

Human Destiny in the Anthropocene

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Today I would like to put forward eight propositions about the Anthropocene and what it means for how we think about the human future*.

* I am grateful to Andrew Glikson whose comments have allowed me to correct a number of misunderstandings of Earth system science. Remaining errors are my responsibility alone.

Proposition 1. Nature is no longer purely physical

In all previous instances, transitions from one division to the next in the geological time scale came about because the great forces of Nature came together in a particular way, but always unconsciously and unintentionally. In the Anthropocene, the "human imprint on the global environment has now become so large and active that it rivals some of the great forces of Nature in its impact on the functioning of the Earth system".¹ Unlike geological forces such as weathering, volcanism, asteroid strike, subduction and solar fluxes, this new "force of Nature" is radically distinct—it contains the element of volition. It expresses will.

Anthropogenic impacts—increases in carbon dioxide in the atmosphere, but also cross-global species invasion, disturbance to the nitrogen cycle and so on—do not just happen but are the consequence, intended or otherwise, of *decisions* taken by human minds. In nature, as we have always understood it, no decisions are made.

If in the Anthropocene humans have invaded the domain of geology we must remind ourselves that the forces at work in geology—physical impacts, chemical reactions, temperature changes and heat conductivity—are forces that behave involuntarily. Humanity is perhaps better described as a *geological power* because we have to consider its ability to make decisions as well as its ability to transform matter. Unlike forces of nature, it is a power that can be withheld as well as exercised.

So for the first time in the Earth's 4.5 billion-year history we have a non-physical force or power mixed in with physical forces. And this new force can be integrated only imperfectly into the system of geodynamics used to explain the geological evolution of the planet. While the other forces are, in principle, quantifiable and predictable (notwithstanding quantum mechanics), the new force can be included in the system only to the extent that human activities are predictable. (The uncertainty about how this new force will behave is the primary reason for the wide variation in warming projections of IPCC scenarios.) Nevertheless, it now seems certain that as long as humans are on the planet all future epochs, eras, periods and so on will be hybrids of physical forces and this new power.

This suggests that modern technological humans should be seen not as a new force to be *added* to the pre-existing natural ones, but as a unique power that in some sense now *infuses* the natural ones and interferes with their operation.

This new fact seems to resurrect, in a novel way, the philosophical idea that mind exists in some form in the non-human world because now we have a volitional force identified by science imbuing the entire Earth system and changing its course. I have called it a power to suggest a force injected with *will*, a thought that was turned around by Schiller when he wrote: "Force is depersonalized will".

The inference that the Anthropocene is a profoundly new kind of division in the geological time scale can be reached another way. If the International Commission on Stratigraphy adds the Anthropocene to its geochronology, it will need to decide, on the basis of stratigraphic indicators, whether it is best classified as a geological age, an epoch or a period. Jan Zalasiewicz and his colleagues suggest that deeming it to be an epoch—that is, longer than an age but shorter than a period—would be a conservative but appropriate decision; but they go on to add that if society does not respond soon to the signs of climate disruption then it may be necessary to upgrade the Anthropocene from an epoch to a period.²

In other words, we are entering a geological episode whose designation depends not only on gathering and evaluating the available data but also on human impacts on the Earth system that *have not yet occurred*. The verdict on the Anthropocene reached by the International Commission on Stratigraphy in the next three or four years could be invalidated not by the *discovery* of new evidence that already exists but by the *generation* of new evidence that will appear in the future. That is impossible for every previous decision concerning the geologic time scale.

Proposition 2. Modernity is impossible in the Anthropocene

In 2012 the eminent US climate scientist Kevin Trenberth made a striking statement.

