

The Midas Effect: A Critique of Climate Change Economics

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ABSTRACT

Global climate change is perhaps the most serious problem the world faces. Despite its severity, mainstream economic approaches to addressing the problem fail to get to the root cause — the capitalist global economy — falling instead for ‘the Midas Effect’, the notion that ecological values can be converted into economic values. Here we highlight the severity of the global climate crisis, which requires that atmospheric carbon levels be reduced (to 350 ppm), and explain how capitalism is the primary driving force behind this crisis. We argue that to address this problem properly, nothing less than an ecological revolution is required, where we replace the current capitalist system with one based on meeting human needs in a sustainable way, not furthering capital accumulation.

INTRODUCTION

James Hansen, a leading US climatologist and director of NASA’s Goddard Institute for Space Studies, warns that global climate change today constitutes a ‘planetary emergency’. Existing trends threaten to set in motion irreversible climate transformations, proceeding ‘mostly under their own momentum’, thereby fundamentally transforming the conditions of life on earth (Hansen, 2008b: 7–8). It is becoming increasingly evident that capitalism, given its insatiable drive for accumulation, is the main engine behind impending catastrophic climate change. Unfortunately, mainstream economics, although now acknowledging the importance of environmental issues, remains hamstrung by its adherence to the existing system of economic relations. It therefore relies increasingly on what can be called transmutation myths — referred to here as ‘the Midas Effect’ — as a way out of the global environmental crisis. In contrast, our argument in this contribution suggests that nothing less than an ecological revolution — a fundamental reordering of relations of production and reproduction to generate a more sustainable society — is required in order to prevent a planetary disaster.

THE 350 IMPERATIVE

Human activities, primarily fossil fuel combustion and deforestation, are unequivocally responsible for the observed warming of the earth's atmosphere (Intergovernmental Panel on Climate Change, 2007a). In the 1990s global carbon emissions increased 0.9 per cent per year, but since 2000 they have increased by 3.5 per cent per year, presenting a scenario that is outside of the range of possibilities considered in the 2007 IPCC report (Kintisch, 2009; Schmid, 2009). This recent escalation has been due to economic growth, rising carbon intensity, and the continuing degradation of ecosystems that serve as natural carbon sinks (Canadell et al., 2007). At the IPCC meeting held in Copenhagen in March 2009, several researchers noted how global climate conditions had gone from bad to worse: 'Emissions are soaring, projections of sea level rise are higher than expected, and climate impacts around the world are appearing with increasingly frequency' (Kintisch, 2009: 1546).

The carbon dioxide concentration in the atmosphere has increased from the pre-industrial level of 280 parts per million (ppm) to 387 ppm today (higher than ever before during recorded human history), with an average rate of growth of 2 ppm per year. Climatologists had previously indicated that an increase above 450 ppm would be extremely dangerous, given that various positive feedbacks would be set in motion, furthering climate change. But 450 ppm is now seen as too high, given that — because of inadequate knowledge — most climate models failed to consider 'slow' climate feedback processes such as the disintegration of ice sheets and the release of greenhouse gases from soils and the tundra (Hansen et al., 2008; Kintisch, 2009).

Hansen and his colleagues (2008: 217) warn that 'if humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest' that carbon dioxide must be reduced to 'at most 350 ppm'. Thus, it is imperative to act now, since we have already surpassed the limit, and the longer we exceed this point and the further we push up these numbers, the greater the threat of creating irreversible environment changes with dire consequences. Global temperature is already at the warmest it has been during the Holocene (the last 12,000 years, which includes the rise of human civilization). Climate change has shifted the habitat zones for animals and plants and influenced the hydrologic cycle. Specific positive feedbacks have been set in motion, so that even if carbon dioxide emissions do not increase further, significant additional warming would still occur.

