BOOK REVIEW

THE PHILOSOPHICAL FOUNDATIONS OF ECOLOGICAL CIVILIZATION

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Review of: Arran Gare, *The Philosophical Foundations of Ecological Civilisation: A Manifesto for the Future*, Routledge, 2017, ix + 259 pp., ISBN: 978-1-138-68576-5 (hbk); 978-1-315-54303-1 9 (e-bk)

INTRODUCTION

Modern science is still dominated by images of the natural world as a machine made of the simplest parts - as it has been for the past three or more centuries. "It seems probable to me", said Isaac Newton early in the 18th Century,

> that God, in the beginning, formed matter in solid, massy, hard, impenetrable, moveable particles… and that these primitive particles, being solids, are… so very hard as never to wear or break in pieces; no ordinary power being able to divide what God had made one in the first creation.[1]

Since then we have had industrial and digital revolutions and the variety of machines has grown dramatically, permitting more and also more subtly articulated images. To be machine-like or ***machinic,*** as I prefer to say, is to be quite a few different things and this flexibility has been used to good effect in extending the province of machinic science. It's far from just the natural sciences, and indeed, one important result has

[1] https://todayinsci.com/N/Newton_Isaac/NewtonIsaac

been the progressive incorporation of intractable human being - into its domain.

Humans were always awkward because they exhibited capacities that seem beyond machines - to be conscious, creative, curious in love and so on. Perhaps it's just a question of finding the right algorithms before we can cover these spontaneous freedoms but well before that we have found instincts, brain chemistry, selective (evolutionary) pressures, sexual and other stimuli and even consumer desire to work with. All can and have been plausibly be read as propulsive mechanisms. All could be constructed to exhibit the machinic and unidirectional logic of cause and effect Even before robots and code, machinic science could aspire to be universal.

Critical historians and philosophers of science might still refer more formally to the metaphysics of mechanistic materialism but, whatever terminology or machine takes your fancy, over time, the machinic order has grown to achieve grand paradigmatic[2] status globally.

PHILOSOPHICAL BARRICADES

That's just backstory and Gare's book, which I am reviewing here, is about a slowly rising groundswell of opposition to machinism. The book both belongs to this groundswell and extends it - as, indeed, does most of Gare's work over many decades.[3] His aim in this present book, however, is to give sharper focus to more scattered currents or examples of oppositional argument that want for a little more unity and systematic expression. To start with perhaps, it is still worth identifying what is common to them and in three or four words, again, I would say life, conscious life, freedom and creativity.

Although Gare's book is obviously a philosophical work, it also engages with intensely urgent practical matters. And this is no co-incidence. It is one of the book's theses that western philosophy in most forms has failed to see that thinking informs or inhabits doing and being. It implies at the same time that thinking is not just an inconsequential shadow or reflex as mechanistic materialists typically claim but instead the locus of freedom and creativity as we know them.

Faithful to its own premise, Gare's book on *Philosophical Foundations* opens (in its very first sentences) not with an account of a wrongly understood world or poor thinking or mistaken philosophical foundations. It opens instead with an account of a

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[2] A grand paradigm is my variation on the better known "grand narrative"

[3] https://en.wikipedia.org/wiki/Arran_Gare Much of his earlier work has focussed on the nihilism of the machinic. The machine, not knowing value, entails nihilism - see especially his (1996) Arran Gare, *Nihilism Inc.: Environmental Destruction and the Metaphysics of Sustainability* (Sydney: Eco-Logical Press).

biophysically disintegrating planet or world. "If the world's leading climate scientists are right," says Gare, then,

> …unless drastic action is taken to stop greenhouse gas emissions, we are in danger of producing a runaway greenhouse effect that will be unstoppable. It will transform the global ecosystem so radically that billions of people will die and civilisation might not survive. Even without a runway greenhouse effect….There will be more extreme weather events and more precipitation, but this will be over the oceans and polar regions. In the tropics where much food is grown, it will be hotter and drier… It is predicted that by the mid-century the Amazon rain forest will have been destroyed along with all ocean fisheries…[4]

Careful or better philosophical foundations are necessary for these reasons. Consciousness and creative thinking have boots that can leave deep footprints, that are able to crush and destroy and, ultimately, able also to subvert freedom. And no homo sapiens impact is deeper than runaway climate change. It starts creatively, of course, or with creative intent, at least: consciousness, creative science and know-how gave us first an agricultural and then some 12,000 thousand years[5] later, a fossil fuel-fired industrial civilisation.

