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Environmental (in)action in the age of the world picture

Peter Lucas, October 2015

Abstract

Over 20 years ago the Programme Director of Greenpeace UK identified the primary challenge facing the modern environmental movement as that of moving beyond the "struggle for proof" to generating effective environmental action. There is a mass of widely-accepted evidence to support environmentalist claims, but effective environmental action is rare, both at governmental and at grass-roots levels. Arguably, the malaise is less a political one than an ontological one. We "know" that environmental problems are "real", but we fail to grasp them as happening here, to us. It is as if they unfolded in a "media-only reality" (Rose, 1993).

This ontological malaise can be understood along Heideggerian lines as a form of world-alienation. Alienation is often understood, following Marx, as estrangement from our true human nature, consequent on interpreting ourselves as mere resources. On Heidegger's view, however, self and world are inextricably linked. Conscious beings are not trapped inside their own heads, never to bridge the gap to the world outside. Rather, consciousness just is the intentional reaching out to things. Heidegger's view of the self-world relation implies a modified concept of alienation. Our alienated condition stems as much from interpreting the world around us as a mere resource as it does from interpreting ourselves as mere resources. We may understand the natural systems on which our lives depend in far more

detail than our grandparents did; but where those systems are understood as brute agglomerations of objects the resulting knowledge is alienated and alienating. Our very "theory of the real" serves to make the earth unreal for us. This, I argue, is the true import of Heidegger's concern with the world "conceived and grasped as picture". It also illuminates his remark in the 1966 *Der Spiegel* interview: "It is no longer upon an Earth that man lives today."

Photographs of the earth from space – in particular the earthrise photo of Apollo 8 – have an important place in the iconography of the modern environmental movement. The movement began to gather pace and gain a sense of its own identity in the late nineteen sixties, coinciding with the availability, for the first time, of photographs of the whole earth. The privilege of actually viewing the earth from space was confined to just a few individuals, but the photographs they captured quickly became available to campaigners and their opponents alike. One influential line of argument sees these photographs as a key catalyst in the process by which the modern environmental movement took shape. (Rose 1993, Poole 2012, Rentmeester 2015) Standard accounts tend to paint the availability of these images in an entirely positive light – as if the availability of images of the earth from space could not but be socially and politically beneficial. (Poole 2012) Indeed, the positive environmentalist response to these images has been so pronounced that anyone inclined to portray their impact in a negative light might be thought to be, to that extent at least, an "enemy" of environmentalism. Notoriously, Martin Heidegger's 1966 *Der Spiegel* interview sounded just such a pessimistic note:

> I don't know if you were shocked, but [certainly] I was shocked when a short time ago I saw the pictures of the earth taken from the moon. We don't need atomic bombs at all [to uproot us] - the uprooting of man is already here. All our relationships have become merely technical ones. It is no longer upon an earth that man lives today. (Heidegger, 1966/1981, p. 56)

How then should we view Heidegger's remarks? Is he, as he may initially appear to be, an "enemy" of the global social and political movement that flared into self-conscious existence under the influence of these images? Or is the malaise to which he calls attention in these remarks properly regarded as a matter of urgent concern for environmentalists themselves? This paper has its origins in an attempt to understand the nature and practical import of Heidegger's disquiet. To this end, I begin by discussing a *phenomenon*, introduce an *idea*, and end with a *question*.

The *phenomenon* in question is the remarkable level of inaction – amounting almost to a kind of paralysis – that appears to have afflicted both governments and popular environmental campaigning organisations in the face of severe and mounting environmental problems, in the half-century since the images of the earth from space became generally available, and Heidegger's remarks were made.

The *idea* is Heidegger's conception of consciousness as (in a sense to be explained later) an *intentional reaching out to things*. Associated with this is an interpretation of "alienation" such that alienation does not simply involve misunderstanding ourselves (for example as mere "human resources"), but also involves misunderstanding our environment (again, perhaps as a mere resource; i.e. as "standing reserve"). Not simply alienation then, but "world alienation".

The *question* is: to what extent does Heidegger's later philosophy enable us to understand this concept of "world alienation" in a manner that speaks, inter alia, to the challenges facing the modern environmental movement? The answer I will hazard is that Heidegger's notion of "enframing" [*Das Ge-Stell*], interpreted as a form of world-alienation, is extremely fruitful for understanding both contemporary global environmental inaction and the more general social and existential conditions in which contemporary political struggles unfold.[1]

The phenomenon

In an article published over 20 years ago, Chris Rose, the then Programme Director of Greenpeace UK, expressed his concern that environmental action seemed to be stalled. The problem the environmental campaigners faced was not that of proving that there was an environmental crisis; instead, it was that of moving beyond proof to action. Campaigning groups had all the evidence of crisis they apparently needed, and they had had it for years. Even at that time, governments and large corporations did not generally dispute the evidence. The problem was that evidence of the problems, and insight into the problems, was not translating into action. (Rose 1993)