Indeed society, through its expanding production and the resulting carbon emissions, is already in the process of racing off the cliff. For instance, the thawing of the tundra will release massive quantities of the potent greenhouse gas methane. Drought conditions will cause 'the loss of the Amazon rainforest', greatly diminishing natural sequestration (Hansen, 2008b; Kintisch, 2009: 1547). The melting of ice sheets will reduce the earth's reflectivity,

accelerating the warming process. Other related trends include a rapidly increasing extinction rate, growing severity of droughts and storms, rising sea levels and expanding numbers of ecological refugees throughout the world.

Under these circumstances of what can be called, without hyperbole, threatened apocalypse, it is critically important to assess what forces are driving the ecological crisis, especially the accumulation of carbon in the atmosphere (Clark and York, 2005). What is abundantly clear at this point is that the logic of capital accumulation runs in direct opposition to environmental sustainability. The motor of capitalism is competition, which ensures that each firm must grow and reinvest its 'earnings' (surplus) in order to survive. By its nature, capital is self-expanding value, and accumulation is its sole aim (Foster, 2002). Hence, capitalism as a system does not adhere to, nor recognize, the notion of *enough*. Joseph Schumpeter (1951: 293) observed that 'stationary capitalism would be a *contradictio in adjecto*'. The economy must grow in scale and intensity in order to survive. The earth and human labour are systematically exploited/robbed to fuel this juggernaut. Today we are threatened by the transformation of the entire atmosphere of the earth as a result of economic processes.

THE ORTHODOX ECONOMICS OF CLIMATE CHANGE

Although mitigation of and/or adaptation to climate change is now definitely on the global agenda, there remains a real danger that it will be hijacked by mainstream economics, which plays a critical role in constraining possible social responses. The threatening implications of this are clearly revealed in the work of two leading mainstream economists, Nicholas Stern and William Nordhaus, who represent the limits of variance that exist within the neoclassical economics mainstream on the issue of climate change.

In the most progressive neoclassical treatment of global warming, Stern (2007) argues that carbon dioxide *equivalent* concentration in the atmosphere (which includes other greenhouse gases as well) should be stabilized at 550 ppm. This corresponds to an atmospheric carbon dioxide concentration of 480 ppm and a rise in global temperature of 3–4°C (6.1–7.2°F) above pre-industrial levels.¹ Even though this exceeds atmospheric carbon targets proposed by climatologists, Stern insists that efforts to limit greenhouse gases to levels below this should not be attempted, given that they 'are unlikely to be economically viable' and would threaten the economic system itself.

1. Here we indicate a range in global temperature, given that the IPCC (2007b) indicates that if the carbon dioxide equivalent concentration was stabilized at 535–590 ppm, the global mean temperature would increase 3.2°C above the pre-industrial temperature. Stern (2007), in contrast, estimates that a carbon dioxide equivalent concentration of 550 ppm would increase the global temperature 4.4°C.

As he put it, 'it is difficult to secure emission cuts faster than about 1 per cent a year except in instances of recession' (Stern, 2007: 231). In other words, the level of atmospheric carbon is not to be determined by ecological considerations in this conception, but by what the present economic system will permit.

William Nordhaus (2008), the most prominent US economic analyst of climate change, suggests that only modest reductions in greenhouse gas emissions should be implemented in the short term, while in the long term more ambitious reductions could be put into place. In support of this 'climate-policy ramp', he argues against drastic attempts to stabilize emissions this century. Instead he insists on an 'optimal path' that would slow the growth of carbon emissions, peaking at about 700 ppm by 2175, with a global average temperature approaching 6°C (10.8°F) above pre-industrial levels. This way the economy will be permitted to grow, allowing for various investments in welfare-enhancing areas of the economy to address whatever risks may arise from climate changes. Taking strong measures to reduce carbon levels, even to the extent proposed by Stern, is seen by Nordhaus as being too economically costly.

Both of these options, offered by orthodox economists who are seen as taking pro-environment positions, would lead to atmospheric carbon dioxide stabilization goals that many scientists see as catastrophic. Thus the mainstream economics of climate change directs us toward an ecologically unsustainable target — one that climatologists believe would imperil human civilization itself, and could result in deaths in the millions, even billions, plus the loss of countless numbers of species (see, for example, Lovelock, 2006).