The answer to the oft-asked question of whether an event is caused by climate change is that it is the wrong question. All weather events are affected by climate change because the environment in which they occur is warmer and moister than it used to be.³

Climate science is now telling us that the modern division of the world into a box marked "Nature" and one marked "Human" is no longer

¹ Will Steffen, Jacques Grinevald, Paul Crutzen and John McNeil, The Anthropocene: Conceptual and historical perspectives, *Philosophical Transactions of the Royal Society A*

² Zalasiewicz et al., The New World of the Anthropocene, unpublished paper, 2013

³ Kevin Trenberth, Framing the way to relate climate extremes to climate change, *Climatic Change*, November 2012, Volume 115, Issue 2, pp 283-290



tenable. In the climate system the natural and the human are mixed up, and their influences cannot be neatly distinguished. And this is true of the Earth system as a whole, because disturbing the climate inevitably means disturbing all components of the Earth system.

In short, everything is now in play. Every cubic metre of air and water, and every hectare of land now has a human imprint. Just how completely humans have overrun the planet is illustrated by the following astounding fact.

Imagine we could weigh all of the animals on the Earth's land surfaces. The creatures can be divided into three classes: *wild animals*, covering everything from elephants, camels and polar bears to rabbits, kangaroos and wolves; *domesticated animals*, including cows, sheep, pigs, cats and dogs; and *human beings*. If we weighed them all, worked out their mass measured in millions of tonnes, what would be the percentages falling into each of the three classes?

Canadian scientist Vaclav Smil has performed the calculation.⁴ It turns out that humans account for 30 per cent of the total mass of all animals, and domesticated animals account for 67 per cent. That leaves all of the wild animals on the Earth's surface accounting for no more than three per cent. In the words of Smil: "The zoomass of wild vertebrates is now vanishingly small compared to the biomass of domestic animals".

So peering into the box marked "Nature" will reveal few wild animals, contrary to the image created by wildlife documentaries of plains teeming with wildebeest. What was distinctive of the social sciences and humanities that emerged in 18th and 19th-century Europe was not so much their aspiration to science but their "social-only" domain of concern.

Sociology, psychology, political science, economics, history and philosophy rest on the assumption that the grand and the everyday events of human life take place against a backdrop of a blind and purposeless nature. Only humans have agency. Everything worthy of analysis occurs in the sealed world of "the social", and where the environment is *taken into account*—in environmental history, sociology or politics—"the environment" in question is the *Umwelt*, the natural world "over there" that surrounds us and sometimes intrudes on our plans, but always remains separate.

And a mere "taking into account" misses the essence of the new epoch. We can no longer draw a diagram with "Society" nested within a larger circle marked "Nature". The point of the Anthropocene is that the human now inheres in the total functioning of the natural world and until this is internalized intellectuals find it impossible to understand the politics, sociology or philosophy of climate change in a way that is true to the science.

If our future has become entangled with that of the Earth's geological evolution then, contrary to the modernist faith, it can no longer be maintained that humans make their own history, for the stage on which

we make it has now entered into the play as a dynamic and capricious force.

And the actors too must be scrutinised afresh. If on the Anthropocene's hybrid Earth it is no longer plausible to characterise humans as the rational animal or as God's chosen creatures or as just another species, what kind of being are we? Suffice it here to say that with the climate crisis upon us the appropriate response to the idea of the human as the rational animal is a loud guffaw.

By the same token, the biologicistic account of humans as animals with instincts, drives and selfish genes, becomes even more indefensible in the Anthropocene because it is precisely because humans are *not* like other animals that the new epoch has arrived. The human has always been the anomaly, the creature both natural and unnatural. The Anthropocene is so momentous because nature's anomaly is now restructuring nature itself.

Proposition 3. Social scientists must become geophysicists

At the 2012 conference of the American Geophysical Union, geophysicist Brad Werner presented a paper with a blunt title: "Is Earth f**ked?" Brad Werner is the Director of the Complex Systems Laboratory at the University of California San Diego, and he posed in a formal conference setting the question many at the meeting have for some time been asking in the coffee breaks.

