



Architecture of the Anthropocene: The Crisis of Agency

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OUR WORLD HAS ENDED

The Anthropocene, or 'the Age of Humans', has been proposed as the geological epoch that has superseded the Holocene.¹ The International Commission on Stratigraphy and the International Union of Geological Sciences are currently in the midst of a long process to find evidence for the new geological stratum.² Geologists are generally in agreement that the abrupt and catastrophic transformations of the lithosphere in this new epoch are rare in the Earth's 4.6 billion year history. This age, conceived in terms of geological strata, coincides with the particular historical juncture that has seen predictions of human-induced climatic tipping points and extinction events, and promises to be even more stratigraphically significant in the future.³ In addition to the build up of greenhouse gases, the new stratum is to be defined by human landscape transformations exceeding natural sediment production; by the acidification of oceans; by the relentless destruction of biota, and above all by radical instability. In short, the advent of the Anthropocene epoch is identified with a pervasive planetary crisis.

'Our world... has ended', laments Mike Davis.⁴ 'Our world', is here identified with the Holocene epoch –the interglacial span of unusually stable climate– which has allowed for the rapid evolution of agriculture and urban-industrial society. The 11,700 year long Holocene is characterised by increasingly intense interference with and across the Earth's geologic strata, to the extent that fossil-fuelled human impacts on the planet from the last 250 years or so have now become a global geophysical force in their own right.⁵ The single most important cause of the contemporary environmental crisis is the continued urbanisation of humanity, which has transformed the earth's geo-morphology, surface, atmosphere, species distribution and climate. Cities are made of, and

make geology. Architecture (the production, profession, process and practice of), charged with the design, construction and maintenance of relatively enduring structures and habitable places on the Earth's surface, is therefore implicated in the Anthropocene.

The Anthropocene thesis is a subject of much commentary and debate across science, the humanities, and popular culture.⁶ Its implications push current understandings of human–environment relationships in several urgent directions. But in the midst of calls for action to avert planetary crisis, considering the architecture of the Anthropocene reveals a wider crisis of agency.

PLANET OF CITIES IN PLANETARY CRISIS

The accelerated growth of cities is the most characteristic geophysical feature of the so-called Anthropocene-in-the-making (Fig. 1). Whether drawing attention to an 'urban age' or the 'age of humans' we are in effect, describing a planet of cities in planetary crisis. The majority of the world's population live in or rely on cities. Cities have become an increasingly dominant land-use, with dependencies, relations and impacts that spread out from their hinterlands across the globe. The dominant patterns of urbanisation show no sign of slowing down. These include energy intensive developments, suburban sprawl, disconnected infrastructures and speculator-led constructions. And it is well understood that it is the wasteful forms of expansion of cities, the persistence of carbon-fuelled economic systems and the exploitation of resources that have led to crisis. It is also clear that the impacts of escalating crises – financial, democratic, environmental – converge on and in cities. Nevertheless, the UN Habitat report of 2012/2013 states that 'cities can offer remedies to the worldwide crises.'⁷

Fig. 1 (opposite). 'Earthlights' © *The Visible Earth*, NASA. <http://visibleearth.nasa.gov>

'The Anthropocene represents a time of political and social reckoning for a planet of cities in planetary crisis.'

Up to a point. 'Our heavily urbanised planet' Nigel Clark reminds us, 'is also a chronically turbulent one.'⁸ The intersection of geophysical and ecological changes at the global scale, including climate change and biodiversity loss, in tandem with rapid urbanisation and economic and cultural globalisation, demands that humanity prepares itself practically and imaginatively for potentially sudden and unpredictable change. There is every reason to feel uneasy about the prospects for the future of our cities, not least because of the growing awareness of the limits of human agency – that is our capacity to act, or make a difference, in a warming, unstable world.

Urban design practitioners and built environment professionals are tasked with planning, repairing, maintaining and preparing cities and settlements for unpredictable conditions. They are urged to think about cities and their infrastructures in terms of the capacity to manage environmental change or asked to design-in properties of resilience to crisis. Proposals for future cities have offered flexibility – amphibious constructions, hybrid ecologies, smart technologies. They have also offered security in the form of barriers, defences, strategies of managed retreat, and proposals for the colonising of city, sea or sky. But there is little change in the conventions of urban design practice. While tensions persist between the upheavals demanded by top-down city planning and the incremental changes offered by bottom-up approaches, democratic paths to decision-making in cities and control over resources for urban reform remain elusive. A complex mix of perspectives and responses is required to cope with a volatile planet; and they need to take into account the entanglements of social and political inequalities and uneven vulnerability to hazards and environmental stresses.