THE MIDAS EFFECT

The critical issue that clearly arises here is the unworldliness (in the sense of ecological blinders) of received economics and of the capitalist system it serves. In order to find an appropriate comparison one has to enter the misty realm of mythology. Indeed, the characteristic relation of orthodox economics to the environment, we suggest, can be best described as 'the Midas Effect'. We use this term to refer to a set of transmutation myths or ecological alchemy, whereby economics, in addressing environmental problems, constantly seeks to transmute ecological values into economic ones. In the Greek and Roman myth of Midas, as told by Ovid in his *Metamorphoses*, the god Bacchus (Dionysus) offered King Midas of Phrygia his choice of whatever he wished for, in return for the aid that he had given to the satyr Silenus, Bacchus's tutor and foster father. Midas chose the gift of having everything that he touched turn to gold. Bacchus granted him his wish, and Midas rejoiced in his new power. Everywhere he tested:

the efficacy of his gift by touching
one thing and another: even he
could scarcely credit it, but when he snapped
a green twig from the low branch of an oak,
the twig immediately turned to gold;
he picked a stone up, and it did the same;
he touched a clod, and at his potent touch,
the piece of earth became a lump of ore;
ripe wheat-heads plucked produced a golden harvest
All turns to gold! He scarcely could imagine! (Ovid, 2004: 373–75)

Nature itself — branch, stone, earth, grain, stream — thus became gold at his mere touch. The folly of Midas's choice, however, materialized when he discovered that his food and drink also turned to gold at his mere touch, leaving him hungry and thirsty. In one version of the myth he turned his daughter into gold. Midas therefore pleaded with Bacchus to free him from his curse, and the god showed him mercy. Thereafter Midas scorned wealth and became a worshiper of Pan, the god of nature.

Cursed by their own gods of profit and production, today's mainstream economists see the challenge of the environmental limits to growth as surmountable due to three transmutations: (1) the universal *substitutability* of everything in nature so that nothing natural is irreplaceable or irreversible; (2) *dematerialization*, or the decoupling of the economy from actual resource use; and (3) the conversion of nature into *natural capital*, whereby everything in nature is assigned an economic value. By such fantastic means today's dominant economists dream of turning the earth into money in order to overcome the external limits to economic expansion. 'The commodity' economy of capitalism, Elmar Altvater (1993: 184) wrote in *The Future of the Market*, 'is narcissistic: it sees only itself reflected in gold'.

In such a commodified world, ecological alchemy prevails. Anti-environmentalist economist Julian Simon (1980: 1435; 1981: 47) proclaimed a number of times that if the world ran out of copper, then copper, an element, could be produced artificially. Resorting to philosophical idealism to defend this position, he later declared: 'You see, in the end copper and oil come out of our minds. That's really where they are' (Simon, 1982: 207).

Mainstream environmental economists, though rarely as crude in their rejection of environmental issues as Simon, typically adopt what is called the 'weak sustainability hypothesis', that is, the notion that everything in nature if exhausted (or exterminated) can be substituted for with the help of technology. This means that the natural environment presents no actual limits or critical thresholds to the infinite transmutation of the world into gold, i.e., the cash nexus (Turner et al., 1993). As Robert Solow (1974: 11), a winner of the Bank of Sweden's Nobel Memorial Prize in the Economic Sciences, once wrote in criticism of the 'limits to growth' perspective: 'if it is very easy to substitute other factors for natural resources, then there is in

principle no “problem”. The world can, in effect, get along without natural resources, so exhaustion is just an event, not a catastrophe’.²

Similarly, one of Britain’s leading mainstream environmental economists, David Pearce (1993: 8), author of the UK government’s *Blueprint for a Green Economy*, has stated: ‘sustainable development . . . [is] fairly simply defined. It is continuously rising, or at least non-declining consumption per capita, or GNP, or whatever the agreed [economic] indicator of development is. And this is how sustainable development has come to be interpreted by most economists addressing the issue’. Sustainability is thus defined entirely in terms of economic growth, monetary wealth and consumption, without any direct reference to the environment. Given substitutability, nature simply disappears. Only money matters.

