Measure for Measure

My work examines relationships between computation and the materiality of its technical media.

My response here is in three loosely connected prose pieces, meandering around two questions, 'what crime is being revealed'? And 'is there a heresy is being committed'?

The 1ˢᵗ part, Measure for Measure, is a bit about the Critical Infrastructures (CIS) project, followed by a short piece called What Crime?, which sketches out a more criminal project, before the 3ʳᵈ part, on process and procedure, which examines the limits of thought and measurement, before ending with a short cadenza on matter and money. Its a bit of a poetic ramble, run at different speeds, that maybe throws up some questions among its red herrings.

Details of CIS here: http://criticalinfrastructure.cc/

1) Measure for Measure:

To examine the means of production which make an institution assumes that its technological infrastructure directly conditions its cultural outputs, and in a way in which any variance only produces less than distinctive, or efficient versions of what remains essentially the same. Where Kittler amused himself by turning such a determinism into a recipe for critical paranoia,[1] CIS assumes the more modest role of "inner-heretic", by asking how "raw" can the "data" of an "art world" be, and how might it be performed for its artists and audiences?

Its a strategy written on the back of recent re-appraisals of this "heaving teeming material world". An ersatz war on a criminal transcendence; part of the search for a more authentic globe, one washed in tones of post-anthropocentric debates on aesthetics, technology and the affected-affecting environments of the non-organic, non-human and human. And in examining this play of the material, the often erased, localised and productive detritus is therein re-evaluated and now recognized as being the conditioning media that underwrites all techno-cultural forms.

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1   Following O'Gorman 1999, briefly, demonstrate that media is the result of specific historical or scientific conditions, but that these conditions are all uncannily related in one way or another. In short, show that "everything is connected. Having revealed that "everything is connected," submit your paranoia to reason by showing that "everything is connected" only because: a) the dual apparatus of State/Technology has made the co-incidence possible, and; b) with this power structure in place, we are destined to be the physical and psychological subjects of technologies. Having successfully practiced, and hopefully re-invented, the Kittlerian Method of Media Criticism, use your method to develop a project that aims to increase our awareness and understanding of the materialities of communication. http://pmc.iath.virginia.edu/text-only/issue.999/10.1.r_ogorman.txt

And if its in this previously hidden, conditioning media where any social and material constraints and antagonisms can be found, the suggestion is that by refocussing the institution on different mixes with its humans and infrastructures, new possibilities for, "operating in a disorderly manner" are presented. That is, with this authentic teeming multitudinous stuff: stuff like, invitations, voltages, cabling, thermal dispersions, circuit diagrams, coding, and those other things previously aggregated, buried, and forced to give off only their digital exhaust, the heresy of a new art can be born.

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If those interactions underwriting the digital exhaust are too rich for formalisation (also see Turing),[2] then there is an economy of expenditure to be had. If everything that implicitly exists cannot be rendered explicit, then surveyance covers only those parts that can be technically measured, such that two assumptions are made: "That something's missing in the institution in its current form" and "Will it be revealed if we analyze this or that?".

For those who would object that these aggregates (of cables, voltages, and the like) are just inessential localised evidence that frame any cultural-production, and therefore only worth acknowledging in passing, the response might well be that such theorising is just as wrongly reductionist as the trick of the 'linguistic turn' in philosophy.[3]

Instead, stuff comes in real, material form, at many scales, none more fundamental than any other, with nothing special about language. So when things are called 'big data', 'digital' or 'art', just as things are called linguistic, or scientific (following Feyerabend), they're only ever partial descriptions, or coercions of those things.

When we construct something like a book, its thanks to a structural idealism underwritten by the linguistic turn. Books are made of pages, and pages hold language, and language bears meaning. The rest we don't think about because of idealism's erasure of any localised means of production in the sense that in the product, be it the text, the image, the proposition, the process by which it emerged is effaced and erased.

Its this disregard for the local and material of the world that offends the materialists ontological claim, that the world is made of matter and its the way the world is materially produced and reproduced which is the basis of all other forms.

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2   That is, they "transform closed systems to open systems and express behaviour beyond that computable by algorithms" (*On the Chemical Basis of Morphogenesis*).
3   That definitions of concepts cannot exist independently from a linguistic system defined by difference.

Yet even this claim can appear counter-intuitive as where everyday concepts such as 'belief' or 'digital' or 'art' are illusions, then what is the status of those of 'matter', 'energy', 'bits', and 'electrons'? In other words it can be said that materialism itself always veers towards the same idealism, because it reduces objects to a fairly shallow set of ultimately humanly accessible, measurable, properties.