Anyone with a sense of the history of the modern environmental movement will recognise the concern. In the latter decades of the 20th century and the early years of the 21st, the developing political awareness of the generations and individuals who now occupy the political positions of greatest influence globally has coincided with the rise of global environmental awareness. Our political leaders and their electorates, our captains of industry, business leaders and their customers have never really known a world without widespread environmental concern and vociferous environmental campaigning.[2] Yet the generations that have grown up with environmentalism, whose representatives have reached a position of power and influence, such that they might reasonably have been expected to act on its insights, have notably failed to do what we all know to be both technically possible and

practically necessary to preserve a safe, wholesome, stable and beautiful environment for ourselves and our descendants.   (Minimise unnecessary energy use, especially the inessential use of fossil fuels; reduce the rate of consumption and move to safe renewables where possible; change the direction of our consumerist culture in favour of low-consumption lifestyles; reduce, reuse, recycle as much as we can etc. etc.) (Naess and Rothenberg, 1989)

In the 20 years since Rose published his piece, aside from having slightly more efficient cars on the road (but many more cars generally), and recycling a higher proportion of our waste (but producing much more waste in total), we in the developed world hardly seem to have slowed the pace of detrimental change, let alone made positive progress.[3] (See, United Nations Department of Economic and Social Affairs, Division of Sustainable Development, 2012)   Why then, given the very comfortable and privileged world of plenty that *we* inhabit, and knowing that we can and must make changes, are we so notably failing to do so?

A plausible theory would say that it is not really up to the decisions and actions of individuals. Ordinary people can have virtually no impact on global environmental problems. Even politicians are quite powerless to resist the blind play of economic forces and the cancerous growth of capital that dictates that the frantic overproduction of disposable consumer goods destined simply to be bought and thrown away will continue year on year. It is a view. But we are the consumers. We have the information we need to make different decisions. Why are we not making them?

According to Rose, the problem is that of making things "real". We "know" that the crisis is happening, and we "know" that is happening to "us", and to "our planet". But somehow this does not add up to the perception that it is actually happening *here*, *now*, and to *us*. It is, as Rose puts it (in a phrase that already seems anachronistic), as if it was all happening in the "virtual reality" of TV:

> [E]nvironmental problems tended to gain a media-only reality, adding to the impression that "it's all on TV – it's serious, but not much to do with me". Greenpeace and environmental problems were 'out-there', wherever that luminous world was, somewhere down the cathode ray tube. (Rose (1993), p. 292)

The CRTs may in the meantime have been replaced with LCD and plasma screens, TV news bulletins with online news feeds, but the problem remains recognisable. Rose is particularly concerned that some of the methods chosen by environmental campaigning groups have backfired, inasmuch as they have turned the paradigmatic environmental action into a media

event. The logic says that if you perform some symbolic environmental intervention (steering an inflatable boat between a whaler and the whale, attempting to block a waste discharge pipeline, commandeering a train supplying a coal-fired power station) you have to have the media on hand. If it is not reported, if it has not happened as a media event, it might as well not have happened at all. Manipulation of the media is an effective way to get the message across. But the paradox is that what then "happens" happens first and foremost as a news event. To be effective, the event must occur in the "unreal world" of the media. When we make it thus unreal, the action is in danger of becoming self-defeating.

Perhaps that puts the point too starkly. The media event has its own distinctive effects, of course. It has symbolic value, it engages people's attention and their emotions, it raises the profile of the issues and the organisations that campaign on them. But as a media event, it at the same time begins to look counterproductive. If people come to associate environmental action primarily with what happens in the world of the media, the real potential to promote acts of environmental responsibility/action/confrontation appears to be dissipated. The TV world is in danger. Of course we should do what we can… But meanwhile we can continue to live as we like, to buy and sell and produce and consume as we like, because what is happening is not happening to the real world – the world in which we live.

Arguably, the crisis that Rose identifies is less a political one than a philosophical one. More specifically, an ontological one. It might reasonably be questioned whether the very general malaise that Rose identifies is fully explained by a less-than-perfect choice of campaigning tactics. If the media presentation of environmental issues is in present circumstances the crucial factor in our environmental inaction, is there something about those circumstances - something deeper, more enduring and more pervasive - that conditions us to respond in just such a way?   We know that there are urgent problems that demand action, but we struggle to see those problems as "real".

The idea

In their general shape, the concerns Rose identifies seem to be prefigured in Heidegger's remarks concerning the photographs of the Earth from space. Environmentalists have made much of the positive impact of the slightly later (1968) "Earthrise" photos. From the first moment we were able to view the whole Earth from a vantage point that brought out its fragility and isolation, we could stand back and look at the system on which we all depend

and view it as a single, interconnected whole. (Worster 1977, Conway 2008) But as the Earthrise image travelled around the world and was processed through the media apparatus it may have had another countervailing consequence. Intellectually of course we know that the photo is of the Earth that we inhabit. But as it became a recognisable icon did it not come to represent some "elsewhere"? An elsewhere that was at the centre of environmental concern, but not really the Earth on which we live. Is the ultimate effect of such images an alienating one, as the transformation of environmental action into media symbols is alienating, along broadly the lines that Heidegger's ominous remarks suggest? The symbolic connection seems straightforward, but can it also be explicated more deeply and more thoroughly?