The arrival of the Anthropocene, identified as a crisis of our own making, is accompanied by urgent calls to action on a global scale. Warnings regarding imminent tipping points, and predictions of catastrophe and a precarious future, are intensifying, at least in part in an effort to generate political momentum.⁹ The Anthropocene represents a time of political and social reckoning for a planet of cities in planetary crisis. However, as Mike Davis observes, even if global agreement were possible, achieving worldwide adaptation to climate change along with poverty alleviation and the assisted migration of peoples, 'would command a revolution of almost mythic magnitude'.¹⁰ This implies an equitable redistribution of income and power that appears completely unprecedented. He points out that there is no-one capable of coping with the problems facing a rapidly urbanising planet:

'No-one. Not the UN, the World Bank, the G20: no-one has a clue how a planet of slums with growing food and energy crises will accommodate their biological survival, much less their aspirations to basic happiness and dignity.'¹¹

FOSSIL-FUELLED FOSSILISATION

The Anthropocene is understood as marking the moment when human impact on earth systems becomes equal to or exceeds the forces of nature at a global scale.¹² But what is the evidence for this geologic agency? The Anthropocene Working Group of the International Commission of Stratigraphy is considering various human activities and their possible legacy in the rocks: changes in land use, monoculture and intensive agriculture practices, deforestation, resource extraction; combustion of carbon-based fuels and attendant emissions;

species extinction patterns and population growth; construction of cities and infrastructures. Blink and it might be possible to read their list as a roll-call of human achievements including all the things that have been considered the sum and substance of human progress and modernity. The Anthropocene thesis asks that we now confront the possibility of the end of this trajectory: our own fossil-fuelled demise. The start date of the Anthropocene is uncertain, but the most profound alterations to geologically significant systems and processes have occurred since the industrial revolution and intensified with the nuclear age and 'great acceleration' from the 1950s on.¹³ From a geological perspective, only the most radical, remarkable and violent episodes on Earth are likely to leave any lasting traces in the rocks. The last and most widely known mass extinction event occurred 65 million years ago and saw the end of the dinosaurs. This event, caused by an asteroid impact, marks a major boundary in geological time, the K-T or Cretaceous-Tertiary boundary. The current widespread impact of human fossil-fuelled activities, coinciding with fundamental changes in earth systems, has put many species on an extinction trajectory and is expected to leave as significant a trace in the rocks. As one scientist puts it, 'we are the asteroid'.¹⁴

What will remain of our planet of cities? What we might consider our most permanent and stable constructions and achievements will probably be the most transient: 'the sculptures and the libraries, the monuments and the museums, the cities and the factories- will be compressed into a layer of sediment not much thicker than a cigarette paper.'¹⁵ Coastal cities such as Venice, Amsterdam, Shanghai, New Orleans and Lagos, sited on land vulnerable to sudden sea level rise and prone to processes of sedimentation, rather than erosion, have some chance of fossilisation. Fossilised remnants of cities found in future sedimentary rock might include massive trace fossil systems: impressions of the subways, sewers, conduits and infrastructures presently below ground.

The chemical pollutants and radioactive waste that humans have accumulated over the past two hundred years can also leave a geological signal that stretches into the distant future. It has been suggested that evidence of a human induced geological event horizon, currently labelled the Anthropocene, might be identified by alien or rodent forensic geologists millions of years from now.¹⁶ The collapsing of human histories, post-human and geological chronologies in the Anthropocene is complicated and contradictory. Given human-scale temporal elasticities and limits of signification how can we know what this earth-changing and ground-making means for a future that is not ours? What new forms of causality can even attempt to grasp such durations in terms of prediction for present decisions about courses of actions?¹⁷

In the context of humanitarian crises, Eyal Weizman has shown how forensics requires both fieldwork – or scientific tools of investigation, and a forum – the persuasive presentation of an argument.¹⁸ What if the imagination of forensics precedes the evidence? Researchers in the geological sciences are being asked to speak for rocks that have not yet fully materialised. The testimony and evidence of the Anthropocene is involved in geological processes that will take thousands if not millions of years. Stratigraphy is a science and practice that usually follows the evidence, but it is now immersed in the speculative world of conjectures, in 'pre-crime' and the rhetorical upside down world of the thought experiment. Geologists are called on to describe the past of futures that are still unfolding and at the same time, are attempting to define an epoch by anticipating a petrified human crisis in the strata.

