Sustainability: Inefficiency or Insufficiency?

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My opening remarks are general and sweeping. They are made in response to the silence that dominated the noise around me; the silence that the fear of appearing to be extreme creates; the silence that is present in habitual modes of thought whether idle chatter or seemingly erudite academic exposition. But above all, I am attempting to say things, from a position of concern, that I believe need saying.

Dislocated from the fundamental condition of exchange that is life, 'excess' and 'lack' name normative conditions that threaten. Seen at the level of global operability, excess and lack are equally products and causes of world making as unmaking, and as such they affirm that "modern man is threatened by a world created by himself."[1]

General Observations

Excess is so excessive that it escapes us in its omnipresence. We are enveloped by it: open your wardrobe; check out a local garage sale; wander into a department store and survey the obscene squandering of resources *en route* to landfill, so beautifully shelved, stacked, hung and draped around custom(er)ised space; scan the night illumination of any city anywhere; take a

walk through any new suburb and look at the size of houses that almost totally fill their blocks. But then, and in contrast, there is the inequity that casts at least one and a half billion people into absolute poverty. Such people are unable to sustain themselves and the world around them – often, in their lack, the discarded excess of others is their lifeline.

Efficiency, as a mantra of capital, rests upon increased productivity and the maximisation of resources (to lower costs and gain the highest return). Efficiency is about the elimination of resistance (of any kind) to the production of ever more goods and, correspondingly, increasing the volume of goods consumed while generating as much capital as possible. The objective of efficiency has driven the development of technologies that increase labour power and reduce labour costs. Efficiency also prompted the introduction of the just-in-time inventory, and its linking to logistics systems that run entire supply chains. The pursuit of efficiency – in all facets, in every kind of workplace, in the marketing of all goods and in their utilisation – has speeded the dynamic of unsustainability. Rather than countering this trend, efficiency brought to 'sustainability,' including within the remit of sustainable development, is simply a means to extend the status quo. It is thus the handmaiden of economic growth. Which is to say, efficiency bonded to sustainability, as with the example of 'energy efficiency' is about keeping capitalist-propelled entropy going, in contrast to opening a pathway to a new economic paradigm.

It is not possible to move from an inefficient to an efficient model of 'sustainability' because it is not possible to deal with unsustainability (the unknown that the discourse of sustainability fails to seek to know) via any kind of system. The very notion of efficiency is predicated upon improving the performance of operative 'systems' (be they power generative, mechanical, bio-metabolic, sub-particle or semiotic). Unsustainability is no mere system dysfunction, failing energy source, excessive economy or negation of value. It is conjunctural in its universality (cf. Sartre's universal particular) and fluid in its forms of violence, destruction and inequity. Once thought, you know it when you see it!

Rather than attempting to affirm, reform or transcend the proto-paradigm of sustainability projected towards us by its eco(nomic), pedagogic and political advocates, the 'creative' response proposed here is a 'disruption' by demonstrating that every practical mode of engagement with sustainability acts to support its *insufficiency*.

Proponents of sustainability range from the well-intentioned and committed to the self-interested and dangerous (for instance, geo-engineers who propose various ways to modify the atmosphere to reduce global warming without having any idea

of what the wider consequences might be). A pressing question now arrives before us: 'how can concerned people, who have 'bought into the idea of sustainability' be pointed towards, and help constitute, a more informed, critical and appropriate activist position? Which is to say, can an invitation be made, a welcome given, and solidarity offered in ways that will dispose such people to take actual transformative action?