When Heidegger declares that we only have technological conditions left his remark clearly has relevance to the increasing technological dependence of modern life – a tendency that has intensified very considerably since the time of his remarks. In response, the *Spiegel* interviewer voices a common critical reaction: the increased technologization of modern life is not a problem, but a blessing. After all, "everything functions". The instrumental power of organised human activity is vastly increased from what it was a century ago, in terms of both efficacy and efficiency. We have an unprecedented technical capability to ameliorate and correct environmental problems - to get them "in hand". Surely that is something to be celebrated rather than regretted? In response, Heidegger remarks "precisely, everything functions", as if functioning were itself a problem. (Heidegger, 1966/1981) But if our technological might and efficiency has itself become a problem, why is it a problem, and what sort of problem is it?

A decade prior to the *Der Spiegel* interview Heidegger had identified an ontological crisis facing modern humanity, in the thematically-interconnected set of essays "The Question Concerning Technology" (Heidegger, 1977c), "The Age of the World Picture" (Heidegger, 1977a) and "Science and Reflection" (Heidegger, 1977d).   In these essays Heidegger discusses the "enframing" that is characteristic of modern science and technology, "setting upon" nature and "challenging it forth".[4] If Heidegger's concerns here related purely to the instrumental treatment of nature they would have clear environmental relevance, but their significance would perhaps be debateable. Suppose that modern technology is essentially characterised by an aggressive appropriation of natural resources. While those of a preservationist mentality might be alarmed, those whose concerns are more classically conservationist (for whom the watchword is not the preservation of nature but its wise use) could perhaps afford to be more relaxed. As long as "everything functions" – both artificial

social and economic systems, and the natural systems on which they depend – why should we worry? For conservationists of this sort, it is not functioning but *malfunctioning* we should be worried about, not "use" but "unwise use".

Nevertheless, as the above essays make clear, the all-enveloping and "conscriptive" use of nature would be regarded as problematic by Heidegger. This is because it is compatible with, and indeed consequent upon, a specific maldevelopment in our "theory of the real". (Heidegger, 1977d)

For Heidegger, the enframing that is characteristic of our technological civilisation is not fundamentally an instrumentalisation of nature but an objectification of it. In the context of inter-human ethics, "objectification" is often understood as effectively a synonym for instrumentalisation. For example, one may be held to objectify a research subject when one treats them as no more than an instrument – an extension of the experimental apparatus. But such a reduction to the status of a means would appear to be possible without a strict reduction to the status of an object. There seems to be nothing to prevent one continuing to regard someone as a person, even while one treats her as an instrument. This is precisely the potential treatment of humanity as a "means" that is the focus of Kant's Categorical imperative in its "Formula of the End in Itself" variant. (Kant, 1785/1993) The practical application of this principle would have to be radically rethought if it were to be the case that the treatment of another as a means entailed understanding them as an object rather than a person. The instrumental treatment of human beings seems to be possible without any accompanying objectification of them; similarly, the instrumental treatment of non-human nature seems possible without the objectification of nature – without understanding nature as nothing more than an object (or a concatenation of objects).

The concern then is not so much with the instrumentalisation of nature *per se* as with the objectification that accompanies and *sustains* such instrumentalisation. The roots of this objectification, on Heidegger's account, lie in the theory of the real that underlies modern technology. And the theory of the real that underlies modern technology is, Heidegger tells us, that of modern mathematical physics. (Heidegger, 1977d)

For modern physics, what is "real" is what is "measurable". More specifically, what can be assimilated to the most universal and comprehensive mathematical model of nature, laid down in advance. (Heidegger, 1977d) This view is explicitly set out in Descartes' Fifth Meditation, in which the "essence" of material things is articulated in terms of their

mathematisable features – size, shape, position, motion and duration. (Descartes, 1641/1986) The roughly contemporaneous scientific discoveries of Galileo provide an apt illustration of such a view in practice. (Galileo, 1638/1914)

Galileo's law of falling bodies describes the characteristic behaviour of any uniformly-accelerated body travelling close to the Earth's surface. The law does not purport simply to model physical processes mathematically. It is not that the law has the status of (e.g.) a mechanical model – a practical analogue of the process, useful for purposes of prediction and control. Rather, the law purports to present the process as it is in itself. Shorn of its perceptible accompaniments, the process just is the mathematically-expressible series of developments that the law articulates. Thus the scientific mathematical model has a status quite different from that of a mechanical model: it grasps the essence of the physical process *a priori*. This way of understanding nature is summed up in Galileo's famous remark that the book of nature is written "in mathematical language, and its characters are triangles, circles and other geometrical figures". (Galileo, 1623/2008, p.183) Allegedly, what mathematical physics succeeds in capturing are not the accidental features of physical processes whose perceptible accompaniments are due to our species-specific perceptual apparatus, but the character of those processes in themselves. When mathematical physics frames its mathematical laws it does so in nature's own language. In this connection, Heidegger quotes Max Planck's dictum "that is real which can be measured". (Heidegger, 1977d, p.169) Planck's remark is unfortunately ambiguous. It might be interpreted to mean – plausibly enough – that everything that is real should have a measurable aspect. That is to say, that we will not regard anything is real unless it has some mathematisable features. But actually the Galileian view outlined above implies a much more challenging view. It implies that any features of an object that are not mathematisable are not real. It is this stronger version of the view that is relevant to Heidegger's concerns. For Planck as for Galileo, it is not simply that real processes must have measurable features, but that only the mathematisable features of any given phenomenon will be regarded as real. For such a view, grasping reality *just is* grasping the means of its successful mathematical articulation.