HISTORY ON THE BRINK

'The crisis consists precisely in the fact that the old is dying and the new cannot be born; in this interregnum a great variety of morbid symptoms appear.'¹⁹

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Drawing on Antonio Gramsci's formulation in his *Prison Notebooks*, Zygmunt Bauman has recently characterised the present-day planetary condition of humanity as an 'interregnum', the 'extraordinary situation' whereby the old societal order 'loses its grip', but the new order 'is still at the designing stage'.²⁰ Times of interregnum are times of uncertainty. The immense alterations of the world in which we live as a result of anthropogenic climate change, biodiversity loss and rampant urbanisation, requires us to rethink many of the concepts and ideals that have been central to our understandings and aspirations. Geologic history has become entangled with human history, the planetary is mixed up with the global and species thinking has collided with critiques of capital. As Dipesh Chakrabarty writes:

'At the same time, the story of capital, the contingent history of our falling into the Anthropocene cannot be denied by recourse to the idea of species, for the Anthropocene would not have been possible, even as a theory, without the history of industrialization. How do we hold the two together as we think the history of the world since the Enlightenment? [...] The crisis of climate change calls for thinking simultaneously on both registers, to mix together the immiscible chronologies of capital and species history. This combination however, stretches, in quite fundamental ways, the very idea of historical understanding.'²¹

The Anthropocene alerts us to the crisis of human agency and in so doing leaves human history teetering on the brink. In this reading, the Anthropocene is not only a 'work in progress' born of a particular mixed-up historical urge to appropriate, redistribute and exploit the world's resources, but also calls for nothing less than a derailment of this 'so-called' progress. In *Au temps des catastrophes*, Isabelle Stengers describes the disorientation experienced in the face of entangled crises as, 'a bit like we are in suspense between two histories'.²² The first history is the familiar one of global growth and progress, and the second, the intangible one that we have embarked upon, but do not yet know how to respond to. Moreover the 'second history' is defined by 'an intrusion' she names as *Gaia*: 'We all know that something is in the process of intruding into our history that was neither anticipated nor prepared for, that was wished for by no one, including of course those who have been struggling against capitalism's hold. No

one is ready for what's coming. It is beyond all of us...'²³ Moreover the crisis of the intrusion is exacerbated because the 'first history' makes it seem as if this were only a 'crisis' to be surmounted. In this context, the Earth has long been considered as either a resource to be exploited or an entity that needs protecting. Stengers asks that we consider it anew, as a fearful power that might destroy us in the future.²⁴ Coming to terms with the power that human activities have activated but so far have been oblivious to, demands caution and learning to take care. Even if, as Stengers reminds us, we are dealing here with an indifferent Earth:

'Of the Earth, the present subject of our scenarios, we can presuppose a single thing: it doesn't care about the questions we ask about it. What we will call a 'catastrophe' will be, for it, a contingency.'²⁵

CRISIS OF AGENCY

'References to millions of years, which used to make our brief lives seem inconsequential, now endow us with gargantuan agency and an almost unbearable level of responsibility — intuitively beyond our capacities for rational or concerted action. Never mind that climate scientists instruct us that such action, undertaken over the next few years, is the only thing that can possibly avert a catastrophe.'²⁶

The Anthropocene is a critical time in terms of our understandings of human agency— or lack of it. What are the possibilities for 'rational or concerted action'? Just at the moment when we recognise our 'gargantuan agency' we also become aware of our limited capacity to do anything at all. Zygmunt Bauman has explored the 'crisis of agency' in terms of the history of sovereignty.²⁷ He defines the contemporary crisis as one of governance and the disjunction between power and politics in a globalised world, where power has turned global but politics has remained local. At the same time it has involved the erosion of trust in the capacity of the state to act responsibly to resolve any crisis. The crisis of climate change demands a global response but it often only takes the pretext of financial crisis and economic recession for governments and corporations to renege on promises and commitments. The convergence of crises demands nothing less than global geo-political agreement on the best courses of action – but in an inequitable world such agreement proves unattainable. This

paralysing situation is further complicated by unpredictable and unstable planetary conditions and the unsettling knowledge that human actions are playing a part in them.