In another transmutation, mainstream environmental sociologists and ecological modernization proponents have repeatedly turned to the notion of dematerialization. This is the view that the growth of economic value and even the production of goods can be decoupled from the consumption of nature’s resources, through ever greater efficiency. Production can be so transformed to create a ‘weightless economy’ (Leadbeater, 2000; Mol, 2000). So far, however, all such dreams have proven illusory. Even where greater efficiency in the use of energy and materials is attained, the efficiency gains, under a capitalist system, are used to expand the scale of the system, outweighing any ‘dematerializing’ tendencies — a phenomenon known as the Jevons Paradox (Clark and Foster, 2001).

Others, like Paul Hawken and Amory Lovins, claim that the solution is to reconceptualize nature as natural capital, and thus to extend capitalism to all of nature (Hawken et al., 1999). It is assumed that the proverbial efficiency of the market will then take over, safeguarding environmental values. However, conceiving forests as so many millions of board feet of standing timber (thereby as natural capital) has historically done very little to preserve forest ecosystems. Putting price tags on species and ecosystems will only serve in the end to subsume nature to the endless growth of production and profits.

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2. Solow (1974: 11) went on to consider the opposite case where substitutability was bounded. But the nature of his argument was to emphasize very high levels of substitutability: i.e., ‘Nordhaus’s notion of a “backstop technology”’, in which ‘at some finite cost, production can be freed from exhaustible resources altogether’. Solow treated this not as absurd, but as somehow closer to the truth than its opposite. In another piece written at about the same time, Solow (1973: 45–50) asked ‘Why should we be concerned with the welfare of posterity, given the indubitable fact that posterity has never done a thing for us?’. He added that productivity in natural resource use could increase ‘exponentially’ indefinitely. Substitutability (e.g., nuclear fission in place of oil) could compensate for loss of particular finite resources. He therefore asserted that there was no reason to think that there were environmental limits to growth. Nearly two decades after this, Solow was still arguing that the environmental impact problem was simply one of ‘substituting’ rather than ‘reducing’ (Solow interviewed in Ravaioli, 1995: 72).

The Midas Effect thus stands for the inability of received economics and the capitalist system itself to recognize that there are intrinsic values and critical thresholds in nature, which we ignore at our own cost. Midas turned his daughter into gold in his mad search for wealth. Today's economics threatens to destroy the lives of future generations as well as those of innumerable other species in like fashion.

Perhaps the most potent example of the ecological blinders of mainstream economics is to be found in figures like Stern and Nordhaus who argue for levels of atmospheric carbon dioxide that threaten the planet as we know it, along with human civilization itself. This is justified, as we have seen, on the basis that a serious programme for the control of greenhouse gases to save the planet would imperil capitalist economic growth — as if capitalism exists at a more basic level than the planet itself. As biologist and climate scientist Stephen Schneider (1997: 134) has commented: 'In essence, they [mainstream economists] accept the paradigm that society is almost independent of nature'.

THE REVOLUTION FOR ENOUGH

The ancient Greek philosopher Epicurus observed: 'Nothing is enough to someone for whom enough is little' (1994: 39). This statement contains the germ of a materialist ecological critique of the current system, and indicates what must be transcended in order to pursue environmental sustainability. The goal of society needs to shift radically, as Marx (1981: 754) emphasized in the nineteenth century, from the endless pursuit of private profit and accumulation to sustainable human development for the sake of 'successive generations'.