All these remarks trade on the massive disjuncture between the extent of the unsustainable and what passes for 'sustainability' in thought and deed. Dominantly, the 'progressive' position of western privileged nations and the 'environmentally aware' segments of their populations is for 'sustainable excess.' The desire is simply for the status quo to be 'greened.' Giving voice to the 'green mainstream,' here are a few lines from the 'radical' journalist Gwynne Dyer writing in his recent book, *Climate Wars*: what '...I want sustained' is 'a high energy civilisation' and 'I want everyone on the planet to live in wealthy societies.'[2]

Such a position fails to grasp that global equity, and by implication social justice, is indivisible from sustainment, and that the 'enjoyment' of excess within any currently existing form of economy rests upon maintaining the lack and inequality of others. The ethnocentricity of the western perspective on sustainability negates asking fundamental questions on what actually should be sustained, and how 'we' should live in the future (so that there is a future). Likewise, western culture's deeply embedded modes of being unsustainable are mostly glossed over. If the issue of excess is brought to the concerns expressed above, what is clear is that lack is not only indivisible from excess but of equal importance. Thus, any discussion of excess in the frame of the unsustainable that fails to address lack is, by implication, ethnocentric. Here, advocations of moral action, sacrifice or the notion of simplicity (based on the simple in contrast to the simplistic) are no exception.

Recognising the historicity of unsustainability (the differential coming into being of anthropocentric humanity) helps place in perspective the extent to which sustainment demands rethinking. Effectively, all that has occurred from our first becoming an agent of the unsustainable to the present moment is that 'our' inherent disposition has been numerically and technologically amplified towards a constantly moving point of crisis. By implication, thinking unsustainability requires examining the means of replication of 'what 'we' are' (our fundamental ontology) in relation to 'what we do' (our actions as they ontologically design the modes of being-in-the-world of others). While it is not suggested that such thinking can reconstitute the complexity of our becoming unsustainable, it can help reframe much that currently travels under the agenda of sustainability, especially in its more biocentric and instrumental guises.

Two linked figures of unreachable historicity come to mind.

First is the experiential break with 'bare life.' One could name this as the arrival of that plural condition that has been retrospectively named as humanity (the socialised animal). Although long lost in the memory of nomadic people (except for traces in a few indigenous cultures), what is registered here is the loss of being sustained (or not) by one's environment as accommodated beings within it. Somehow, staying alive transmuted into making a life beyond mere survival. This in turn, over tens of thousands of years, led to the making a permanent place in the world. Effectively, the act of human settlement initiated this making of 'a world with the world.'

Now here are the conditions of the second figure, again beyond the reach historical narrative.

Territoriality (animal space) became delineated by much more overt forms of marking, making and occupation. Sedentary social space was thereby created and brought into an active and developing ontologically designing function. Clearly this 'world within a world' became increasingly denaturalised. Lines of inclusion and exclusion were drawn and what commenced was a process of world *unmaking* – by taking the given world as the standing reserve for the made world without a sense of what was being destroyed by what was being created. 'Our' die was cast: a process whereby the future was sacrificed to the present was initiated. So here 'human development' appears to stand on the ground of defuturing (as both an ontology and a practice). The unsustainable, as an inherent disposition, was thus 'liberated' at the very moment of the birth of human settlement, the creation of agriculture and production of surplus (excess). This moment also denotes that rupture from being in an environment of fundamental exchange ('natural dependence') to the opening into another 'economy' wherein exchange started to occur in conditions of relational disengagement (a world of exchange disarticulated from the world as a state of exchange).

Now in Time

Nothing more than an evocative moment can be suggested by this un-history. What it seeks is recognition of what has to be thought, once it is acknowledged that 'we' are the product and producer of unsustainability. This thinking exists in a unique moment of realisation – a moment in which our finitude is becoming visible to us and correspondingly (via the degree to which the unsustainable continues to proliferate), a recognition that the duration of our planetary existence is diminishing. Effectively we are taking (our) time away (or making it impossible to be and remain anything like we currently are).

In such a situation there are very limited options: letting events take their inscribed course; attempting of make ourselves other

than what we unsustainably are; or making time (the process of sustainment, which cannot be more than slowing the speed of travelling toward our finitudinal horizon). Making time might/should make us (that is, those of us with some degree of choice) other than we are.