When I boot up a laptop its electrical current is disclosed as something for the sake of something else. It belongs to a network of relations to other materials like silicon, boron, steel, and copper, but also to me when I'm in need of translating and inscribing my thoughts for the sake of writing this presentation, and for the sake of the discussions that it might further. In revealing itself in this network, the electrical current as an electron flow is concealed. Any relationship I have with the electrical current must shift to see its subatomic properties, yet in measuring that current, its being equipmental in booting up my laptop is then concealed.

Any act of observation, of measuring, of detection, makes this "cut" between what is measured and not measured, as it separates out stuff from these entanglements to render some things visible and others not. So observation and measurement appear to be of inherently ethical-political significance. But to examine, say, electrical charges or binary code is never going to be the only place to look, as they could equally begin by examining transistors or logic gates, or, scaling upwards, the design implementation of the Universal Turing Machine in von Neumann architecture.

To explain something in terms of its smallest bits doesn't render those mid-scale objects any less real, "anymore than zinc and sulphuric acid cease to react in a certain way when we explain their reaction in terms of the atomic reaction". If anyone wants to interpret an institution on the basis of its infrastructure then there's this problem in identifying which bits of it to measure, and whether such measuring does more than just cocatenate its object. In fact would such cocatenation reveal the crime, or perform the heresy to make a new art? Or is it just a versioning of what remains essentially the same. Is the measure for measure actually performed here a swap, where in adding its measured stuff to the festival's "media-technical landscape", non-normativity and ludic dysfunctionality stand in as some kind of ethical-political practice?

2) What crime?

How heretical can measurement really be? If measurement is necessarily instrumentalist, a formalism that always trades off some things for others, then what more can we hope to do with all this measured stuff? "Does it hold the key to turn the existing bodies of flesh, data and text inside out?".

The question is always divided between the heresy of jumping into that teeming material world to bring about novel and vertiginous coordinates for everything, or the more fearful vision that wonders if, within its humbled imaginarium, wouldn't it be a good idea to keep some of these things, those structures because they're kind of useful and suchlike?

Do such analytics even need to be an embryo for a counter-order of objects, of matter, of humans, Against Method, as A Matter of Contingency, of Facticity? Should measurement care about being the means to access a Matter that explodes the crystallization of, here, new media art beyond the 'awe of implementation'?

These Matter of Facts, where what makes facts happen, is matter itself, in a repository of absolute contingency, necessarily contingent, matter is made of matter in a geology of matter (Iain Hamilton Grant), building on top of itself according to matter's own principle of sufficient reason, with rougher and rougher Un-crystallized matter always underlying our current precarious objects. And always its threat is its being the reservoir from which other regimes of objects can always arise.

CIS begins to signal something of this deeper struggle, between those informed objects, and this non-crystallised matter. Between objects replete with state histories as conditioning feedback for their versioning, that try to intercede against a matter that turns all this inside out, a matter that threatens to lead us astray with its raw flows and circulations of energy and material. This is the struggle between the contraflow of overdetermined human produced information-laden objects pushed over and against an entropic matter, a matter that undermines the comforting fallacy of our *heretical* objects.[4]

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4   "Taken as a system, nature is one in which information tends progressively to disintegrate according to the second principle of thermo-dynamics. Man opposes this natural tendency towards entropy not only by acquiring, storing and transmitting information, but also (and in this he differs from all other-organisms) by intentionally producing in-formation. This specifically human, anti-natural faculty is "spirit," and it results in "culture," that is, in objects, which have improbable forms, in "informed objects." Flusser: Towards A Philosophy of Photography p.21

Imagine a more criminal project, where our crystallized objects get to report back a more violent kind of access, one akin to salt dissolving into water, sulphuric acid spilled over earth, soft bodies smacked against hard surfaces. A physics of decrystallization, where bodies, objects, and this or that, are not assumed to be at the starting point but rather point to the crime of how does matter get tied up into those bodies, objects, this and that?

This is part of any material project, not the comfortable mid-way points that denote some faked consolidation of agency. But even if some things are cheaper to fold up like that, any tying up of objects depends on the sufficiency of matter. Matter is unfettered, but bodies, objects, this or that, grounded on matter, need to spew out in massively reproducible genealogies.

In a project like this the notion would be to remonstrate with these crystalline objects, remonstrate with those midway points, decrystallize this and that, liquify their matter, and not to have them repeatedly recrystallized in only slightly different ways (a la Deleuze: Difference and Repetition). It's the re-mattering of objects thats really heretical, thats explosive, its fearful, its the brutal crime where there is no over-coding by something other, some unitary idea un-tethering it from its blob physics.

In the face of such a primordial physics, humans might just have to stick with the objects they seem to always build and cherish. After all, if the world is a confusing ill-considered blob of matter it's from this blob that we individuate our things - from the first copper produced by the transformation of rock by heat, to the current use of half the periodic elements in recent processors – perhaps its best to keep individuating them with our rationalist head tricks. Best to ignore the underneath of those precipitations, under their surface, the catastrophic future found lurking in the wrenching of matter's processes and procedures.