The maldevelopment of the modern theory of the real thus includes, for Heidegger, something more ontologically significant than just the rise of a rather brutally instrumentalist approach to the exploitation of natural resources. For the modern era "real" will mean, simply: "recognised and articulated in the best contemporary theories of mathematical physics". The "Age of the World Picture" is not the age of competing "world views" – one

9

of which happens to be the world view of modern mathematical physics – but the age in which physical phenomena in general are regarded as real to the precise extent that they can be articulated within the pre-prepared theoretical framework of mathematical science.

The significance of the modern period's objectification of nature is compounded, on Heidegger's account, by the corresponding transformation that has taken place in our understanding of the notions of the "subject" and the "object". For Medieval philosophy, under the overriding influence of Aristotle's metaphysics, an individual physical thing was not an "object" but "*subjectum*" – a substance. Aristotelian substances are not the "stuff" of modern physics and chemistry (e.g. chemical compounds), but individual nameable, changeable things. Their "subject" character is rooted in their susceptibility to the processes associated with efficient causation – undergoing change, growth, decay etc.; their capacity to be re-identifiable over time; and their capacity to be identified as individual members of species and genera. By contrast, an "object" is for Medieval philosophy the object of thought – accessible to the intellect but not to the senses, and preserved from the vagaries of efficient causation, growth and decay. (Heidegger, 1977b, p.280) Paradigm objects might thus be a golden mountain, a Euclidean circle etc. In his 1962 essay "Modern Science Metaphysics and Mathematics" Heidegger traces the dramatic transformation in the meaning of these terms – amounting almost to an inversion – that took place at the beginning of the modern period. (Heidegger 1977b).

This development can again be clearly traced in the philosophy of Descartes. In pursuit of his foundationalist epistemological project, Descartes finds it expedient to subject all of his beliefs to radical doubt. Under the impact of this doubt, the existence of every Aristotelian "subject" is called into question. Since nothing can be known with certainty about such subjects their existence must be bracketed. They are no longer suitable foci of scientific investigation. The sole exception is the thinker himself. Descartes finds that it is simply incoherent to apply his strategy of doubt to his own existence. Henceforth then he must regard himself as the only subject whose existence is assured - as *the* subject - and he must regard his various mental representations as, at best, evidence of what lies beyond his own thought. (Heidegger, 1977b) The former Aristotelian world of natural substances is reduced at a stroke to an array of objects in the mind of an isolated subject. The subject himself does not emerge unscathed from this process. The subject is no longer a recognisable Aristotelian subject – an animated body, for which thought, perception and imagination go hand in hand with the bodily processes of nutrition and locomotion. Rather, the subject is now the mind –

the thinker and his thoughts, radically separated from everything involving the body. (Descartes, 1641/1986) Descartes' ontology thus presents us with a literal objectification of the world of natural things. The familiar inhabitants of the physical world, known to us through the senses, must henceforth be regarded - for scientific purposes at least – as objects in the mind of the subject.

Tracing the above transformation serves to explain why it is that the objectification of nature is accompanied in modern thought by a simultaneous *subjectification* of humanity. Epistemologically speaking, the systematic reduction of the world of natural substances to their mathematisable essence, perfectly representable as a system of mathematical shapes in motion, is the rational outcome of the Cartesian turn to the subject. As Heidegger puts the point:

> That the world becomes picture is one and the same with the event of man's becoming *subiectum* in the midst of that which is (Heidegger, 1977a, p.132)

However, the subjectification of humanity comes at a significant price. In the "Age of the World Picture" measurability and mathematical articulability become the touchstone of reality. But mathematical articulation requires representation, and representation requires a representer – the picture must be a picture *for* someone (since what is not represented to anyone is not represented at all). Not every subject can be eliminated then. If what is real is what is posited by mathematical physics then something must be doing the positing – something which must be forever outside of the system posited, and which must therefore partake in some other order of reality. The objectification of nature is inseparable from the subjectification of humanity, and the more comprehensively the world is grasped as picture the more stubbornly the modern subject comes to haunt our theory of the real as the indigestible and ungraspable foundation of the entire epistemic system.