Notwithstanding differences of expression, all that has been said is something we all already know. The issue, however, is whether we can learn to act on this knowledge. Are we willing to admit that we are more helpless by refusing the scale of the problem than we are by acknowledging it? In our privilege, we are in a position to pose and contemplate such questions, such is our excess. All that those who lack can do, is to deal with the reality of what we know to be the insufficiency of 'sustainability' in the face of the speeding consequences of the unsustainable.

There are already people finding themselves at the beginning of the end. For instance, many Pacific Island peoples – from some of the Solomon Islands, and from Tuvalu and Kiribati – are already moving, or preparing to move, from settlement to abandonment. This is mostly due to rising sea levels that are, or about to, salinate their fresh water aquifers. In these circumstances the wealthy, or relatively wealthy, leave first; the rest follow, or are removed, later. Here we note that climate change is not divisible from the whole relational complexity of unsustainability.

Bangladesh faces a threat, slightly longer term, which takes population impacts well beyond the scale to be experienced by the Pacific Islands. Forty percent of Bangladesh's land mass is destined to become a wet zone in a matter of decades and some sixty million people will be on the move. Small numbers of the rich have left already. The situation in Sudan, as a war zone where one of the major issues of conflict is water, represents another kind of story. Again it is illustrative of a pattern happening, and expected to occur, elsewhere. It demonstrates that destruction from conflict and from environmental impacts are actually indivisible: both are elementally accommodated into the unsustainable; both mark the production of wastelands that expand how we need to think waste. Timor-Leste is an instance of such waste.

Timor-Leste is one of the world's waste zones. Its layers of waste are multiple. There are the wasted lives (70% of the people are unemployed); the wasted land as a result of the violence of poverty stripping resources (not least for firewood)[3]; and the waste (trash), generated by thousands of UN staff and troops on the island, that feeds landfill. Ironically, this 'excess' provides, for many of the people who 'lack', a resource in their effort to survive (including surviving the local impact of rising food prices in the wake the global financial crisis). The world is replete with such examples. The basic point is that there are hundreds of millions of

people dealing with the specific realities of the unsustainable now. For them crisis is their normality. This is not a new situation, and it's growing apace.

To talk as if the unsustainable is a future threat able to be corrected by bringing excess under control is to fundamentally fail to understand the issue. Such thinking belies the fact that time is already being taken away and that 'making time' requires a radical transformation of systems of exchange. The international discourse of sustainability has not begun to confront this imperative; it is in fact concealed by the very notion of sustainable *development.* As for the notion of lack – poverty does not just reveal itself socio-economically, there is also a poverty of thought, imagination, ideas and action that folds into the failure of an adequate response to the unsustainable internationally, by government and corporations. The world's institutions of basic and higher learning are equally failing to realise that they continue to 'educate in error' – by induction into the status quo. So much that continues to be taught is teaching students how to be unsustainable.

Specific Frames of Insufficiency

What follows is a partial review that says no more than has already been said. All it aims to do is to bring the critique closer and and into sharper focus. One could obviously continue to go beyond this point and get even more specific.

Negation by 'Positive Action'

Insufficiency here is evident in the negative consequence of 'positive' action taken before a basic knowledge of the unsustainable has been grasped. While the full dimension of the unsustainable may be (and can be argued as) unknowable, having a developed sense of its relational complexity is essential. Action itself has to stand the test of being subjected to ethical accountability, that is: an assessment of what has been created vs. what has been destroyed. Clearly, so much of what is currently being sustained (eg., green architecture) upholds the unsustainable (what occurs in a building – the social, economic and environmental activities of its occupation – are often far more significant than the performance of the building).

Underpinning the insufficiency of affirmative action is 'compliant thinking.' This is based on acting according to received thought, employing it without examining the actual problem and the adequacy of the proposed 'solution'. Here, the unsustainable is taken as a self-evident biophysical given to be dealt with by the application of available instrumental means. While enacted in 'good faith' such pragmatically claimed action, in its lack of critically reflective thought, not only fails to engage causes of problems (although it may alleviate symptoms) but it can also feed

an illusion of efficacy and actually obscure what is in most need of address.

