

Climate-crisis capitalism, global environmental governance and geopolitical competition in emissions laxity

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The Rebound of the Capitalist State

The re-articulation of state-capital relations in the global crisis

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Abstract

The recent rounds of world climate negotiations reveal severe flaws in the character of global capitalism, the role of leading state agents in its transformation, and state-capitalist relations. The hope for the planet's survival has been vested in a combination of multilateral emissions rearrangements and national regulation. But these are unfolding not within the parameters of multilateral agency – much less national state – control of market dynamics, but instead, subordinated to the ongoing neoliberal accumulation strategy known as financialization. This process is fraught with contradictions, resulting in amplified crises. In this context, the United Nations Framework Convention on Climate Change summits in Copenhagen (2009), Cancún (2010) and Durban (2011) confirm that with the demise of the Kyoto Protocol's binding commitments by leading industrial states to make emissions cuts, a renewed effort is underway to promote market-incentivised reductions in spite of widely-acknowledged emissions market failure. The social, geopolitical and ecological implications are sobering, especially for a Climate Justice movement that seeks to radically reduce GreenHouse Gas emissions in a way that permits Southern industrialisation, to decommission carbon markets and to enforce payment of the North's 'climate debt.'

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Introduction

What might be termed climate-crisis capitalism is the global environmental managerial elites' strategy of turning a medium/long-term humanity-threatening prospect, already responsible for extreme, immediate damage to infrastructure and agriculture, into a short-term source of speculative profit. Instead of acting to counteract this damage, the major national state agents – from not just the North but also the BRICS group of emerging markets – are facilitating climate-crisis capitalism. The deals they have pursued since the world financial meltdown, in order to resurrect market strategies, include commodification of nearly everything that can be seen as a carbon sink, especially forests but also agricultural land and even the ocean's capacity to sequester carbon dioxide (CO₂) for photosynthesis via algae. The basic idea behind the European Union Emissions Trading Scheme (ETS), the Kyoto Protocol's Clean Development Mechanism (CDM), the Reduced Emissions through Deforestation and forest Degradation (REDD), offsets and other for-profit climate financing programmes, is to harness and direct capital towards lower-emissions activities, renewable energy and various kinds of sinks. However, it has become evident that this worst-ever case of market failure, GreenHouse Gas (GHG) emissions causing climate change, cannot be solved by even more chaotic, crisis-ridden financial markets.

The United Nations Framework Agreement on Climate Change held 17 Conferences of the Parties (COPs) from 1995-2011, and in the process proved structurally unable to decisively regulate GHG pollution by capital at its source, nor the emissions trade in which so much hope is placed by neoliberal policy-makers. Worse, the G20's emergence and the ongoing restructuring of multilateral power relations suggest that the Brazil-Russia-India-China-South Africa (BRICS) bloc will do far more to accelerate these trends, as Apeldoorn, de Graaff and Overbeek (2012) argue, thanks to the 'rise of new corporate giants from the South, both (quasi-)private and state-owned, in manufacturing, services, energy and finance.' There is, too, a potential interimperialist rivalry, because a 'competition in laxity' has emerged through which COP delegates from the US, EU, BRICS and other emitting powers (notably Canada, Japan, Australia and Korea) defer making emissions cuts and strive instead to increase each country's allowed pollution, on behalf of their national fossil-fuel corporations. As summed up by Naomi Klein (2009), the COP15's Copenhagen Accord was 'nothing more than a grubby pact between the world's biggest emitters: I'll pretend that you are doing something about climate change if you pretend that I am too. Deal? Deal.'

The implications of global state failure are catastrophic. Even with a rise this century of just 2°C, scientists generally agree, small islands will sink, Andean and Himalayan glaciers will melt, coastal areas such as much of Bangladesh and many port cities will drown and Africa will dry out or in some places flood. The outcome from the 17th COP in December 2011 is likely to be a 4–5°C rise in temperature by 2100, and if the vague, non-binding emissions-cut promises from the COPs in Copenhagen, Cancún and Durban are broken, as is reasonable to anticipate, 7°C is likely. In Africa, if rain-fed agriculture suffers merely a 2°C rise, according to United Nations Intergovernmental Panel on Climate Change director R.K.

Pachauri (2008): '[C]rop net revenues could fall by as much as 90 percent by 2100.' Eight of the twenty countries that the Centre for Global Development expects to be most adversely affected by extreme weather events by 2015 are African: Djibouti, Kenya, Somalia, Mozambique, Ethiopia, Madagascar, Zambia and Zimbabwe (Wheeler 2011).

Former United Nations secretary general Kofi Annan's Global Humanitarian Forum (2009) issued a report that reflects at least a degree of elite awareness of the extent of the challenge. 'The Anatomy of a Silent Crisis' provided startling estimates of damages already being experienced, including 315 000 deaths annually:

An estimated 325 million people are seriously affected by climate change every year. This estimate is derived by attributing a 40 percent proportion of the increase in the number of weather-related disasters from 1980 to current to climate change and a 4 percent proportion of the total seriously affected by environmental degradation based on negative health outcomes . . . Application of this proportion projects that more than 300,000 die due to climate change every year – roughly equivalent to having an Indian Ocean tsunami annually. The number of deaths from weather-related disasters and gradual environmental degradation due to climate change – about 315,000 deaths per year – is based on a similar calculation.