Recognizing the incompatibility between a capitalist system geared to exponential growth and the goal of sustaining the earth for future generations, influential environmentalist James Gustave Speth (2008: 63) has recently written: 'Capitalism as we know it today is incapable of sustaining the environment'.³ Others within the Marxist tradition have gone even further in their ecological criticisms of capitalism. Writing two decades ago on 'Capitalism and the Environment', US Marxist economist Paul Sweezy (1989: 6) concluded that seriously addressing the ecological crisis required 'a reversal, not merely a slowing down, of the underlying trends of the last few centuries'. As Evo Morales (2008), socialist president of Bolivia, has stated: 'Competition and the thirst for profit without limits of the capitalist system

3. Speth takes a position that is explicitly 'anti-capitalist' while being 'non-socialist'. He identifies socialism primarily with Soviet-type societies. In reality, many of his views are similar to the movement for a 'socialism for the 21st century', which is aimed at the core values of social justice and environmental sustainability. See Foster et al. (2009) for a discussion of Speth's views and their significance.

are destroying the planet. Under Capitalism we are not human beings but consumers. Under capitalism mother earth does not exist, instead there are raw materials The earth is much more important than stock exchanges of Wall Street’.

A full-fledged ecological revolution means that the human relations with nature would need to be completely restructured. It is our contention that an *elementary triangle of ecology* (related to Hugo Chávez’s ‘elementary triangle of socialism’), prescribed by the natural laws of life itself, constitutes the necessary foundation of the new society: (1) social use, not ownership, of nature; (2) rational regulation by the associated producers of the metabolism between human beings and nature; and (3) the satisfaction of communal needs — not only of present but also future generations (Foster, 2009: 32–5). What is needed, in other words, is a green cultural revolution, in which humanity as a whole radically redefines its needs in relation to community, equality and sustainability.

TRANSITION STRATEGIES

Some argue today that the speed and intensity of the ecological threat leaves us with no choice but to stick with the existing system and embrace its limited and myopic solutions to environmental problems: such strategies as ‘cap and trade’ carbon markets and market-driven technological silver bullets. The fantastic nature of these strategies reflects the fact that they conform to the Midas Effect of mainstream economics: environmental change must conform to the ‘bottom line’ of capital accumulation.

In fact, where adopted, carbon markets have accomplished little to reduce carbon emissions. This has to do with numerous factors, not least of all provisions for nations to buy out of the actual reductions in various ways. The idea that technology can solve the global environmental problem, as a kind of *deus ex machina* without changes in social relations, belongs to the area of fantasy and science fiction. Thomas Friedman (2008: 186–7) provides a vision of green industrial revolution in his *Hot, Flat, and Crowded* in which he repeatedly tells his readers that if given ‘abundant, clean, reliable, and cheap electrons’, we could move the world and end all ecological problems. Gregg Easterbrook (1995: 687–8), in what he calls environmental ‘realism’, argues that even if we destroy this biosphere we can ‘terraform’ Mars — so humanity’s existence is not necessarily impaired by environmental destruction.

The very desperation of such establishment arguments, which seek to address the present-day environmental problem without confronting the reality of capitalism, highlights the need for more radical measures in relation to climate change and the ecological crisis as a whole. Especially noteworthy in this respect is Hansen’s carbon tax proposal, and global contraction-conversion strategies. In place of carbon markets, which invariably include

various ways to buy out of emissions reductions (registering reductions while actually increasing emissions), Hansen (2008a) proposes a carbon tax for the United States to be imposed at well-head and point of entry, aimed at bringing carbon dioxide emissions down to near zero, with 100 per cent of the revenue from the tax being deposited as monthly dividends directly into the bank accounts of the public on a per person basis (with children receiving half shares). Not all carbon taxes of course are radical measures. But Hansen's emergency strategy, with its monthly dividends, is designed to keep carbon in the ground and at the same time to appeal to the general public. It explicitly circumvents both the market and state power, in order to block those who desire to subvert the process. In this, the hope is to establish a mass popular constituency for combating climate change by promoting social redistribution of wealth toward those with smaller carbon footprints (the larger part of the population).

Hansen insists that any serious attempt to protect the climate means going against Big Coal. An important step would be to declare a moratorium on new coal-fired power stations, which he describes as 'death factories' since the carbon emissions they produce contribute to escalating extinction rates (as well as polluting regional environments and directly impairing human health) (Hansen, 2009). He argues that we need to leave as much coal as possible in the ground and to close existing coal-fired power stations if we are to prevent catastrophic environmental change.