Actual solutions require either insightful thought or the implementation of empirically verified 'tried and tested' resolutions to unambiguously identified problems.

Reactive Pragmatism

Acting without thinking about what needs to be known about 'unsustainability' creates a disposition to sustain the unsustainable (and thus returns the same). Underpinning such a mode of acting are two ontologically designed subject positions (that should not be taken as the sum of all subjectivities).

First, is the instrumentality of technocentric subjects. Technology has become culturally hegemonic – it is no longer a mere tool, or even a metaphysical condition (a deployed mode of thought) but has become an object of belief situated in a naturalised domain of being. As a result, and for vast numbers of people, technology is a matter of faith that is almost akin to (or actually is) a fundamentalism. So contextualised, the technocentric subject is a fluidity, continually re-formed as the nature of technology transmutes and its calculative reach expands. The ontology of such as a subject evidences an inversion of mind. Rather than technology being thought, technology becomes directive of thinking (by design). Instrumentality thus becomes not just one mode of acting in and on the world among others, but an all embracing mode of being-in-the-world. These observations, while not new, now appear in overtly stark forms wherein *Gestell,* as it frames being-technological (Heidegger) reveals itself as (a) 'destiny' (Stiegler).[4] Philosophical thought cannot resist the 'force' of technology, or be beyond its reach, but it can make it an object of thought and thereby retain a purchase on freedom.

Second, are those subjects interpolated into the unthinking that the all-pervasive character of entertainment fosters as it has waged war on 'the serious' for more than a century. 'Crimes against the serious' have been noted by thinkers of the left, right and centre. Carl Schmitt gave early warnings while Theodor Adorno and Max Horkheimer signalled threat by drawing attention to the rise of the 'culture industry'. Hans Georg Gadamer gave an account of *Bildung* (a major idea in German idealism which ran alongside *kulture*) as an activity of cultural formation enfolding education in its broadest sense and enabling the full realisation of being human as both self-realisation and self-overcoming). Richard Hoggart's critique of popular culture at the birth of Cultural Studies quickly became displaced by the ascent (and demise) of Cultural Studies as celebration of popular culture and the televisual imagination).[5] All of these positions, and more, have been lambasted as reactionary. Yet the onward march of entertainment, as it has colonised so many

domains of cultural production and media of communication, has been an enormously powerful destructive agent – this is seen in its erasure of cultural traditions and historical memory by the aestheticisation of the past and the globalisation of cultural commodites. Moreover, hegemonic entertainment has played a key role in the shift from learning to info-centric 'knowledge.' Thus, while one can argue with the content of past strategies aimed at defending 'serious culture' it now looks like the actual intent was valid and the need for this critique is now even greater.

Notwithstanding the mass of criticism able to be levelled against these thinkers, it is evident that popular entertainment has cleared, and held, the space for the arrival and occupation of instrumentalism and its associated subjects.

Thinking, Unthinking and Confusion

The insufficiency of 'sustainability' is frequently due to reliance upon problematic figures of thought derived from bio-theoreticism and liberal utopianism. Often this 'thinking' is directed toward 'saving the (bio-physical) planet.' Here are five examples:

Within ecological theory, and its design deployment, there is widespread application of the biocentric idea of 'carrying capacity.' Basically, the concept that there is an optimum number of animals of a particular species that can be supported by a particular area of their environment without degrading it (and thereby reducing its carrying capacity) gets applied to human beings. But establishing a ratio between the amounts of food a specific area of cultivation can produce and the number of people this food (according to a particular diet) will support does not coincide with how food arrives before us or the actual impact of its production and distribution. Moreover, technology continually disarticulates food from space by the industrialisation of its production; there is no universal normative diet, not least because diet is so often culturally over-determined. Likewise, there is no non-ethnocentric consensual measure of protein/calorific intake (again lack and excess assert themselves and confound appearance via the nutritional poverty of many 'volume' food products). So while 'carrying capacity' might have some indicative and rhetorical value, it is not the objective measure it is sought to be mobilised as.