There are at minimum three global-scale policy components required to solve climate change: substantial emissions cut commitments by rich countries (typically in the range of 50 percent by 2020); financing for a 'Just Transition' to renewable energy, public transport and transformations of extraction, production, consumption and disposal systems; and relaxation of intellectual property rights on the advanced technology to make these possible (similar to the exemption for AIDS medicines at the 2001 World Trade Organisation summit in Doha). These remedies, however, were not considered politically feasible under the 1997 Kyoto Protocol, and are today impossible to envisage in multilateral forums given Washington's push for an alternate 'pledge and review' architecture. Politically, the overall orientation of global climate policy managers, especially from the US State Department and World Bank, will be to soon displace the main process out of the COPs and into the G20. This requires a dismissal of both Third World demands for an extension of Kyoto after 2012 and of the Climate Justice movement's varied critiques of market strategies, not to mention its advocacy of leaving fossil fuels in the ground and proposals for eco-social transformations.

Those advocating continued COPs responsibilities were set back by the 2009 COP15 Copenhagen Accord fiasco, in which delegations from Washington, Beijing, Delhi, Brasilia and Pretoria cut the unambitious Copenhagen Accord side-deal that circumvented the UN process. A year later at the Cancún COP16, face-saving gestures at revived multilateralism amounted to restoring faith in carbon markets. But since then, the most destructive tendencies in world capitalism conjoined to prevent progress on the two main areas of COP negotiations decisions: financing and technology. The latter includes intellectual property rights barriers, but only a few activists have prioritized this struggle given that such infrastructure usually requires substantial state or corporate investment. Instead, technological processes that threaten the earth have intensified, such as geoengineering, shale-gas fracking, tarsands extraction, and carbon capture and storage schemes aiming to bury greenhouse gases. In spite of the Fukushima catastrophe, several major coal

consumers – including the US and South Africa – are also engaged in a major nuclear energy expansion. The idea of seeding the oceans with iron filings to generate carbon-sequestering algae blooms continues to get attention, even though in October 2010, the Convention on Biological Diversity in Nagoya, Japan called for a halt to geoengineering.

The financial mechanisms under debate are just as dangerous because austerity-minded states in the US and European Union are backtracking on their Copenhagen promise of a \$100 billion/year Green Climate Fund to make available North-South funding. That Fund appears set to re-subsidise carbon markets by ensuring they become the source of revenues, instead of larger flows of direct aid from rich countries, which the Climate Justice movement suggests should become a downpayment on the North's 'climate debt' to the South. The markets have been foiled by their own internal corruption and contradictions, as well as by left critiques in key sites such as California and Australia, and by rightwing climate change denialism in the US Congress. But most importantly, the EU's emissions trading scheme is still failing to generate even \$15/tonne carbon prices, whereas at least \$50 would be required to start substantial shifts from fossil fuels to renewables. And world financial chaos means no one can trust the markets to self-correct.

But with respect to eco-resistance, development of a global Climate Justice movement has been uneven. Its disparate, fractured components are still not generating coherent strategies with sufficient power to halt these processes. The highest-profile anti-extraction campaigns are in the Alberta tar sands of Canada, the West Virginian coal-seamed mountains, Ecuador's Amazon, the Niger Delta and fracking zones from South Africa to France to the northeastern US and Quebec. Beyond defensive campaigning to 'keep the oil in the soil, coal in the hole, and tar sand in the land,' transformative politics are also crucial. In South Africa, for example, community politics on display at the COP17 included popular demands for a better environment in townships: increased housing, electricity, water and sanitation, waste removal, healthcare and education. Connecting these dots to climate is the challenge for all the Climate Justice movement strategists, and it is here that the climate-crisis capitalist conjuncture will increasingly meet its match. As seen in Durban, the post-apartheid South African government's lack of progress on renewable energy, public transport and ecologically-aware production mirrored its failures in basic service delivery, which in turn generated amongst the world's highest rate of social protest. But with such resistance on the rise because of top-down austerity politics, the possibilities for a resurgent neoliberal global climate governance project are all the more dismal.

Market solutions?

'Karl Marx had it right. At some point, capitalism can destroy itself . . . We thought that markets worked. They're not working.' So concluded New York University Business School professor Nouriel Roubini in an August 2011 *Wall Street Journal* interview (Heaven, 2011). The same month, a senior economic adviser at the Union Bank of Switzerland (UBS), Europe's largest, cited the 'pretty shrewd' observation by Marx that 'material productive forces of society come into conflict with the existing relations of production' to demonstrate that the global elites' reliance upon market-centric strategy is inadequate. According to UBS' George Magnus (2011), the recent meltdown

wrecked the financial stability and order that had previously prevailed, leaving us with a mountain of private and public debt to be reduced and restructured, a.k.a. the Great

De-leveraging. Second, it blew up the economic model based on housing, credit expansion and financial services, not least depriving our governments of substantial tax revenues, and leaving us looking for new output and employment growth drivers. These financial and economic shocks have produced widespread insecurity, and revealed critical weaknesses in our capacity to re-create sustainable growth.