In the longer haul of human ecology and its history, thinking even has consequences for sunshine and rain - not all good. Here, as Gare's book opens, terminating the Holocene and triggering an ominous Anthropocene, is the worst it has done.[6]

SPECULATIVE NATURALISM

Because some, at least, are becoming aware of these more troubling connections, a wider and more determined resistance to machinism is growing, though it has been some time in the making. Not surprisingly early arguments are assembled in the course of the Enlightenment and more specifically in the course of a niche movement Gare calls the Radical Enlightenment. The outstanding figure here is the relatively obscure Friedrich Schelling[7] who refuses the dominant orthodoxies of his time - as these relate

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[4] Arran Gare, (2017) *The Philosophical Foundations of Ecological Civilisation: A Manifesto for the Future*, Routledge, p.1.

[5] Though evidence points increasingly to earlier origins for agriculture.

[6] See https://www.theguardian.com/environment/2016/aug/29/declare-anthropocene-epoch-experts-urge-geological-congress-human-impact-earth for reliable and readable account.

[7] Friedrich Wilhelm Joseph von Schelling (1775–1854) i.e. one of the three most influential thinkers in the tradition of 'German Idealism'. Although he is often regarded as a philosophical Proteus who changed his conception so radically and so often that it is hard to attribute one clear philosophical conception to

to the big questions of philosophy that modern science had so radically disturbed. (What is the universe? Who is God? What are we?) Working in the early decades of the 19th Century, Schelling is busy in the midst of a galaxy of Enlightenment stars including Herder and Fichte, Kant and Hegel (and a little later, Marx.) But even in this stellar company, Schelling succeeds in developing his own original and fruitful position - a position that surrenders neither to the mind of idealism or the (inert) matter of machinism or materialism - the more standard positions dominating the philosophical landscape in which he worked.

If I may err on the side of the simple here, Gare calls the compromise achieved by Schelling ***speculative naturalism*** and, to find his way here, Schelling, looks upon the world and asks a different question: not how has it become the abstracted being it is in the machinic imagination but how has it given rise to the complex theatre of life, awareness and connection we now actually inhabit, and how it all hangs together? That theatre is what we see (and inhabit) and the creative (inspired) idea here is to work from the immediate evidence right there in one's face… from what we might call the phenomenology of knowing. Gare also links speculative naturalism to the discussion of dialectics,[8] a more familiar term to many. Thus, again, Schelling aims to explain,

> the nature of the world that enabled it to be known objectively and explained at least partially through Newtonian physics while at the same time producing subjects who can achieve knowledge of themselves.

Not only is this speculative naturalism, it is,

> in essence, is the whole project of *speculative naturalism*… [and later] the process of developing such comprehensive knowledge… was also characterised by Schelling as *dialectics* … [9]

All of this is possible, moreover, because,

> Intellectual intuition reproduces in imagination the process by which nature, through its limiting activity, has constructed itself as a diversity of processes and products…self-construction in which the philosopher….is participating…[10]

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him, Schelling was in fact often an impressively rigorous logical thinker. https://plato.stanford.edu/entries/schelling/

[8] Arran Gare, (2017) p.59ff.

[9] Arran Gare, (2017). Think classically, here. Think of the progressive movement in a conversation (or yes, the Socratic dialogue): you speak , I respond, you speak in response to my response… and so do we go on. The dialectic is constructive because we are, indeed, building something together that starts out as opposites … and we build because of opposition. But not dumb opposition. It is opposition mediated by intelligent listening. pp.62-63.

[10] Arran Gare, (2017) p.63.