(A manual for UnUn would be throw caution to the wind.... cf. also gold and The Crystal World).

3) Process and procedure:

If the flows of events in the world are processes, then the underlying logic of such flows (the metaphysical how things are) is procedural; so process is the flow of events, happenings and actions, while procedures are how those flows work.On top of which there are our interventions, our descriptions, our measurements, which are our procedural representations concerned with quantifying how those processes and procedures might be.

Processes are implemented somewhere, in the blob of matter, the constant origin of all new actual entities, which acts like a space where procedures bump into each other. In this sense, matter would not only be the stuff things are made out of but also the space all things have to go to get knocked into shape. This is matter's own principle of sufficient reason, its genealogy and its geology.

Procedures are ways of executing processes. They can also create processes. They can be non-symbolic and intuitive, as in the case of humans and animals going to sleep at night, and they can generate novel behaviours, like dreams. Or they can be stopped and begun again when a new day dawns. Whatever they do, they involve some matter, and some configuration of matter as the apparatus that somehow delimits their procedures – in the case of sleep, something like a biological clock. (cf. nvram; shark emf sensors in muzzle).

So computers are very useful in representing procedures, and may, in turn, create processes (eg. Shannon and Ulm's pre-emptive programming of "artificial life"), produce outputs that include real world expressions, like controlling an aeroplane, or run procedures that interpret and represent other processes in the material world, like FFT analysis.

More exactly, procedural representations, such as computation, explain processes by invoking procedures that smuggle in other unaccounted-for processes.

This is because of the economy of expenditure. There is always a compression at work to avoid the recursion of explaining the machinery of representation, say the brain and thinking, by smuggling in other un-represented processes, say, the biological, and material processes in which any apparatus is embedded.

The problem is that as more powerful regimes of knowledge emerge because of the updates in the configuration of this apparatus – like the shifts from the paper that allowed us to engage in long chains of reasoning impossible for neurological processing alone, to contemporary bio-computers as embodied real-world substrate machinery for problem-solving – then smuggled processes, like the inductive bias Hume warned against, remain procedurally unaccounted for (cf. Turing's *o*-machine), and all procedural representations are stopped at a certain point, decided on symbolic ie. pragmatic grounds, so that any result will always be just good enough. (Where thinking halts).

Measurements are wrapped in matter, just as everything else is. They are inscribed in things like brains, pottery, paper, electro-magnetic frequencies, and computer codes that persist over time and extension.

The configuration of their matter is, nonetheless, contingent, as matter is never only fixed, but passed around in variations with fuzzy borders, not only because of actions applied to it but because of its own protean activeness.

Any apparatus is thus necessarily wrapped in matter and its contingencies that accord to their own logics. Thinking, and science, doesn't therefore refer to things but to parameters and correlations as it bootstraps its measurement practices through refinements in the deployment of its apparatus.

Formalism is thus both necessary and ontic (real) – that is, necessary because of how and what is doing the representing (brains = matter = constraints) and ontic because it is such framings (for example, molecule colliding with molecule) that bring into being particular things.

On the other hand procedural representations are always in relation to some other information processing systems (organic or machinic) and so represent something to such systems to define a partial but necessary sum of knowledge for the world around them, but one that cannot really be submitted to proof in the sense of any compelling necessity.

Implementing a particular array or apparatus of matter creates both ontic effects and epistemological limitations. Materiality and meaning are thus both indeterminable outside these particular, normative, and persistent set-ups.

This has the added consequence that any contradictory determinate value cannot exist at the same time because of its entanglement with one apparatus and not another. Thus CIS in this sense cocatenates with the same essential object, committing no heresy, revealing no crime.

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Finally, matter is made into cash, that is, matter is captured into our objects, making it the cash of those objects, and where the surplus value between objects and their matter is fixed in their crystalline glaze, by rote of the confluence of virtualities extracted in their retreat from a protean mother earth.

Actually, perhaps CIS does look to eviscerate a politics of de-crystallizing our technological objects and institutions into arrays of disorderly potentialities. But Dreamy potentialities here made incarnate with Canadian dollars, German euros, and British pounds.

That's to say, Electrons, atoms, wave forms, frequencies, they all have a price, and that's what money craves, its not passive but active in sanitising this matter, this earth, us, into the world of objects and feedback. This is the rip off, the fraud, the real crime CIS needs to investigate, where the institution wants to possess matter, move matter within its economy, wants to substitute it in an ontological head trick, wants to annex its pure potentiality with minimal cost, the price for every cultural thing, the old struggle, matter vs. money – what is it we really can eviscerate in turning things inside out? Sure an economy of some expenditure, but of measurement, matter, or cash?