Thinking through the Anthropocene poses enormous questions for many human institutions that were taken for granted in a more stable world. Globalised political decision-making, cultural relations and international laws written in the Holocene, all need revisiting. They need to take into account increasingly unfixed geographies: changing coastlines with sea-level rise, climate-induced degradation of territories, deteriorating conditions for food production, resource scarcity, contested states and displaced peoples. The changes of a dynamic planet require rethinking of negotiations, redrawing of existing boundaries, rebuilding of settlements, and a radical re-organisation of governance. Catastrophic events or the chronic crises of prolonged and gradual disasters of poverty, starvation and drought, that are implicit in anthropogenic-induced climatic changes, are forcing increasingly unpredictable global 'states of emergency'. How can we deal with this planetary 'state of exception'²⁸ without suspending democracy?

The crisis of climate change 'draws us into realities that seem to be beyond the reach of "negotiation"'.²⁹ Clark reminds us of the 'radical asymmetry' in experiences of geophysical disruption: 'the impression that deep-seated forces of the earth can leave on social worlds is out of all proportion to the power of social actors to legislate over the lithosphere'.³⁰ Imaginaries of environmental crisis that are out of synch with socio-economic realities tend to either attribute too little or too much agency to either humans or an imagined external nature. In terms of architecture, the focus for the most part has been on the potentialities and possibilities of human agency against a stable background: on how architects make habitable places; on their ability to engage with others; on their capacity to mediate the processes of construction; on the ways they articulate or represent the physical changes

of the world. There is a tendency to assume the power of design practice in shaping the future, in transforming, transgressing, subverting, breaking down barriers and intervening in and acting on existing systems and institutions. However, the geo-climatic regime change of the Anthropocene has ushered in a paradoxical state of affairs. Not only are humans endowed with a geologic agency that is incommensurable with their everyday lives, but this has collided with a more-than-human or planetary agency we are incapable of controlling. No amount of hubris, expertise, professionalism or bravado can adequately compensate for human frailty in the face of these forces.

An agency of transformation – how things could be otherwise – is about inhabiting the politics of crisis and seeking to transform it.³¹ It is also about the potential for transforming with it. As Gibson-Graham and Roelvink observe, 'responding to the challenges of the Anthropocene is not simply about humans finding a technological or normative fix that will control and restore the earth.'³² It is about humans being changed by the wholly new world we find ourselves in. Our entry into the Anthropocene may yet incite and propel a transformative agency that finds suitably agile accommodations with a more-than-human agency. To enable us to navigate turbulence, we need to be prepared to adapt not only how we approach our policies and technologies, but also our modes of humanity.

WHO WILL BUILD THE ARK?

'The original ark, earth, does not move'³³

Edmund Husserl described our primary experience of earth as a primordial and foundational ground that is both sustaining and supporting – but the earth does indeed move and our ground has become dislodged by our deepening knowledge of environmental crisis. This ground we have always relied on has been pulled literally and metaphorically from under our feet. Provisionality is our ground condition. In contrast to Husserl's 'immovable' ark, the new situation calls for both

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acknowledging the turbulence of our planetary ark and preserving human solidarity in the face of convergent planetary crises. To this end Mike Davis asks, 'Who will Build the Ark?'³⁴ He suggests that we 'must start thinking like Noah'. Brought up to date, twenty-first century Noah displays an improvisatory agency that involves practices, materials, technologies and desires that diverge from 'business as usual' constructions:

'Since most of history's giant trees have already been cut down, a new ark will have to be constructed out of materials that a desperate humanity finds at hand in insurgent communities, pirate technologies, bootlegged media, rebel science and forgotten utopias.'³⁵

Designing the planetary ark is not about planetary scale triage. It is about tackling the challenges of sustainable urban design for the whole planet and not just for a few privileged countries or social groups. Otherwise, as Davis asserts with a nod to Disney, designers are, 'just the hireling imagineers of elite alternative existences.'³⁶ Most poignantly however, Davis observes that in the future, cities in the Anthropocene will remain the 'ground zero of convergence' between the processes of disordering and inhabiting crises of our own making.³⁷