From a global standpoint, ecological degradation is influenced by the structure and dynamics of a world system hierarchically divided into numerous nation states, competing with each other both directly and via their corporations. In an attempt to counter carbon imperialism, Anil Agarwal and Sunita Narain (1991) propose that carbon emissions of nations should be determined on an equal per capita basis, rooted in what is allowable within the shared atmosphere. The global North, with its relatively smaller population in contrast to the South, has used a disproportionate amount of the atmospheric commons, given its immense carbon emissions. Thus Tom Athanasiou and Paul Baer (2002) and other climate justice activists propose a process of contraction and convergence. The rich nations of the North would be required to reduce (contract) their emissions of greenhouse gases to appropriate levels as determined by the atmospheric carbon target. Given global inequalities, the nations of the South would be allowed to increase their emissions gradually to a limited extent — but only if a nation had a per capita carbon emission rate below the acceptable level established by the target. This would create a world converging toward 'equal and low, per capita allotments' (Athanasiou and Baer, 2002: 84). Today contraction and convergence would necessarily aim at stabilizing atmospheric carbon dioxide at 350 ppm, in conformity with scientific indications.

Such a proposal would mean that the rich nations would have to reduce their carbon emissions very rapidly by levels approaching 100 per cent, while a massive global effort would be needed to help countries in the

global South move toward emissions stabilization as well, while not jeopardizing sustainable human development. Such a process of contraction and convergence would require that the global North pay the ecological debt that it has accrued through using up the bulk of the atmospheric commons, by carrying the main cost of mitigation globally and aiding nations of the South in adapting to negative climate effects.

ECOLOGICAL REVOLUTION

In reality, the radical proposals discussed above, although ostensibly transition strategies, present the issue of revolutionary change. Their implementation would require a popular revolt against the system itself. A movement (or movements) powerful enough to implement such changes on the necessary scale might well be powerful enough to implement a full-scale social-ecological revolution. In fact, humanity cannot expect to reach 350 ppm and avoid planetary climatic disaster except through a major global social transformation, in line with the greatest social revolutions in human history. This would require not simply a change in productive forces but also in productive relations, necessitating a green cultural revolution. The answer to today's social and environmental crisis, as Lewis Mumford argued in *The Condition of Man* (1973: 419–23), lies in the creation of the 'organic person', or a system of sustainable human development. This means the creation of cultural forms that present the opportunity for balance in the human personality. Rather than promoting the asocial traits of humanity, the emphasis would be on nurturing the social and collective characteristics. Each human being would be 'in dynamic interaction with every part of his environment'.

For revolutionary environmental thinker-activists, the first condition of sustainability is the restoration of genuine human community (and communities of communities). The concept of community, as Herman Daly and John Cobb (1989: 168–72) insisted in *For the Common Good*, points to a social order with definite 'communal' characteristics. It involves extensive collective participation in decision making, and thus necessitates, at its highest level of development, what the early communist François Babeuf (Buonarroti, 1836: 364–74) called 'a society of equals', i.e. a system of substantive equality (Mészáros, 2008: 258–9). A society that is actively *communal* in this sense can arise only out of a strong collective bond, dissolving mere individual economic exchange. Moreover, a sustainable community requires both the cultivation of a sense of place and the extension of the community ethic to what Aldo Leopold (1949) referred to as a 'land ethic', incorporating the surrounding ecology.⁴

4. The discussion here draws on Foster (2009: 31–2).

It is only at this point in human history, if it were to be reached, that we could speak of the implementation in full of the elementary triangle of ecology. The sustainable development of each would be the key to the sustainable development of all — with both *the each* and *the all* now extended to the earth itself. Such a vital, humanistic–naturalistic community would require for its emergence, however, an ecological revolution against capitalism — in other words, the fall of Midas.

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