The mind itself does productively what matter does productively: produces and reproduces itself. So, and in this sense, they are one. Both mind and matter are paid their dues here. Neither surrenders to other as in classic idealism or realism/materialism.

When machinism surrenders mind, the starting point is insentience and we are quickly lost. Freedom or the creativity of consciousness appear in the world but only as impossible mysteries that eventually become great casualties when and if they are finally "disappeared". One can imagine a materialist saying: "*This rich creative life of which you speak is not possible. Our machinic premises don't allow for it.*" They deny despite the fact that real life is so vividly rich and real - as the creative life or the moral or often the affective lives we cannot help but be immersed in. I'd be doubting my premises at that point, not the vivid drama of lived and engaged life. In its very first move, the great edifice of modern science claiming to build itself on empirical evidence alone, denies the most vivid evidence there is: the evidence of engagement and the propositions it entails: that the world contains rich complex life, consciousness, freedom etc.

The next real step forward comes with Alfred North Whitehead's radicalising manoeuvre and the genius of his "process philosophy". Before that, however, comes social scientific contribution or… or science's second theatre.

TWO THEATRES OR ONE

Speculative naturalism mounts its protest against machinism and scientism in two theatres: once in a social theatre and once in theatre or nature, biology or ecology. Each involves a separate rescue endeavour - the rescue of society from the machine on the one hand and the rescue of the natural world on the other. Is it necessary to say that, opposition to machinism was more readily generated in the theatre of the social and more difficult (after the initial Schellingian flourish at least) in the natural world (let's say for a good century from the mid-19th to the late 20th).

At least one substantial qualification is necessary: new social sciences born in this period might have been eager to embrace the machinic - if they keen on modern scientific status. Take Hobbes (for politics) and Adam Smith (for modern economics) for example. Even so many resisted or at least partially resisted. Not averse to the notion that (extra-human) nature was a machine, they objected only to the proposition that humans and human societies were machines … And they mounted their resistance here.

We find this selective and partial resistance taking root in the humanities, social sciences and in critical political economy broadly speaking - arguably the sovereign social science of the 19th Century and dominated, as many will know, by Marxism. Marxism leaves a huge and hugely ambiguous legacy here - so much so that this Marxist literature warrants its own (unexpected) chapter (3) in the *Philosophical Foundations*. Of all planetary beings, it's hardest, again, to present humans as machines, and if one were defending the idea of non-machinic being, one would erect one's first barricades here.[11] By the same token, these discussions (of 19th century social science in Gare's book) are both surprising and rich. Who would expect a galaxy of senior Marxist disciples - Lukács, Korsch and Gramsci for example[12] - to appear here in a line up for ecological civilisation? Their business, after all, was proletarian revolution.

Yet they do appear and so do many more in later generations, particularly French Marxists (whether as existentialists, phenomenologists, structuralists or post moderns) who often set the international 20th Century agenda. In the many debates (and I simplify), the players took opposing sides on the greatest question left unresolved by Marx's social theory and historiography: on the one hand, there were those who cast in their lot with structure and, on the other, those who bet on human agency in their accounts of capitalist or sometimes other human societies. Structuralist, not surprisingly, embraced machinic world views (sticking with Marx's idea of law-governed history). Humanists, on the other hand, took freedom and consciousness more seriously. They sided with the Marx of class struggle and revolutionary fame - though too often struggle is itself are presented as machinic and or inevitably victorious processes (making the idea of freedom silly). There was mixing, matching and compromise here too.

"Were you in the war on machines?" That in itself was meritorious - and never mind, for the moment what theatre you battled in - whether you fought for society or ecology the social or the natural. That's for later. First the brilliant campaigns in the social theatre have to be acknowledged. Gare has high praise for Jean Paul Sartre (1905-1980) and the highest of all perhaps for Pierre Bourdieu (1930 - 2002) - an acclaimed anthropologist and cultural theorist working a generation later. Bourdieu achievement here it to find the kind of balance called for by dialectical exchange between structure and agency. There is freedom in his social world but structure too, structure as cultural and institutional mediation.