Werner's approach to the question of the future of the Earth has some unnerving implications for social scientists. He is building a dynamic model known as a "global coupled human-environmental system". In addition to the usual kinds of equations capturing elements of the Earth system, the model incorporates the activities of humans represented in a module he calls "the dominant global culture", which essentially describes the globally integrated system of resource-use and waste generation driven by the insatiable need to grow and the political institutions committed to perpetual expansion.

The essential problem for the Earth, for us, is that there is a mismatch between the short time-scales of markets and the political systems tied to them, and the much longer time-scales that the Earth system needs to accommodate human activity. The climate crisis is upon us not because markets aren't working well enough but because the market system is working too well. Technological progress and globalization of finance, transport and communications have oiled the wheels of the human-directed components of the planetary system allowing them to accelerate.

For Werner, all solutions embedded in the dominant culture—including system-compatible ideas like cost-benefit analysis, global agreements, carbon prices and the structure of interest-group politicking—cannot slow the human component of the planetary system. Only radical activism that disrupts the dominant culture—including "protests, blockades and sabotage"—opens up the possibility that the Earth may not be f**ked.

⁴ Vaclav Smil, *Harvesting the Biosphere: The Human Impact, Population and Development Review* 37(4): 613-36, December 2011. The proportions are of mass measures in dry weight.



Dipesh Chakrabarty has characterized the Anthropocene as the epoch in which human history and geological history converge.⁵ Now we have in Brad Werner a geoscientist integrating *human* processes with *Earth system* processes to give us a planetary model in which human and geological history rub up against each other. In the Anthropocene, any geoscientist who models an Earth system that excludes humans is stuck in Holocene thinking; and any social scientist who analyses "human systems" isolated from Earth system processes is stuck in a world of modernity that is no longer consistent with scientific understanding.

While social scientists agonize over the political and social failures that have brought about irretrievable climate disruption, Brad Werner has said: "It's really a geophysics problem. It's not something that we can just leave to the social scientists or the humanities". Before the advent of the new geological epoch such a statement would have been preposterous; but now, social scientists in the Anthropocene have no choice but to become geophysicists.

Karl Marx famously argued that the historical contradictions within the capitalist system become so acute that the pressure for revolution boils over. He claimed that his theory of revolution is "scientific". In truth, the mechanisms of social transformation he identified could never follow a predictable path in a messy social-only world. Now we have a theory of revolutionary change with a stronger claim to being scientific, a model of geophysical dynamics that incites protests, blockades and sabotage to overthrow the dominant culture.

Proposition 4. The iron law of progress has been rescinded

If the Holocene's 10,000-year stretch of climatic dependability made civilization possible, what does it mean for the Holocene to come to an end? What does it mean for humankind to be entering an era of climatic volatility, with a rate of warming rarely matched in the palaeoclimate record?

The most immediate implication is that the principal assumption of the modern world, that of endless progress, now looks untenable. We are inclined to forget how deeply entrenched this assumption is; it is the grand narrative that will not die, the story-line of daily decision-making in public, corporate and private life.

It has often been noted that utopian political movements are a materialized form of the Christian promise of salvation. As Hans Jonas observed, among utopians, it did not take long for the *ideal* of progress to harden into a *law*, a law of history.⁶ The law of progress allowed those who understood it to know the future; to be a political actor then meant working to bring about more quickly that which is inevitable.

When the ideal became law all champions of social transformation—democrats, Marxists and liberators of all kinds—could believe that

history was on their side. That is what it meant to be "progressive", to side with history. Philosophers such as Hegel provided the dialectic motor for the iron logic of progress, but in the end the proof was there for all to see in the relentless advance of gross domestic product.

But what happens to the ideal of progress when the law fails, or proves to have been true only for an epoch that has now passed? The law can live on only at the price of denying the passing of the age of progress and pretending that the Anthropocene is something for scientists alone to worry about. Although the births of utopias are precipitated by times of great turmoil, all presuppose stability and the absence of conflict. Yet there will be no stability in the Anthropocene, especially if the expectations of abrupt change (tipping points, feedback effects, extreme events and so on) come to pass.

