (Nakamoto 2). Just as each ordinal, to be what it is, integrates the previous ordinal into its own being, each block, to be what it is, integrates the previous block into its being: the temporal chronology of production is calqued onto immutable structure. The structural isomorphisms are precise: each unit is inherently marked in its being by its position. It is because it is strictly modelled on transitive sets ordered by inclusion that Bitcoin must be understood as the *technical integration* of the concept of Von Neumann ordinals into virtual currency. As such, the blockchain does not offer any paradoxes nor present any theoretical limits nor propose any metamathematical concepts, although *it indeed depends on a true idea of multiplicity*. If blockchain offers any novelty, it is not conceptually but pragmatically, as the most thoroughgoing *technical enforcement* of ordinality ever envisaged.

As Badiou remarks of the concept of ordinals:

The doctrine of Nature from the standpoint of the thought of being-qua-being, is thus accomplished in the theory of ordinals... One of the important characteristics of ordinals is that their definition is intrinsic, or structural. If you say that a multiple is an ordinal—a transitive set of transitive sets—this is an *absolute* determination, indifferent to the situation in which the multiple is presented. The ontological criterion

for natural multiples is their stability, their homogeneity (Badiou, *Being and Event* 133).

Rather than savage anomaly, blockchain is better understood as normalisation and naturalisation, the regime of nature-as-technics presented as a work of trustless salvation. Blockchain simultaneously *finitises* the ordinals (Bitcoin itself has been expressly capped at 21 million), as it *expels* the void (the empty set on which the set theoretical edifice is based) in the name of the absolute priority of what Badiou deems ‘the count-as-one’. Blockchain technics is what mediates here between formalised Idea (that of ‘ordinality’) and everyday life (‘late capitalism’): it is Platonic Idea incarnated as Capitalist Theocracy.

So when Nick Land pronounces (after invoking the hermetic presocratic fragment), that the philosophical significance of Bitcoin is comparable to Gödel’s incompleteness results (Land, 1364-5) or Brett Scott celebrates the empowerment of fiscal pluralisation, they are *literally*—that is, in regards to the inscriptive stringency of the technological-reuptake-of-set-theory—idealising with regard to the facts of the technical materials, as they underplay its mathematical restrictions in repeating the realised ideology of blockchain-as-state-naturalisation of the finite ordinals.<sup>5</sup>

Blockchain is technology-as-nature for contemporary governmentality. This Nature is no longer the *physis*—blossoming self-presencing—of the presocratic philosophers of which Martin Heidegger made so much, but the absolute stability, hierarchy and transitivity formalised by Von Neumann ordinals. So when Nigel Dodd suggestively remarks that ‘Bitcoin has replaced the sovereign with the general will’ (Dodd 44), we can now see, following Badiou, that the reality is the

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<sup>5</sup> Who would have thought that so many people would get so high just thinking about money? Certainly, Land’s work is the most flagrantly tendentious in this regard. While Scott has been impressed by the contemporary everyday potentials of experimental fiscal pluralism—in my opinion, a misleading but reasonable apprehension founded on empirical evidence and committed theoretical orientations—Land’s comparison of the impact of Bitcoin to the undecidability results and the halting problem seeks to suckle on the authority of metamathematical theorems but without any understanding of the latter’s content, or how that content actually relates to the construction of the blockchain. For a start, both Gödel’s and Turing’s results point towards foundational impossibilities, and not to bravura technical successes of order and efficiency. As such, Land’s claims are not really either empirical nor theoretical, but purely ideological: they serve to turn technical domination into myth. Like a hyperverted parody of Hegel’s ‘beautiful soul’, Land is himself one of the katechontic archons he hears reverberating about the cathedral’s echo chamber. While Scott might be termed a *reactive subjects* in Badiou’s terms, Land is an *obscurantist* (see Badiou, *Logic of Worlds* 43-78). To offer a stringent contrast: though there is no space to investigate her claims here, a strong political redescription of the implications of Bitcoin and blockchain can be found in the work of Jaya Klara Brekke who, drawing on the work of Karen Barad and Jacques Rancière, brilliantly speaks of the ‘triple political cut’ of blockchain technology, which proffers *sensible*, *insensible* and *dissensible* ruptures (Brekke). Her descriptions of the political assemblage of blockchain are extensive and incisive.

reverse: the blockchain is rather an attempt to reimpose and reinforce through technics *a universal state of nature*. It is surely significant that such signifiers as 'Bitcoin' and 'blockchain'—with their flagrant dystopian connotations of dire-and-contemptible poverty in the first instance ('two-bit', motley, the threepenny opera) and incarceration and execution in the second (chopping block, chains)—have become for their adherents emblems of freedom from the weak accidental despotisms of banks and states.<sup>6</sup> Blockchain is a governmental space of technics that suspends power's capacity to not do violence.

What Bitcoin in its 'particularity' and blockchain in its 'generality' propose is, on the one hand, *the foreclosure of art* qua radicalised ambiguity, exposure of material process, and disjunctive synthesis; and, on the other, the motivated *repression of mathematical conceptuality* through finitised ordinality. Or, to parody the revolutionary effusions of Saint-Just: what do they want who want neither mathematics nor art, neither being nor event? Our answer is the same as Saint-Just's: they want the corruption of earthly power, the total rights to the mining and minting of coin. But we must also admit that such 'corruption' is simultaneously, and just as seriously, a genuine attempt at the 'purification' of the ambiguities and difficulties of fiat and hierarchy by constraining all monetary presentation to well-ordered units dependent upon universal assent. Blockchain thus shows itself as a fundamental kind of archaic domination purified, which directs itself against the nomination of events and the indifference of being. It is the apparition of the State Of Nature itself—the SON—in a radical technical light.

If we wish to combat such a 'laundering of exploitation via the logic of the forced choice' (Andrejevic 154), it will have to be by a double operation that confronts the intricate evasions of the SON by way of art's paradoxes of the event and by way of science's consistencies of knowing. We need to set *limits to growth*, such as art proposes through its *rematerialised exposures*; but we also need to undo the *finitisation of thinking* that Bitcoin entails, such as pure mathematics proposes through its *limning of impossibilities*.

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<sup>6</sup> Fiona Allon has pointed out how with Bitcoin, 'white normativity, middle class property and fantasies of stable, fundamental value interlock yet again' (Allon).

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