We learn towards the end of this discussion that campaigning in the social theatre

[11] What secular philosophy has, in a sense, done since the beginning of philosophic time.
[12] Arran Gare (2017) p.68

is not enough:

"The work of genetic structuralists and narratologists," says Gare,

> has provided the means to address some of these lacunae, but their work needs to …to further develop the philosophy of nature if it is to orient people to effective political action.[13]

Sartre is also reproached here and for the same reason. He:

> made no effort to reconcile his dialectics with his understanding of nature, and the place of humanity within nature…[14]

This is no accident. The master himself, (i.e. Marx) had no credible philosophy of nature encompassing or able to yield a useful theory of natural value in our time. Or, if he did, it is one that is eclipsed by the self-centred humanism characterising the Enlightenment. (This may itself be just crude compensation for machinism's life-denying impulses - one swings the pendulum too hard the other way.) Whether for this or some other reason, Marx's position was radically humanist and for him, wild nature or wilderness (all of it) awaited "humanisation"[15] in order to achieve value. Nature found value only in human use and not otherwise. Humanisation, in turn, was effected by labour. Hence, of course, his famous labour theory of value - a theory that credits only humans. The balance of nature (nature not transformed into use value) has no value or indeed, in extreme iterations of this argument, it does not exist.

To be sure, it takes working humans to produce this value and that was huge advance on the liberal argument that allowed capitalists to generate appropriate value in the absence even of labour. But in the era of ecological crisis, the labour theory of value and the philosophy of nature it implies are no longer enough. In short, we need to recognise the planet as a working metabolising and value-making body as it pumps nutrients to our bodies and maintains the now Gaian capacity to do so. We need an augmented theory of value that goes beyond both human labouring (Marxism) and human consuming/investing (liberalism) both. That's what a credible theory of natural value would look like today.

The human-centred picture of nature's inherent worthlessness remains the dominant modern view alongside machinism. Nature, in other words, is not just a machine but an inherently worthless machine made temporarily valuable by human appropriation and consumption - themselves cast as value-adding but still machinic acts. That's the liberal story.

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[13] Arran Gare, (2017) p.103

[14] Arran Gare, (2017) p.98

[15] See Alfred Schmidt, (1968) *The Concept of Nature in Marx.*

Some green philosophers or ethicists have more critically referred to anthropocentricism here: humanism = anthropocentricism. And it survives, again, not just in Marxist theory. It is a feature of modernity that Marxism has always shared with important currents of liberal argument ante-dating it. Liberalism (post Marxist) now drives the planet's transformation far more powerfully using not a labour theory of value but a capital growth investment driven theory of value. Facing 7 billion of us and liberal modernity's formidable growth ideology I always want to say that nature and the wild have no chance. But still hesitant.

WHITEHEAD AND PROCESS PHILOSOPHY

Only sometime later and early in 20th Century does dissident anti-machinic philosophy move more boldly to concentrate on nature's rescue and shift its attention from the social to the biological theatres of the world. And this also happens a long way in Marxist dialectics._ To be fair, Gare notes at least three eccentric Marxists - Bogdanov, Needham and Bloch (108), as heretical exceptions, but, I must leave them to one side. The most profound thinker here in the theatre of biology or the natural sciences is Alfred North Whitehead - physicist, mathematician and untrained profoundly original philosopher. Even in the absence of training, Whitehead is appointed to a Harvard Chair in Philosophy…… late in his professional life.

In his younger days he had taught Bertrand Russel mathematics and the two together had written one of great mathematical texts of the 20th Century - *Principia Mathematica.* Gare places him alongside Collingwood and Peirce in the following chapter (4) of his book:

> While Robin Collingwood, C.S. Peirce and Alfred North Whitehead are not usually considered as dialecticians, it is clear…. they have made major contributions…[16]

Despite the great contributions made by the other two, Whitehead is probably Schelling's most important successor in the development of speculative naturalism.