Instead of investing in more growth we will be pouring resources into trying to climate-proof our lives—our cities, our coasts, our infrastructure, our houses and our food supplies. The dominant task will be to protect the gains of the past and manage the effects of climatic insecurity so that they do not spill into conflict.

Proposition 5. Humans can dream of utopia only while Gaia sleeps

On the road to every utopia, entrenched power structures and stubborn "human nature" have been the hindrances. For utopians victory comes by way of a historical rupture, often an act of violence, which overthrows the old structures and forges a "new man". But the rupture we now confront is not one of our making, or rather not one we have consciously brought about; it is not one to welcome but one to resist for it renders us less free, less powerful, and less able to build a New Jerusalem.

We moderns became convinced that human destiny would be shaped by what we believed. We believed in our capacity to transform nature. But in the Anthropocene the Earth has been mobilized, it will not be subdued and now holds our fate in its hands.

Some leading thinkers have begun to grapple with the meaning of the new epoch now dawning and the all-crushing truth of climate science. In *Living in the End Times* Slavoj Žižek takes up the essential question for the left: with the shift to the Anthropocene, "how are we to think the link between the social history of Capital and the much larger geological changes of the conditions of life on Earth?"

Žižek declares that "materiality is now reasserting itself with a vengeance" over intellectual labour. That is true; yet he then reverts to the old social categories of capital and labour. For him the ground has not shifted and the task remains the remaking of the social and economic system to "solve" the problem, confident that the Earth will obediently follow the program. For him, human agency, the first-born child of the Enlightenment, is undiminished: "one can solve the universal problem ... only by first resolving the particular deadlock of the capitalist mode of production". Of course, socialist modes of production have proven just as contemptuous of Gaia. And the paramount fact that carbon dioxide persists in the atmosphere for a

⁵ Dipesh Chakrabarty, *The Climate of History: Four Theses*, *Critical Inquiry* 35 (Winter) 2009

⁶ Hans Jonas, *The Imperative of Responsibility*, University of Chicago Press, Chicago, 1984, p. 163.



thousand years means it is already too late to wind back the geological clock.

Ulrich Beck seems to go much further in recognizing that the unintended dynamics of capitalist modernization "threatens its own foundations".⁷ Climate change demonstrates the impossibility of maintaining sociology's separation of social forces from natural ones and enforces "an ongoing extension and deepening of combinations, confusions and 'mixtures' of nature and society".

Quite so; yet Beck too immediately reverts to the familiar by insisting that climate change must be inscribed into the old categories. He manages to reframe the destabilization of the conditions of life on a millennial scale as a golden opportunity to achieve the progressive dream. Let us close our ears, he tells us, to "depressing" talk of catastrophe and shun the "negativity" of "well-meaning green souls". When the "world public" (itself a utopian fantasy) wakes up to the fact that we are all in this together "something historically new can emerge, namely a cosmopolitan vision in which people see themselves ... as part of an endangered world ...". He entertains the poignant wish that a golden era of "enforced enlightenment" and "cosmopolitan realism" will dawn. Good luck with that.

Beck is the ultimate Modern, whose implicit faith in reflexivity, our rationality, guarantees our autonomous capacity to respond to the world as it is. Yet is not the essential lesson of the climate crisis that reflexive modernisation has failed? The most striking fact about the human response to climate change is the determination *not* to reflect, to carry on blindly as if nothing is happening.

Responding to climate change requires, says Beck, a "new contract between the managers of risk and the victims of risk in world risk society". This new contract is no more than an adjustment to the terms of the old Social Contract, one from which the Earth itself, in its new incarnation as the Anthropocene, remains excluded. For Beck, ecology becomes a stimulus to solving poverty, inequality and corrosive nationalism (as long as we ignore the negativity of gloomy greens), but the old Earth lingers as the mere backdrop on which the human drama is played out.