In recent years, the impacts of environmental crisis and extreme events on densely-packed and precariously sited cities around the world have been harder to dismiss. In spite of all our contemporary efforts with early warning systems, seismic safety codes, risk registers and plans for civil emergencies, the cities that we continue to build to accommodate the mass of humans on a dynamic planet will always be the places that are most susceptible to planetary disruptions. In the context of rapidly accelerating urbanisation and the complex interweaving of weather, lives, infrastructures and economies it is often the intractable inequalities and the fissures between governments and civil society that are made more evident when disaster strikes. Disasters that are produced are often geographically, historically, and socially uneven. Environmental justice post-disaster, is about coming to terms with and exposing the 'built in' systematic vulnerabilities and accumulated crises of poor governance. It is also an opportunity for 'rethinking resilience', which, Bronwyn Hayward argues, in her discussion on the aftermath of the Christchurch earthquakes, involves expanding our political imagination

about the resilience of cities, to include ideas of compassion and political resistance.³⁸ Paul Chatterton has shown in his discussion of post-Katrina New Orleans, that it is the collective injury of abandonment and institutional failure that now shapes the politics of New Orleans' reconstruction. In this sense therefore, the city is an 'unfinished story' about the right to define and shape the future city in the context of environmental and social crisis.³⁹ It is also an unfinishable story. We may need to acknowledge that many of the adaptive strategies for our present-day cities and infrastructures are experiments, which are necessarily precarious and provisional.⁴⁰

But who will build the ark? The architecture of the Anthropocene suggests that we rethink the processes, products, practices as well as the profession of architecture through an exchange with the planetary dimensions of human existence. Cities will remain the construction sites and thresholds of radical geological change—shaped and accelerated by human activity. Addressing the implications of human-geological agency and relevance of timescales that exceed human time inevitably confronts the question of how we will meet the consequences of environmental crisis now, while simultaneously grappling with the question of what next? In conditions of entangled and escalating crises we need to take heed of our past futile attempts to either 'discipline' or 'improve' or even 'future-proof' our cities in the midst of claims of professional expertise and efficiency – when for the most part we simply do not know what to do. Accepting the possibility that all of our constructions are provisional is not only about inhabiting instability, but also about responding imaginatively to the unforeseen.⁴¹ Our entry into the Anthropocene prompts us to re-imagine how humans can make connections between planetary and everyday life in sustainable and ethical ways.⁴² It suggests that we approach the practice of architecture with renewed attention to our earthly conditions: with a keen awareness of a more-than-human agency that can fling us off-course, coupled with the humility or groundedness that this demands. That is, if we are going to bother rebuilding the ark at all.

NOTES

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1. The term *Anthropocene* was introduced in 2000 by the Dutch atmospheric chemist and Nobel Prize winner Paul J. Crutzen and by Eugene F. Stoermer in a publication of IGBP (P.J. Crutzen and E.F. Stoermer 'The Anthropocene', *IGBP [International Geosphere- Biosphere Programme] Newsletter* 41: 17–18 (2000). It was later expanded on in an article by Crutzen (P.J. Crutzen, 'Geology of mankind' in *Nature* 415, (3 January), 23(2002). The idea that human activity affects the Earth to the point where it indicates a new age, is not new and dates back to the late nineteenth century, for example the Anthropozoic, a term proposed by Stoppani. (A. Stoppani, *Corsa di geologia*, vol. II, *Geologia stratigrafica*. Milan, Italy: Bernardoni 1873). The formalization of the Anthropocene by the International Commission on Stratigraphy (ICS) would mark the official end of the current geological epoch, the Holocene. The current target date for this decision is 2016.
2. Stratigraphy Commission of the Geological Society of London 'Are we living in the Anthropocene?' *GSA Today*, 18(2) (2008), 4-8. Stratigraphy Commission of the Geological Society of London 'The Anthropocene Epoch: today's context for governance and public policy' (2008); <http://www.geolsoc.org.uk/gsl/views/letters>; Subcommittee on Quaternary Stratigraphy (2012); <http://quaternary.stratigraphy.org/workinggroups/anthropocene> (accessed 6 October 2013).
3. Elizabeth Kolbert, 'Age of Man', *National Geographic Magazine*, March 2011; <http://ngm.nationalgeographic.com/2011/03/age-of-man/kolbert-text>.
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5. Will Steffen, Paul J. Crutzen and John McNeil, 'The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?' *Ambio* Vol. 36, No. 8, Royal Swedish Academy of Sciences, December 2007.
6. See for example, the 'Anthropocene Project', an initiative of Haus der Kulturen der Welt in cooperation with the Max-Planck-Gesellschaft, Deutsches Museum, the Rachel Carson Center for Environment and Society, Munich and the Institute for Advanced Sustainability Studies, Potsdam. http://www.hkw.de/en/programm/projekte/2014/anthropozaen/anthropozaen_2013_2014.php (accessed 6 October 2013).
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8. Nigel Clark, 'Turbulent Prospects: Sustaining Urbanism on a Dynamic Planet' in M. Miles and T. Hall, *Urban Futures* (London and New York: Routledge, 2003); pp.182-193; p.182.
9. See Tim O'Riordan and Tim Lenton (eds.) *Addressing Tipping Points for a Precarious Future*, The British Academy (Oxford: Oxford University Press, 2013).
10. Mike Davis, 'Who will build the ark?' *New Left Review*, 61 (Jan-Feb) (2010), 29-45. <http://newleftreview.org/II/61/mike-davis-who-will-build-the-ark> (accessed 20 July 2011).
11. Ibid.
12. W. Steffen, J. Grinevald, P. Crutzen and J. McNeil, 'The Anthropocene: Conceptual and Historical Perspectives', *Philosophical Transactions of the Royal Society A* 369 (2011); 842-67.
13. Will Steffen, Paul J. Crutzen and John McNeil, 'The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?' *Ambio* Vol. 36, No. 8, Royal Swedish Academy of Sciences, December 2007.
14. Professor Anthony Barnosky quoted in Andrew Luck-Baker, 'Leaving our mark: What will be left of our cities?' 1 November 2012; BBC News Science and Environment; <http://www.bbc.co.uk/news/science-environment-20154030>. See also Anthony D. Barnosky et al. 'Has the Earth's sixth mass extinction already arrived?' *Nature* 471, 51-57 (03 March 2011).
15. Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History* (London: Bloomsbury Publishing, 2014); p.105.
16. See the popular science writing of Jan Zalasiewicz, who convenes the Anthropocene Working Group for the International Commission on Stratigraphy. Jan Zalasiewicz, 'Buried Treasure' *New Scientist*, vol 158, issue 2140, 27 June 1998; Jan Zalasiewicz, *The Earth After Us: What Legacy will Humans Leave in the Rocks?* (Oxford: Oxford University Press, 2009).