There can be little doubt, either, that Whitehead's greatest contribution is in the field of metaphysics initiating, as he does, a profoundly original framing argument. His "discovery" soon to be called ***process philosophy***, represents a stunning feat of observation, creative inference and metaphysical speculation - as is no doubt appropriate given the place he has come to claim in the world speculative naturalism.

Not just that, no more devastating an attack on machinism than Whitehead's seems possible for it calls out like the boy in the story of *The Emperor who has no Clothes*

[16] Arran Gare, (2017) p.109.

- *s*o obvious and fundamental, in a sense, is its failing. Inert stable mass - apparently the stuff of everyday worlds, and even more certainly the stuff of the machine, does not exist as such. At the very least, it is not what it seems to be. The world consists only of forces in more or less unstable configurations (or of tensioned equilibrium states for shorter or longer periods, or of faster or slower movement). Forces, movement, distance from equilibrium… only these are real, says Whitehead. As for the apparently unchanging object… it is not illusion but it is always a momentary event or succession of events. Perhaps like a drop of water forming and falling from a faucet. It may last for second or a minute or two or, in the case of flowstone, for many years. The entire world around us is in motion like this and in everyday life we constantly mistake slow change for stability and inertia. Later this becomes apparent in living things - at the level of both developing organisms and ecological systems. According to Whitehead the stable or inert thing is itself only ever an abstraction and to mistake one for the other is hugely consequential: we do not see the world for what it is or how it develops. Even its mysteries arrest our attention in the wrong places and wrong way:

> There persists ... [a] fixed scientific cosmology which presupposes the ultimate fact of an irreducible brute matter, or material, spread through space in a flux of configurations. In itself such a material is senseless, valueless, purposeless. It just does what it does do, following a fixed routine imposed by external relations which do not spring from the nature of its being. It is this assumption that I call 'scientific materialism.[17]

Nothing could more inimical to machinism than an event-based or process ontology.

Much of the remainder of Gare's Chapter 4 is devoted to mapping the influence of Whitehead as an intermediary passing on the torch originally ignited by Schelling but now, after Whitehead, burning more brightly. And to whom does Whitehead pass the torch in turn? Directly to us - to contemporary research. Momentum certainly starts builds in the course of the 20th Century's later decades. But even now, it remains in opposition - impressive, certainly, but still facing an entrenched paradigm. Thus:

> Schelling's speculative naturalism inspired the tradition of process metaphysics that has been central to more recent advances in science. The work of Peirce, Bergson, Bogdanov and Whitehead can be seen as expressions of this tradition, a renaissance, that was marginalised under the influence of analytic philosophy but had an enduring influence on science and … could be a new renaissance… Logic and set theory beloved by analytic philosophers is proving increasingly irrelevant to understanding advances in contemporary mathematics and

[17] Alfred North Whitehead, *Science and the Modern World.*

> mathematicians [are aligning] themselves with Category Theory…[18]

The entrenched paradigm does have its frayed edges.

> Whitehead and Bergson came into prominence in the 1960s through to the 1980s largely through the work of C.H Waddington in Britain and John Cobb in the USA…. Whitehead's ideas have also been a major influence on physics, chemistry, post-reductionist biology and neuroscience. David Bohm, an original natural philosopher in his own right, as well as theoretical physicist, developed a version of process metaphysics in order to overcome the incoherencies of quantum mechanics… Bergson and Whitehead were a major influence on Ilya Prigogine's work on far from equilibrium thermodynamic systems which has been central to the development of complexity theory.[19]

MANIFESTO AND ECOPOEISIS

In this short and sometimes impressionistic review article, I have focussed on Gare's main business - speculative naturalism - and sought to outline some of its major elements. I also want to engage briefly with the question of why he calls his work a manifesto, why philosophy has become a manifesto here. This is Marx again, but this time, a homage: "The philosophers have only *interpreted* the world, in various ways. The point, however, is to *change* it."[20] That was the mid-19th Century. We are in a time of greater crisis. A delayed crisis of capital's "globosphere" not vastly different from the one Marx anticipated.[21] And to that we have added a compounding crisis of the planet's ecosphere centred on its carbon cycle. If we are very lucky, that will also be delayed. Cross your fingers.