So this is where we are. Modernity uprooted the social sciences from the earth. They became *hydroponic* disciplines, floating in the water of the social, sending out their roots to find nutrients supplied only by what humans do to each other, fed only by culture. But the drawback of hydroponics is that, without soil to act as a buffer, the plants die off quickly if anything goes wrong with the system. In the Anthropocene something is going wrong with the system, but to work out what it is our best social scientists only know how to consult the hydroponics textbooks, where they find the old answers—change the mixture of micronutrients in the water.

The Moderns, including Žižek and Beck, are like Walter Benjamin's Angel of History, flying into the future but facing backwards, fleeing from a horrible past of suffering and oppression but unable to see the

destruction that lies ahead. For them the real is what is left behind and the future is only what the autonomous subject ends up creating.

Few progressives have turned around to face the future; and one can see why, for the progressive who turns around can no longer be a progressive. In the Anthropocene, in addition to the past we seek to escape, now we have a future we want to avoid; so we are squeezed from both ends.

Proposition 6. It's too late to negotiate with the Earth

Under the old social contract individuals agree to abide by the rules while the state agrees to provide order and protect our liberties. Michel Serres has argued we must now negotiate a second contract, a contract with nature.⁸ When we walked away from the state of nature we became a parasite on the planet, he wrote, only recently recognizing we are poisoning our host. Reimagining ourselves in a symbiotic relationship is the sole means by which both humans and Earth can survive. Under the terms of this natural contract humanity will reject mastery "in favour of admiring attention, reciprocity, contemplation, and respect". The contract will grant nature rights and make reparations.

Michel Serres was writing in 1992, at a time I would have agreed with him, so I don't want to be harsh. But under which constitution does humanity have the power to grant rights to Nature? What can we pay back to the Earth? Is Nature keeping a record of our ecological debt? Do we hear the victim of humankind's rapacity plaintively calling to us for more consideration? Can we expect Nature to be grateful if we deign to grant her contractual rights? Is not the imposition of victimhood merely the continuation of domination in another guise?

For two centuries we struggled for equity and justice, for a progressive reading of the social contract. Calling now for a second contract, an agreement of reciprocity and justice between humanity and Nature, projects an 18th-century conception of the social onto the Anthropocene Earth—a social world of laws, codes, obligations and penalties, of rights and responsibilities, projected onto an entity that knows nothing of these things. When Serres says we can reach a deal because we understand Nature's language of "forces, bonds, and interactions" is this not a new and thinly disguised anthropic power grab?

In the two decades since Serres wrote, Earth system science has taught us that the globe to which we graciously offer a peace deal—the passive, predictable victim of our exploitation and neglect—existed only in our imaginations. The enlightened among us desire harmony, sustainability and cooperation, but these aspirations clash with the globe scientists now vividly describe using images of "the wakened giant" and "the omery beast", of Gaia "fighting back" and seeking "revenge", a world of "angry summers" and "death spirals".

⁷ Ulrich Beck, *Climate for Change, or How to Create a Green Modernity?* *Theory, Culture & Society* 2010, 27(2-3): 254-66

⁸ Michael Serres, *The Natural Contract*, University of Michigan Press, Ann Arbor, 1995 [1992]



We are in no position to begin signalling our willingness to negotiate a contract with the Earth. Instead of talking restitution should we not be preparing for retribution?

Proposition 7. The Earth is indifferent to our love

The arrival of the Anthropocene has some far-reaching implications for environmentalism. Let me quote an apparently unquestionable claim:

At the heart of modern environmentalism is the idea that the planet must be saved from further damage by humanity.⁹

Underlying such a statement is a view that, while humans commit rape and pillage, nature is passive and fragile and always our victim. Yet now we see that the planet has been disturbed from its resting state, jolted out of the exceptional era of climatic stability characteristic of the last 10,000 years. Now it has jumped onto an uncontrollable trajectory that is hazardous to human life.