Our examination of Heidegger's critique of the modern theory of the real has led us by turns to examine the Galileian mathematisation of nature and the Cartesian objectification/subjectification of nature and humanity. What this serves to highlight is that the malaise that is characteristic of the "Age of the World Picture" bears not only on the character of modern physical science but also on the view of the subject and of consciousness that underlies it. Without some such view of consciousness the objectification of nature outlined above would not have been tenable. Galileo's claims concerning the mathematical essence of natural things depend crucially on his claims concerning the subjective origins of

the non-mathematical qualitative features of nature as we experience it – a topic that he deals with at some length in *The Assayer*. (Galileo, 1623) According to Galileo, the sense-specific qualities of physical objects are not in those objects themselves but in us. The mathematisable features of size, shape, position and movement are really there in nature. But the sense-specific features – tastes, smells, sounds, colours, and felt qualities like heat and cold – are really in us – features of the perceiver rather than the perceived. Correspondingly, the Cartesian "objectification" of nature is predicated on a revolutionary view of the mind according to which, while we must doubt the reliability of the senses, we have privileged and uniquely reliable access to our own mental representations.

On Heidegger's account then our modern malaise at least partly reflects a problematic conception of the self and of consciousness. Considering how this malaise might be addressed in turn involves a revised view of the self-world relation and an alternative to the views of consciousness that have dominated modern epistemology since the early modern period. Grasping the promise of Heidegger's alternative requires us to revisit key themes of his earlier philosophy – in particular the central notion of being-in-the-world. (Heidegger, 1962)

Heidegger's notion of being-in-the-world is not straightforwardly a notion of "consciousness" as that term might be understood in, say, the contemporary field of consciousness studies. (Chalmers, 1995) But it nevertheless implies a view of consciousness – one that differs radically from the familiar Cartesian model. For Heidegger, our being-in-the-world is not a matter of the subject's internal representation of supposedly external mathematisable objects (nor *a fortiori* is knowledge a matter of the adequacy of those internal representations). Rather, the primary characteristic of *Dasein* – the being that we each are – is that *Dasein* has a world. (Heidegger, 1962) Our being is being-in-the-world and our consciousness is an intentional reaching out to things.

It is easy to miss the simultaneous subtlety and radicality of Heidegger's claim here. Heidegger is by no means denying the familiar features of our supposedly "inner" life. Instead, he is contesting the conclusion that the inner life can coherently be regarded as essentially "inner" – as the inner life of a Cartesian subject. What is most remarkable about *Dasein* is not that it is blessed with an inside ("consciousness"), but that unlike mere physical things it is intentionally connected to an outside. What we term "consciousness" is at the most basic level the capacity to surpass our own physical boundaries in thought and

experience. Beings like ourselves are not isolated, either from each other, or from the physical things with which we deal. We are not trapped inside our own heads, never to bridge the gap to the world outside. *Dasein* is always already outside of itself in a world. When a human being is in a forest they are in the forest in a way that no tree could ever be, though it lives and dies there. It is possible to imagine a tree apart from the forest, but it is not possible to imagine a human being apart from his / her world – though we might misunderstand our world we can never escape or fall out of it.

In the 1954 essay "Building, Dwelling, Thinking" Heidegger explores some of the ways in which the inextricable link with things that characterises Dasein is inflected under various social conditions. (Heidegger, 1977f) An eighteenth-century Black Forest farmhouse embodies in all of its features the intentional life of the family that dwelt there. From the placement of the house on the south-facing slope close to a supply of fresh water, to the pitch of the roof designed to shed snow, to the shelter provided to the bedrooms, the entire structure bespeaks the maintenance of the peasant way of life. By contrast, a modern industrial building such as a power station provides for the physical needs of its workforce, but not in such a way that the workforce could ever be said to be at home there. The power station engineers return home from their shift to good quality modern homes that are well-planned, affordable, easy to maintain, and open to air, light and sun. But it is questionable whether such homes are really dwellings. (Heidegger, 1977f)

From Dwelling to World Alienation

Our unparalleled ability to build, which has developed hand in hand with an increasing inability to dwell, is, for Heidegger a measure of our contemporary alienation. (Heidegger, 1954f) The concept of alienation has a philosophical and political history stretching back to Marx. Marx was concerned that workers under capitalism, who have no choice but to survive by selling their own labour power, suffer alienation. (Marx, 1967) They misunderstand and misjudge themselves, and this misunderstanding both facilitates and directly contributes to their continued oppression. If I understand my labour power as a commodity, and I define myself through my labour, it is but a small step to understanding myself as a commodity. In my working life, my conditions of employment are managed by a department of "human resources". I am one of the "resources" they manage. But once I regard myself as a resource my attitude to my work, and my life outside of work, will change. Instead of trying to

integrate my work with my wider life goals, such that my work becomes meaningful in itself – a coherent element in a flourishing and recognisably human life – I will regard it, and its products, in purely instrumental terms: a means to an end, a total sacrifice of the relevant hours of my life for the sake of external goods. Marx was of course concerned with ending oppressive labour conditions. But his main concern was not merely with shortening the working week, assuring employment rights etc., but with humanising work, so that it could form a rationally-comprehensible part of a decent human existence.