Gare's book also exhorts action. He happily refers to his work as a manifesto on its front cover. And the tone is not reserved or tentative: it's definitely now a case of "my way or the highway" - where "my way" is a democratic, federated and global "ecological civilisation" and the "highway", a road leading to a very dangerous and unpleasant place - a planet succumbing to runaway climate change and range of secondary complaints as well. These include:

> …passive nihilism, the marginalisation of genuine philosophy, the fragmentation of intellectual culture, the corruption of public institutions, most importantly universities and research institutions… subversion of democracy, depoliticisation of the population, domination by transnational corporations, plundering of

[18] Arran Gare, (2017) p.128.
[19] Arran Gare, (2017) p.128.
[20] *Eleven Theses on Feuerbach* (written 1845, published 1888).
[21] Capitalism's chronic and acute instabilities deriving in part a least from inequality and unfairness.

> public assets and ecological destruction, that is, the forces driving the whole of humanity to ecocide ...[22]

Arguably, philosophy in most ages has retained connections with practical human life, especially when that life is troubled.[23] It is now troubled.

Only analytic philosophy has sought serious divorce from life - troubled or not - and this divorce it was already seeking in the early 20th Century as it

> lock[ed] in… the assumptions of current reductionist science and of the broader culture [of] scientism eliminating any place in the world for subjective experience of consciousness, or even life and…[excluded] any values apart from efficient calculation in the service of the struggle for survival and domination by gene machines …[24]

It stood and to significant extent still stands as the very opposite to Gare's manifesto for speculative naturalism. Sure, its bid for disengagement has been a powerful one within the academy but never totally successful. We should thank our lucky stars - otherwise we would now be completely silent on death's door. On the other hand silence might bring a noisy nihilism in its wake. (Do I hear it from over yonder?) Though the lines were never cleanly drawn, a messy Eurozone long resisted the more repressed and analytical Anglosphere. Should we be surprised that neoliberal economics and politics later found the going much easier in the Anglosphere? That has certainly been a nihilistic romp.

And was Brexit, in fact, also foreshadowed in the moral silence of analytic philosophy? Perhaps that is too long a bow to draw; perhaps not. But it seems again that living communities do not settle for nihilism. When no other values are present, the noisy languages of charisma, regression and war rush in…. and there will be climate change and its own war in the mix too… This is likely to be unrivalled horror.

A manifesto cannot just be critical or threatening. It promises redemption, too. And it is perhaps in his last chapter (6) that we find Gare's most concentrated constructive argument. The heart of his manifesto. To be sure, the book may work at transcending distinctions between mind an matter or reconceiving categories such as subject and object but, in the end, it still has a section saying "roll-up your sleeves" - or as close as a philosopher can get to saying this.

In Chapter 6, again, Gare turns from philosophy to a range of more applied subjects and literatures - to politics, ethics, policy and planning, architecture,

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[22] Arran Gare, (2017) p.ix.

[23] In the ancient world it is half the enterprise and so Aristotle speaks of the great division between practical and theoretical philosophy.

[24] Arran Gare, (2017) p.26.

economics and of course ecology… and probably more. He also introduces us to the term *eco-poeisis*[25] - in a planning rather than a domestic science sense. *Eco-poeisis* is the goal of politics oriented to ecological civilisation, ultimately planetary in scope. It is planetary in scope however, not for internationalist reasons but because the planet is in fact homo sapiens singular home and there are too many of us to hide out on separate continents - or indeed, to build barricades (walls!) across them. Remarkably, this observation is first registered by Kant in the late 18th Century as, in my view, he initiates the discipline of (global) political ecology. The man who barely left his native town! Gare has missed this Kantian achievement - there are apparently limits to learnedness.

Not only is eco-poeisis not internationalism, it speaks to our always multi-layered homes converging for all of us in the one place - the intimate sheltering home of personal nurture and safety:

> Ecopoeisis [is the] making or augmenting of homes … whether people are individuals, local communities, nations or humanity as a whole. [The aim must be to] provide the conditions for them to freely explore their possibilities and fulfil their potential to further augment life.