We must no longer see the Earth as a submissive repository for supplying resources or taking wastes, suffering in silence from our rapacity or indifference. The new understanding has been expressed most vividly by palaeoclimatologist Wally Broecker:

The palaeoclimate record shouts out to us that, far from being self-stabilizing, the Earth's climate system is an ornery beast which overreacts even to small nudges.¹⁰

If we have wakened the slumbering beast by poking and prodding it, the prudent course is firstly to stop. We cannot put it back to sleep; there is no return to the peaceful conditions of the Holocene, at least not for a thousand years. But to provoke it further, as we continue to do, is foolishness on an epic scale.

So the task of environmentalism can no longer be to save the planet, for the Holocene planet we wanted to save has become something else, not the kind of thing that can be saved or protected. Our task now is to refrain from aggravating further an entity vastly more powerful than we are and whose "psychology" we barely understand.

Yes, the Earth still demands our respect, but it is a respect founded on trepidation rather than love. It is prudent, as Bruno Latour reminds us, to regard Gaia not as the all-loving, all-nurturing Mother Earth of the romantics but more like the half-crazed, bloodthirsty and vindictive goddess of the original Greek tales.

Proposition 8. We must always look on the bright side of life

At the dawn of modernity Francis Bacon had a vision—to use science to found "an empire of man over nature". Man would use technology to

hasten natural processes, a transformative power granted by God and distinctive of humans as creatures. For men like Bacon remaking nature could redeem humankind from the Biblical Fall and the misery of the world that followed. Technology and science would bring about what he named a "second creation".

Astonishingly, Francis Bacon wrote the first book on hydroponics.¹¹ But it is his fable *New Atlantis* (published posthumously in 1627) that had a more enduring influence. In the story a council of wise men, schooled in natural philosophy, oversees the making of a new Eden in imitation of the first act of creation. Bacon referred to the council as Salomon's House or the College of the Six Days Works. The College serves as keeper of the know-how to transform nature. Says the magus: "The end of our foundation is the knowledge of causes, and secret motions of things; and the enlarging of the bounds of human empire, to the effecting of all things possible."

New Atlantis was one of the first visions of the perfection of human society by means of the conquest of nature, a kind of *technicae paradisum*. Scientists would become Utopia's midwives, and throughout the history of modern science many of its leading practitioners have been content to assume the role.

Fredrik Albritton Jonsson has traced some of the many ways Bacon's ideas were developed and applied, from early improvements in English agriculture to the ideology of manifest destiny that animated the 19th-century conquest of the American west.¹² The vision of a second creation reached its secular zenith in the United States in the post-war decades of the twentieth century, energized perhaps by the undreamed of power of nuclear fission that lay at the core of the military-industrial-university complex.

Its deep rootedness in the American psyche helps to explain why faith in geoengineering is stronger in the United States than in Europe, and perhaps why today some American evangelical Christians have been boarding cruise ships bound for the melting Antarctic where they have been caught broadcasting seeds in the expectation that the freshly exposed continent will blossom into a new Eden.

More seriously, we are witnessing a contemporary recovery of the idea of a second creation in the reframing of the Anthropocene as an event to be *celebrated* rather than lamented and feared. Instead of final proof of the damage done by human arrogance, a new breed of "eco-pragmatists" welcomes the new epoch as a sign of our ability to transform and control. They see it not as evidence of humankind's short-sightedness, foolishness or callousness, but as an opportunity for humans to realize their full potential. So American ecologist Erle Ellis defends what he calls the "good Anthropocene". There are no planetary boundaries that limit continued growth in human populations and economic advance. "Human systems" can adapt and indeed prosper in a hotter world because we are masters of transformation.