This concern with alienating social conditions has been taken up and modified by subsequent generations of philosophers, though not without various shifts of emphasis. A key shift of emphasis is to look beyond the problems attending the ways in which we interpret ourselves, to focus also on the ways we interpret our world. Marx was concerned about the alienating effects of waged labour under exploitative conditions, for the sake of a flourishing and recognisably human life. (Fischer, 1970, McLellan, 1971) A key theme is that there is a dialectical interplay between humanity and nature, with the goal of bringing the material interchange between humanity and nature under rational control. Nevertheless, Marx's analysis remains in the grip of the "modernist myth" that human self-realisation depends fundamentally on the mastery of nature. (Leiss, 1974) What Marx fails to emphasise is the thought that a flourishing human life (and thus an end to alienation) cannot ultimately be disentangled from a flourishing world. In this respect, self and world are inextricably linked, and the overcoming of personal alienation demands not simply an overcoming of individualism but an overcoming of a domineering attitude toward "non-human nature".

Heidegger's view of the self-world relation implies a modified conception of alienation. Heidegger is aware of the alienating power of concepts like "human resources". (Heidegger, 1977c) But the danger of objectifying our world, or objectifying others, is not separate from that of subjectifying ourselves. Something more all-embracing than the idea of alienation as a failure to realise our own essence is needed to capture the implications of our ontological crisis as Heidegger conceives it. It is reasonable then to speak in this context of a *world* alienation, in which the subjectification of the self goes hand in hand with the objectification of nature. The delicate relations of meaning that constitute the self-world nexus become transformed in our understanding into a mere juxtaposition of a concatenation of objects and an inscrutable subject.

Our existence is alienated in this sense when we not only interpret ourselves as a resource, but do so on the basis of a theory of the real that constructs the self as a cipher at the heart of a nature that is real only to the extent that it is measurable and calculable in the representational system of modern mathematical physics. For example, the most important projects of our lives, such as the project of starting and providing for a family, are presented as the outcome of brute causal mechanisms depending upon "selfish" genes, whose machinations are in principle explicable in purely physicalistic terms. Such accounts have no place for concepts of values, reasons or moral and political principles – upon which the intelligibility of our personhood is founded. Similarly, "rational" human choice is represented by contemporary economic theory as a matter of self-interested subjects weighing up various potential costs and benefits and pursuing the route of maximum preference satisfaction – a model that has taken hold even within environmental economics. (Pearce, Markandya & Barbier, 1989) The various relations of meaning that structure our social life and inform our actions – including solidarity, altruism, compassion, honour, respect etc. – are reduced to the pursuit of individual self-interest; and self-interest in turn is reduced to the satisfaction of our strongest preferences, where the nature and strength of a preference is a brute physical given, not susceptible of further analysis or critical assessment.

The question (and an attempted answer)

To what extent does the above analysis help us to understand the challenges that Rose identifies as confronting the modern environmental movement? Heidegger's writings on technology and world alienation provide an in-depth diagnosis of the malaise associated with the "Age of the World Picture". According to this analysis, our alienation does not simply consist in the instrumentalisation (including self-instrumentalisation) that was of interest to Marx.[5] Over and above our tendency to treat ourselves and each other as resources and commodities we have developed a scientific and technological conception of nature and our place in it which leads us to understand ourselves and nature as a system of fungible and disposable resources, ripe for exploitation. The world alienation from which we suffer is not reducible to a way of understanding our world, but extends also to the way it is experienced. The "enframing" that is characteristic of modern science and technology is not simply an ethical failing (e.g., in Kantian terms, a tendency to instrumentalise human and non-human subjects, rather than to respect them as ends). Rather, it is a way of "revealing" – of

experiencing, perceiving and making sense of the world. (Heidegger, 1977c) "Revealing" here embraces perception as well as theoretical understanding, practical action as well as theoretical contemplation. Our environment and its human and non-human inhabitants are experienced and understood as resources, by way of a "theory of the real" that is geared to regarding features of the world as real only to the extent that they lend themselves to technological manipulation. The all-embracing character of this alienation is evident in the fact that it appears to require no justification. The former world of (Aristotelian) subjects has been replaced by a world of "objects", which are consider real only insofar as they are susceptible of measurement, prediction and control by the established methods of the physical sciences. Features of the world that do not lend themselves to such treatment are consigned to the domain of "subjectivity" – the private and inscrutable realm of the self-conscious individual, whose values, motives and principles are nothing but the expressions of non-rational preferences - themselves perhaps ultimately explicable on the basis of genetics and neuroscience. The consequence is that everyday experience appears to confirm what techno-centric ideology preaches. The idea that we might be guilty of an "objectification" of nature strikes us as absurd. How could "objectification" be a concern when what we are surrounded by is precisely a world of "objects"?