This certainly adds layered and geographic complexity to more abstract and orthodox and especially liberal conceptions of the state and politics. Home-making at all levels, even its smallest, must be attended (at least watched over, politically). In other words, the work of politics is not just a matter of national security or prosperity (measured in national economic indicators). Nor can it be just a matter of the thin democracy of representative parliamentary elections.

> To be adequate to this challenge, political and ethical philosophy should orient people to live and organise politically in a globalised world with all of its inter-related global regional national and local problems … conceived of as part of nature… operating within ecosystems [that are] also operating at multiple spatial and temporal scales.

Freedom and real opportunity (beyond liberal equal opportunity principles) pointing to the realisation of human potential require more.

On the very next page, for example, Gare turns to urban planning and refers to the work of early 20th Century planner Patrick Geddes. Geddes a trained biologist becomes famous in the early 20th century for his original approaches to town planning

[25] Composite Greek: *oikos* meaning "household" or "home" and *poesis*, meaning "to produce". By the same token, oikonomia (our "economics") means household management and, of course, oikologos (ecology) is the study of… homes or habitats.

and urban design. These have earned him recognition as the world's first regional urban planner and he will soon become (if he is not already) the founding father of ecological urban planning as well. His emphasis is on the city or urban region where he initiates his famous and now widely copied "civic surveys" yielding quality accounts of regional assets (be they nature or artifice) as the starting point for all serious planning. Historical and ecological planning.

The aim is always integration of natural setting (natural capital) with the built form of town and city with its capital (hard and soft). See especially Geddes 1915 book, *The City in Evolution.* One hundred and two years on (today) the UN projects a global human population of 10 billion around 80% (perhaps more) of whom will live in cities. This is something we have to get right - for all our sakes and we are still struggling. Alongside philosophers, the architects of ecological civilisation will be inspired urban planners and architects.

CONCLUSIONS

Our conceptions of the planet, the universe and our place in or on them matter because, when mistaken, they confound us first and then they materially mislead. To view the planet as a machine, for example, is to be inclined to see it as indestructible: Made of "primitive particles … so very hard as never to wear or break in pieces,"[26] says Newton, again… It is also to view the planet as unending, often today as endless in capacity and as capable of doing what it does forever. What does it do? Few things as impressive as the support it offers a growing human presence. The planet as machine also means that human labour and industry cannot really harm it - also a part of Newton's promise. The machine, after all, is just big and little cogs and any damage we see must be unreal or, at worst, minor. All in all, we have no need worry about its future or its future life. Attitudes or cultures of care have no place here and, climate change aside, there is no better evidence of this than plastic garbage choking the world's marine life and oceans.[27]

This, when we reflect on it just a little longer, is what an environmental licence to kill looks like - you can do anything and everything your eager desire to consume (supported by your eager ability to make permits, *anything*, and multiple delusions supporting this licence are, in turn, supported by the one simple image of the planet as a machine. In the end, that image effects a stunning capture of your imagination. You are no longer just careless. At some point you cease to see any reasons for care.

[26] https://todayinsci.com/N/Newton_Isaac/NewtonIsaac

[27] http://www.abc.net.au/4corners/stories/2017/02/27/4624878.htm

The critical judgement ("you are careless or negligent") loses its force.

The human-friendly Holocene is passing. But worse, our ability to change course or take corrective action at necessary scales is becoming more limited. Inscribed in metaphysical narratives, dangerous images become more dangerous by developing deep roots and restricting human imaginations again. When pressed to change we either resist or offer up token and marginal effort. Occupied imaginations place radical change beyond our reach. And it gets worse, or rather, we have a critical measure. Political leaders the world over believe not just that permanent economic growth is possible but that it is *necessary*. Are there any exceptions beyond, perhaps, some of the member states of **the Alliance of Small Island States?** [28]

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[28] **AOSIS** a coalition of small island and low-lying coastal countries that share similar development challenges and concerns about the environment, especially their vulnerability to the adverse effects of global climate change? http://aosis.org/about/