In this emerging view, as we enter the Anthropocene we should not fear transgressing natural limits; the only barrier to a grand new era for

¹¹ *Sylva Sylvarum*, published in 1627

¹² Fredrik Albritton Jonsson, 'The Origins of Cornucopianism: A preliminary genealogy', paper presented to "The History and Politics of the Anthropocene" conference, University of Chicago, May 17-18 2013

⁹ Michael Lind, Is it time to embrace environmental change? *Salon.com*, 13 December 2011

¹⁰ W. Broecker, Ice cores: Cooling the tropics, *Nature*, 376 (20 July 1995), pp. 212-3



humanity is self-doubt. "[W]e must not see the Anthropocene as a crisis", writes Ellis, "but as the beginning of a new geological epoch ripe with human-directed opportunity".¹³ Four centuries after Bacon described it, with modern science and the technologies of Earth system engineering we finally stand ready to build the New Atlantis. Ellis is confident: "We will be proud of the planet we create in the Anthropocene". Only romantic critics of technology and the gloomy scientists they quote in support stand in the way of the vision's realization.

Just as Bacon understood Nature as a passive object to be manipulated once her secrets had been extracted, and saw the exercise of human creative power facing no constraints, so today's eco-pragmatists understand the Earth as a "system" that can be subjugated with knowledge and technological power. In his book *The God Species*, Mark Lynas fulfils the prophesy of the College of the Six Days Works. "Nature no longer runs the Earth", he declares. "We do. It is our choice what happens here".

So the battlelines have been drawn. On one side are those who plan to force Gaia into total submission; on the other are those who believe attempting to do so is the ultimate folly. A hundred and thirty years ago, Nietzsche foresaw our dilemma:

"Inexorably, hesitantly, terrible as fate, the great task and question is approaching: how shall the earth as a whole be governed?"

Except that in the Anthropocene we begin to see that the Earth-as-a-whole is not a sphere that takes kindly to being governed.

¹³ Erle Ellis, The planet of no return, *Breakthrough Journal*, No. 2, Fall 2011; Erle Ellis, Neither good nor bad, *New York Times*, 23 May 2011

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For 14 years, until February 2008, he was the Executive Director of The Australia Institute, a progressive think tank he founded.

He has published on a wide range of subjects but is best known for his books, a number of which have been best-sellers. They include *Growth Fetish* (2003), *Requiem for a Species: Why we resist the truth about climate change* (2010) and *Earthmasters: The dawn of the age of climate engineering* (2013).



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Change of Era

The Momentum Institute met for the first time on the 10th of March 2011, the day before an earthquake struck Japan and unleashed the nuclear catastrophe we know as Fukushima.

The starting point of the Momentum Institute is based on the awareness that today we are living at the end of the period marked by the greatest material wealth human history has ever known – a wealth that is founded on cheap, concentrated, temporary energy sources that made everything else possible. Just as the most important sources of energy for this material wealth are entering irreversible and inevitable decline, we are embarking on a period of generalised economic contraction.

The Momentum Institute is dedicated to responding to the challenges of our era: how can we organise the transition to a post-growth, post-fossil fuel, climate-altered world? How can we understand and act on the issues of the Anthropocene? What are the emergency exits? What will resilient societies look like in the time of the triple crisis: energetic, economic, and ecological?

The post petrol, post-nuclear, post-coal transition means completely redesigning and rethinking the infrastructures of society and alongside this, working to achieve a new social imaginary by envisaging a near future without petrol and without non-renewable energy. The objective of our approach is to establish a community of contributors made up of citizens engaged in the major areas of transition.

The contributors to the Momentum Institute intervene in their area of expertise, in relation with the thinking on transition. They produce diagnostics, analyses, scenarios, and original proposals regarding strategies of transition and resilience. The Momentum Institute is there to encourage them and to make them known, to individuals, to businesses, to local and national governments. We are also concerned with providing visibility to emerging solutions that are already put into practice by towns in transition, such as energy cooperatives, AMAPs (organic local produce cooperatives), non-profit businesses, social employment, and eco-districts.

If we manage to disseminate them, the initiatives and contributions for imagining and creating the post-petrol world will spread – both locally and globally. They will come to represent the status quo and the efforts that we go to today will not be unusual tomorrow. In the meantime, we have a chance, and it is perhaps our last chance, to step back from the precipice. A challenge, a singular moment, a window of opportunity: Momentum.