In an age of the 'naturalised artificial' there is a misplaced appeal to 'the organic' in sustainability theory and rhetoric. The environments of dependence of human beings, and many domesticated animals, are both natural and artificial as well as that synthesis named as the naturalised artificial. Effectively, and according to climate, without shelter, heating, cooling, purified water, drugs, the availability of surgical procedures and the entire infrastructure that supports these and other means of sustainment, vast numbers of people and animals simply would

not survive. Contrary to the impression given by the biocentric perspective, for human beings, and many of the animals that they have denaturalised, sustainment now depends upon sustaining natural, created and hybrid systems.

Just as the bio-centric/bio-physical means deployed to realise 'sustainability' are open to critique so also are the ends that liberal economic utopianism offers in its promotion of environmental sustainment. The whole mix of means and ends presented from this liberal position seem to exist in a disjunctural relation to the scale of the problem of the unsustainable. The methodological means are inadequate, the objectives insubstantial and the link between means and ends discontinuous. The work of currently 'fashionable' economic theorist, Jeffrey Sachs, is indicative.[6]

Sachs adopts an economically framed and totally technocentric cluster of means to deal with unsustainability – that of 'sustainable development' (which I have critiqued elsewhere as being no more than co-opting sustainability to continue the model of global development implicit in the status quo).[7] He mobilises three instrumental means: science; entrepreneurship; and (economic) 'scaling up' (globalisation), tempered with a long list of moral imperatives, most overtly expressed as 'we musts'. So on 'carbon management' we must: slow or stop (deforestation); reduce (emissions); clean up (industrial processes); convert (high to low forms of electricity generation).[8] 'We' is obviously not most of 'us' and none of 'they' – most of 'us' have extremely limited, or no, power to undertake any of the listed actions. Our collective actions, as measured against the impacts of industry, are miniscule (just one aluminium smelting plant in Australia uses more electricity than the domestic users of three states). As for the poor, who Sachs believes he aligns himself with, *they* are cast as the totally powerless. There has to be, there is, another 'we' than the one evoked by Sachs.

Sachs' faith in globalisation – "Global processes have taken us halfway to the goal of sustainable development" – is not only contestable but now hollow in the wake of the current world financial crisis.[9] Many of the recently created middle class of the newly industrialised nations are falling out of the class, and back into poverty, even faster than they fell into their debt-loaded lifestyles (but in a situation where they can neither return to the past nor move to a future).

A lot of time and effort could be expended taking Sachs' position apart, but it's not warranted – the point is made, the drift is clear. It's almost pure turn of the nineteenth century free trade liberalism directed at Empire *a la* L.T. Hobhouse (1864–1929), be it with an added splash of contemporary light green politics plus a dose of the old liberal universal cooperative ideology and the social paternalism that characterised his theory.

There is a perception that if energy is generated renewably, and a post-fossil fuel economy established, then sustainability will have been emplaced. But of course neither the problem nor the solution is reducible to the mode of energy generation. In fact at a technical level there is no problem – the combination of photovoltaic, solar-thermal, wind and large scale geothermal generation could deliver a sufficient amount of power to maintain conditions for planetary well being.[10] The obstacle to globalised renewable energy is not technical but political and economic. For these technologies to be globalised, major political changes, directed towards vested interests in the existing energy industry, would be needed. *De facto*, a renewable energy, post- fossil fuel economy requires a new economic paradigm in which the entire relation between needs, demand, economic growth and supply are reconfigured. This, in turn, implies fundamental global political changes that include redistributive justice. Sustainment can never arrive as a technofix, and while it cannot arrive without radical political and economic change, these changes themselves cannot deliver it.