Our ontological crisis becomes an environmental crisis when we find that our ways of thinking, judging, communicating and campaigning are all underpinned by an objectified conception of ourselves and our environment. We may understand the natural systems on which human life depends in far more detail than our grandparents did. But if at the same time we understand those systems as a brute agglomeration of objects our understanding will be an alienating and alienated one. The planet we set out to protect will not be conceived as a world at all, but as a complex system of energy flows and matter in motion, detached from the realities of everyday experience. In such alienated conditions the prospects for principled collective action on behalf of the human and non-human victims of environmentally damaging activities look bleak. Collective principles are dismissed as a chance coming together of preferences, or at best of interests. Action on behalf of human and non-human nature is regarded as rational only to the extent that it concerns itself with the conservation of resources – of "standing reserve" (Heidegger, 1977c) – for what else is there to protect when that "else" is conceived as nothing but "measurable accumulation"?

Accordingly, the crisis that the environmental movement has encountered looks to have deeper roots than can be accounted for on the basis of a campaigning technique that has got

out of hand. The problems that afflict contemporary public debate on environmental issues are not simply a matter of media strategy and the rhetoric of public debate. Rather, what we face is an ontological crisis with deep historical roots in modern scientific and technological culture. We remain mired in environmental inaction because our very theory of the real has served to make the earth unreal for us.

How might such a crisis be resolved? Here the helpfulness of Heidegger's analysis might appear to run out. The predominance of a particular mode of revealing the real is for Heidegger a matter of history and destiny – an epochal affair which conditions the character and achievements of an age but is absolutely not susceptible of instrumental manipulation by human actors. As Heidegger's former student Hans-Georg Gadamer memorably put it "history does not belong to us; we belong to it". (Gadamer, 2004, p.278) If a particular mode of revealing the real is a historical affair we must apparently await a seismic historical shift before we can hope for its transformation into something more fruitful. Insofar as this view places the issue beyond the reach of simple instrumental manipulation it appears consistent with Heidegger's broader thesis. The simplistic ambition to "get technology in hand" will no doubt prove self-defeating if it represents nothing more than a further extension of technological rationality. (Heidegger, 1977c) But it would be an error to conclude that the only course is to wait passively for history to deliver an alternative. Heidegger notes that his analysis emerged from a meditation on the essence of technology. Such a meditation inevitably moves beyond the sphere of the technological, and this is itself an element in a historical process. More broadly, the historical attempt to understand the conditions that have led to our ontological crisis does not represent a step beyond history, but is a distinct historical step in its own right. From the fact that history does not belong to us it does not follow that we can do nothing in the face of historical forces but wait passively for a historical shift to take place. Rather, it means that our own efforts are embedded in a broader historical process in which they inevitably have their own (major or minor) effects. Thus the effort to understand the origins of our world-alienation is already part of a historical process that may in due course lead to a transformation – more or less dramatic – in the culture that gave rise to it. The view that we belong to history is not equivalent to a historical determinism.[6] That the modern environmental movement is embedded in a historical process, which it cannot simply transcend, is not therefore an observation that should lead to a doctrine of despair and inertia. Rather, the proper moral to draw is that while there is no action we could take that would simply transcend the historical process, the core of the

historical process is our own developing self-understanding. Our own efforts to understand our predicament are themselves evidence of an unfolding process that may already be on the brink of a decisive shift. Heidegger's analysis is not therefore a counsel of despair, but a call to try to grasp the developments he discusses in their concrete historical dimension – a call to authentic self-understanding that seeks to evade the distortions of instrumentalistic thinking in both its voluntaristic and its deterministic dimensions.

Notes.

[1] In his new translation of the Bremen and Freiburg lectures upon which Heidegger's later writings on technology were based, Andrew Mitchell translates "Das Ge-Stell" as "positionality", "Die Gestelle" as "framework", and "Die Gestellung" as "conscription". Since my focus is on the later writings, and since William Lovitt's translation of these writings is well-established and familiar to English readers, I have elected to employ Lovitt's usage in preference to that of Mitchell. These considerations aside however, it seems to me that Mitchell provides very good reasons in support of his own preferred translation of these terms. Cf. M. Heidegger (2012)*, Bremen and Freiburg Lectures* trans. A. Mitchell (Bloomington: Indian University Press), p. xi.

[2] This process has of course issued in some important achievements – for example, The United Nations Framework Convention on Climate Change (1992) and the following United Nations Climate Change conferences (1995).

[3] In the wider industrialising world the situation is worse, but here I will confine my attention to the developed world, as the course of the examples most pertinent to my central theme.

[4] See above, n.1

[5] For an in-depth discussion, see Laurence Hemming, *Heidegger and Marx: A Productive Dialogue over the Language of Humanism* (2013).

[6] It would be possible to read a deterministic moral into much of Heidegger's later philosophy of Being, as well as his Der Spiegel interview ("Only a God can save us…"). In my view however, this would be a mistake. Evidently Heidegger does not see the "solution" to the malaise we have been discussing as a mere matter of will and self-assertion - a

pragmatics affair of getting technology "in hand" (and to that extent it may be a mistake to think in terms of a "solution" at all). Short of determinism, it is perhaps tempting to regard Heidegger's later philosophy as quietistic: we must patiently wait for another mode of revealing the real to be granted to us. But insofar as his concern is essentially with the *history* of Being, neither of these readings is forced upon us. Historicality does not entail determinism or quietism. History may not belong to us but human beings still make history, albeit under definite historical conditions. To say that our existence is historical is to say that it is marked by the kind of freedom proper to history. We make history but we do not make it ahistorically.