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19. Antonio Gramsci, *Quaderni del carcere, Selections from the Prison Notebooks* ed. and trans. Quintin Hoare and Geoffrey Nowell-Smith (London: Lawrence and Wishart, 1971); p. 276; cf. Zygmunt Bauman, 'Times of interregnum', *Ethics & Global Politics*, Vol. 5, No. 1, (2012); 49-56.
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21. Dipesh Chakrabarty, 'The Climate of History: Four theses', *Critical Inquiry*, 35, (2009); 197-222.
22. 'Nous vivons des temps étranges, un peu comme si nous étions en suspens entre deux histoires, qui toutes deux parlent d'un monde devenu "global."' Isabelle Stengers, *Au temps des catastrophes: Resister à la barbarie qui vient* (Paris: Éditions la Découverte, 2009); p.9.
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24. Isabelle Stengers, *Au temps des catastrophes: Resister à la barbarie qui vient* (Paris: Éditions la Découverte, 2009)
25. Isabelle Stengers, *The Invention of Modern Science*, (University of Minnesota Press, 2000); p.145.
26. J. K. Gibson-Graham, and G. Roelvink, 'An economic ethics for the Anthropocene', *Antipode: A Journal of Radical Geography*, 41(Supplement 1) (2010); 320-346.
27. See Zygmunt Bauman lecture, 'Crisis of Agency or Living Through the Times of Interregnum', 20 February 2013; <http://www.vanleer.org.il/en/event/crisis-agency-or-living-through-times-interregnum> (accessed 6.10.2013). The 'crisis of agency' is the subject of a forthcoming book: Zygmunt Bauman and Carlo Bordoni, *State of Crisis* (Polity, 2014).
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33. Cf. Juha Himanka, 'Husserl's Argumentation for the Pre-Copernican View of the Earth', *The Review of Metaphysics*, Vol.58 No.3 March, 2005; pp. 621- 644; 621. See also Clark (2011), op.cit. p. 5.
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36. Ibid.
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39. Paul Chatterton, 'The urban impossible: A eulogy for the unfinished city', *City*, 14(3), (2010); 234-244.
40. On 'provisional projects' and 'provisional architecture' see Renata Tyszczyk, 'Future Worlds - to-ing and fro-ing', in R. Tyszczyk, J. Smith, N. Clark and M. Butcher, *Atlas: Geography, Architecture and Change in an Interdependent World* (London: Black Dog Publishing 2012); pp.132-139; p.137.
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