The idea of mimicking metabolic process – most notably, the 'cradle to cradle' model of William McDonough and Michael Braungart – fails to resolve the problem (even if it could actually be made to work universally) because it does not take account of the agency of the designing of the design. To resolve the matter of made objects, to make them so they are fully consumed somewhere, somehow is progress. But this does not deal with their authorial afterlife – their ongoing designing for more of what objects deliver, which of course is never just utility. Consumption clearly begs to be addressed as the fully consumed, but it equally has to be thought in relation to speed (slowing the dynamic of the economy – which might mean accelerated or de-accelerated processes of consumption), and as relationally connected to production, both prior to and after the 'death and dissolution' of the object itself. In the relation between resources, capital and unsustainable practice, consumption and excess are not the problem. For, as can be learnt, be it indirectly, from George Bataille, the problem is that the material commodities that 'consumers' acquire are not consumed.[11] Either their utility is expended (things wear out or break) or their sign value is exhausted (their aesthetic function is overpowered by another attractor), yet the object remains an object. In this respect, they remain stranded in a 'restrictive economy' – the objects are not metabolised (as they would be in a general economy of uninterrupted exchange).

Chronological Compression

Consistently, and over many decades, Heidegger spoke of 'the time of things' in so far as every thing has time 'attributed to it'

(and design here has to be regarded as a key agent of attribution).[12] It follows that the sum of all things have their allotted time, which is no more than saying 'our world' is finite (which is not to say our species and the planet's terminal moments are convergent). Unsustainability has been characterised as a foreshortening of the time of 'our world,' with, in contrast, sustainment defined as the making of time in this circumstance.

To be informed by such understandings (be it in their fully elaborated form or not) would surely mean time would become a figure of major political concern and directive of a vast body of policy. Yet it appears the nations of the world are administered by time-blind leadership. Dominantly, the electoral cycle is what governs the time-horizon. In this situation, a 'politics of things' has to come into its own. And while it is not realistic to claim absolute agency for such a politics, it is not fanciful to claim that it could gather and deploy substantial transformatory power.

The notion of a politics of things touches on that argued by Bruno Latour. As objects become things, via the manner of their animation, they are acknowledged to shift from being political (in so far as all things are by degree, but un-programmatically, world-directive) to becoming overtly implicated in a politics (programmatically worldly redirective). In agreement with Latour, one can say that things can and do become entangled in 'matters of concern.'[13] Yet rather than things being gathered in (and as) a plurality of assemblages under the auspices of what Latour designates as a 'phantom public' to become constitutive of a new 'atmosphere of democracy', they are not given a political corpus of any kind. The counter view of a politics of things put forward here totally folds into a politics of design. As such, it ascribes ontologically designing qualities to things, as things coalesce functionally and symbolically. While no absolute determinism is claimed to be carried by 'political things' their dominant characteristic would aim to lift their prefigurative world and time-making capability into a realm of efficacy. In contrast to 'green products,' such things would overtly be articulated to specific change agendas (rather than to 'market wants and needs'or just signifying 'sustainable'); have a designated and discernable place as, and in, a futuring narrative; carry and communicate their designated fate (not least in relation to excess and lack). Indeed, and collectively, the intent of these 'political things' would be to be 'things against things' and to begin to populate another space and time. Can this be done? Well, in the negative it is constantly happening – one commodity-laden world is continually striving to erase the one that pre-dated it. In this respect, and for time's sake, 'sustainment forces' have to be created, and seen to be, more powerful than market forces. There is no vision of this alta-world (it is not, and does not aim to serve, a utopia), but

design redirectively made otherwise offers a process. And there is certainly an imperative that is heavily loaded with obvious issues, wherein acting in (the medium of) time is pressing. So viewed, a politics of things cannot be projected as a political panacea in itself, rather it could be a significant politics among a broader cluster of a politics of change.