References

Chalmers, David (1995) "Facing up to the problem of consciousness". *Journal of Consciousness Studies*, 2: 200–19.

Conway, Erik M. (2008) *Atmospheric Science at NASA* (Baltimore: John Hopkins University Press)

Descartes, Rene (1641/1986) *Meditations on First Philosophy with Selections From the Objections and Replies* trans. John Cottingham (Cambridge: Cambridge University Press)

Fischer, Ernst with Marek, Franz (1970) *Marx in his Own Words* trans. Anna Bostock (London: Allen Lane)

Gadamer, Hans-Georg (2004) *Truth and Method* trans. Joel Weinsheimer and Donald G. Marshall (London: Continuum)

Galilei, Galileo (1638/1914) *Dialogue Concerning Two New Sciences* trans. Henry Crew and Alfonso de Salvio (London: Macmillan)

Galilei, Galileo (1623/2008) "The Assayer" in Galileo, *The Essential Galileo,* trans. Maurice A. Finocchiaro (Indianapolis: Hackett)

Heidegger, Martin (1977a) 'The Age of the World Picture'. In *The Question Concerning Technology and Other Essays*, trans. W. Lovitt (New York: Harper and Row)

Heidegger, Martin (1982) *The Basic Problems of Phenomenology*, trans. A. Hofstadter (Bloomington & Indianapolis: Indiana University Press)

Heidegger, Martin (1962) *Being and Time*, trans. J. Macquarrie and E Robinson (Oxford: Blackwell)

Heidegger, Martin (1977b) 'Modern Science, Metaphysics and Mathematics', in *Martin Heidegger: Basic Writings* trans. D.F. Krell (San Francisco: Harper Collins)

Heidegger, Martin (1966) '"Only a God can save us": The *Spiegel* interview' trans. W. Richardson, in T. Sheehan (ed.) *Heidegger: The Man and the Thinker* (Chicago: Precedent Publishing, 1981)

Heidegger, Martin (1977c) 'The Question Concerning Technology'. In *The Question Concerning Technology and Other Essays*, trans. W. Lovitt (New York: Harper and Row)

Heidegger, Martin (1977d) 'Science and Reflection'. In *The Question Concerning Technology and Other Essays*, trans. W. Lovitt (New York: Harper and Row)

Heidegger, Martin (1977e) 'The Turning'. In *The Question Concerning Technology and Other Essays*, trans. W. Lovitt (New York: Harper and Row)

Heidegger, Martin (1977f) "Building, Dwelling, Thinking" in *Martin Heidegger: Basic Writings* trans. D.F. Krell (San Francisco: Harper Collins)

Heidegger, Martin (2012) *Bremen and Freiburg Lectures* trans. A. Mitchell (Bloomington: Indian University Press)

Hemming, Laurence (2013) *Heidegger and Marx: A Productive Dialogue over the Language of Humanism (Evanston: Northwestern University Press)*

Kant, Immanuel (1785/1993) *Grounding for the Metaphysics of Morals*, trans. James W. Elkington (Indianapolis: Hackett)

Leiss, William (1974) *The Domination of Nature* (New York: Beacon Books)

Marx, Karl (1967) 'Economic and Philosophic Manuscripts 1844' In *Writings of the Young Marx on Philosophy and Society* eds. Loyd D. Easton and Kurt H. Guddat (New York: Anchor Doubleday)

McLellan, David (1971) *The Thought of Karl Marx* (London: Macmillan)

Naess, Arne and Rothenberg, David (1989) *Ecology, Community and Lifestyle* (Cambridge: Cambridge University Press)

Pearce, David; Markandya, Anil; Barbier, Edward (1989), *Blueprint for a Green Economy* (London: Earthscan)

Poole, Robert (2012) "What was Whole about the Whole Earth? How the Earth sciences saw their subject, 1945-75" (Unpublished research paper, presented at 'Cold War Blue Planet' conference at CHSTM, University of Manchester, June 2012)

United Nations Department of Economic and Social Affairs, Division of Sustainable Development (2012) *Review of the Implementation of Agenda 21 and the Rio Principles* http://www.uncsd2012.org/content/documents/194Synthesis%20Agenda%2021%20and%20Rio%20principles.pdf

Rentmeester, Casey (2015) *Heidegger and the Environment* (London: Rowman and Littlefield International, 2015)

Rose, Chris (1993) 'Beyond the Struggle for Proof: Factors Changing the Environmental Movement', *Environmental Values* 2: 285-98

Worster, Donald (1977) *Nature's Economy* (Cambridge: Cambridge University Press)

Zimmerman, Michael (1990) *Heidegger's Confrontation with Modernity* (Bloomington In.: Indiana University Press)