Certainly, there is no shortage of objects and sites of engagement for such a politics. Besides the demands of adapting to a changing climate there is also a designing against a demographics of chaos – large scale social instability and war that it is said to bring. There is designing with projective reflection against 'now' – which implies bringing the unsustainable into the visible everyday (including the exposure of that negation named as 'the economy' as well as the exposure of 'currently existing democratic politics' as incapable of establishing conditions of sustainment). Equally there is the huge design project of reconfiguring the edifice of learning – 'making time' requires a massive and critical clearing of knowledge in order that futuring may be thought and enacted.

Everything that defutures is to be faced. There is an agenda of change almost, or actually, beyond comprehension to be embraced. The struggle to find a way to speak such issues, in the knowledge that one constantly slips between the power and powerlessness of language, is continual. To be heard is to witness being acted upon. Without thinking-in-action nothing changes. Yes, the old (existing) paradigm begs relentless critique, but the task that really summons is the creation of the new one. Affirmatively, encouragement is to hand. There is an emergent community liberated rather than disabled by exposure to the horror of the problem and the scale of the challenge.

Exactly how many examples there are is open to exploration!

Notes

1. Martin Heidegger (1968) *What is Called Thinking* New York: Harper & Row, p. 246. 'Man' here invites being taken in a general and specific usage.
2. Gwynne Dyer (2008) *Climate Wars* Melbourne: Scribe, p. 128.
3. One of the reasons why so much firewood is needed is because when Indonesian troops departed in 2000 they took the powerlines down – people thus use fires to cook (the smell of burning fires is still one of the signature signs of Timor Leste).
4. Martin Heidegger (1977) (trans William Lovitt) *The Question Concerning Technology and Other Essays* New York: Harper and Row; and Bernard Stiegler (1998) (trans Richard Beardsworth and George Collins) *Technics and Time 1* Stanford: Standford UP.

5. These views were expressed in Leo Strauss's notes on 'Carl Schmitt, The Concept of the Political' archived in 1932 and published by Strauss in the 1960s – these notes are cited by Heinrich Meier (1995) (trans J. Harvey Lomax) *Carl Schmitt and Leo Strauss the hidden dialogue* (see editorial note p.120 and pp. 111–12). See also: Theodor Adorno and Max Horkheimer (1944) (trans John Cumming) 'The Culture Industry: Enlightenment as Mass Deception' in *Dialectic of Enlightenment* London: Verso, 1969; Hans Georg Gadamer (1989) *Truth and Method* (trans Joel Weinsheimer and Donald G. Marshall) New York: Crossroads; and, Richard Hoggart (1957) 'The Juke-Box Boys' in *Uses of Literacy* Harmondsworth: Penguin.

6. See, Jeffrey Sachs (2008) *Common Wealth* London: Allen Lane.

7. Tony Fry (2009) *Design Futuring: Sustainability, Ethics and New Practice* Oxford: Berg.

8. Sacks *Common Wealth* p. 97.

9. Sacks *Common Wealth* p. 295.

10. Nuclear is not in this energy picture, not because of the well-rehearsed arguments against it (especially in relation to waste disposal) but because, in the expectation of climate change induced social instability and conflict at a global scale, the more nuclear power stations the more nuclear (mega-dirty bomb) targets. What deep geothermal energy technology (water based and hot rock) makes clear is that the planet is the power station – solar power hereafter becomes secondary (although biologically primary).

11. George Bataille (1988) (trans Robert Hurley) *The Accursed Share* New York: Zone Books. For a a detailed and critical reading of Bataille's understanding of excess and consumption see Jean-Joseph Goux 'General Economics and Postmodern Capitalism in *Yale French Studies* No 78 on Bataille (edited by Allan Stoekl), 1990, pp. 206–224.

12. See, for example, Martin Heidegger *Being and Time* H418, p. 471 and *On Time and Being* (trans Joan Stambaugh) New York Harper and row, 1972, p. 3.

13. Bruno Latour 'From Realpolitik to Dingpolitik' in Bruno Latour and Peter Weibel (2005) *Making Things Public: Atmospheres of Democracy* London/Cambridge (Mass): MIT Press pp. 40–41.