Myriad problems have already emerged within the neoliberal global climate management strategy. Markets have simply not performed with any degree of sustained effectiveness – certainly not to the scale required to tackle the biggest crisis humanity has ever faced, and certainly not during a period when financial markets have been so anarchic. Yet none of this appears to have dawned on global climate negotiators, for they continue promoting supposed market solutions with only the slightest acknowledgement of the crisis. For UNFCCC head Christiana Figueres, formerly a leading carbon trader, the 2010 COP was vital to restoring faith in multilateral neoliberalism: ‘Cancún has done its job. Nations have shown they can work together under a common roof, to reach consensus on a common cause’ (United Nations Environment Programme, 2010). But in reality, Figueres allowed financiers, industrial capitalists, fossil fuel corporations and states to cement in the kinds of capitalist-crisis climate strategies that will make real solutions that much harder to achieve.

After the Rio Earth Summit of 1992, the first climate COP was in 1995, but only on the third try in 1997 was the Kyoto Protocol adopted, and then only ratified by sufficient countries to take effect in 2005. Its first shortcoming was the very low target for binding emissions cuts in 2012: an average of 5.2 per cent below 1990 levels. By the time of the 2005 COP in Montreal, the watering down of even these weak provisions included a great many more opportunities for wealthy countries to avoid emissions cuts. In Copenhagen in 2009, the misnamed ‘bottom-up’ strategy of emissions-cut ‘pledge and review’ was introduced by Washington and endorsed by governments in Beijing, Delhi, Brasilia and Pretoria. Politicians and environmental officials remained beholden to powerful business interests lined up to either promote climate denialism (especially the petro/coal firms), or to generate national-versus-national negotiating blocs racing to gain the most emission rights. That, in turn, required a revival of the strategy of offsetting Northern emissions through emissions trading.

The carbon markets simply weren’t working, however. Their fatal flaws included rising levels of corruption, periodic chaotic volatility and extremely low prices that were inadequate to attract investment capital into renewable energy and more efficient transport. Such investments minimally would cost the 2011 equivalent of €50/tonne of carbon, but the price of a tonne of carbon on the EU’s ETS fell from €30 in 2008 to less than €10 in 2009, and though by the end of 2010 it had risen to €15, by September 2011 it was back down to €11, its lowest level in 30 months. This low price and non-existent incentive made it much cheaper for business to keep polluting than to restructure.

This problem had been recognized in 2004 by a global civil society network, the Durban Group for Climate Justice, formed to oppose carbon trading’s ‘privatisation of the air’. From the vantagepoint of an austere Catholic mission on Durban’s highest central hill, the Glenmore Pastoral Centre, a score of the world’s critical thinkers, arranged by the Swedish Dag Hammarskjöld Foundation, deliberated over the neoliberal climate fix for several days. Participants were worried that the main test case, the EU’s Emissions Trading Scheme

(ETS), not only failed to reduce net greenhouse gases there, but suffered extreme volatility, inadequate pricing, the potential for fraud and corruption and the likelihood of the market crowding out other, more appropriate strategies for addressing the climate crisis (Lohmann 2006). The market fix was also already being tried in the Third World through Clean Development Mechanism projects, whereby investment strategies to prevent 'additional' pollution also qualified for carbon credits. CDMs reached around 6 per cent of total trading at peak in 2008.

There were eight main concerns about carbon trading identified at the Durban Group's initial meeting. First, the idea of inventing a property right to pollute is effectively the 'privatisation of the air', a moral problem given the vast and growing differentials in wealth inequalities. Second, greenhouse gases are complex and their rising production creates a non-linear impact that cannot be reduced to a commodity exchange relationship (a tonne of CO₂ produced in one place accommodated by reducing a tonne in another, as is the premise of the emissions trade). Third, the corporations most guilty of pollution and the World Bank – which is most responsible for fossil fuel financing – are the driving forces behind the market, and can be expected to engage in systemic corruption to attract money into the market even if this prevents genuine emissions reductions. Fourth, many of the offsetting projects – such as monocultural timber plantations, forest 'protection' and landfill methane-electricity projects – have devastating impacts on local communities and ecologies, and have been hotly contested in part because the carbon sequestered is far more temporary (since trees die) than the carbon emitted. Fifth, the price of carbon determined in these markets is haywire, having crashed by half in a short period in April 2006 and by two-thirds in 2008, thus making a mockery of the idea that there will be an effective market mechanism to make renewable energy a cost-effective investment. Sixth, there is a serious potential for carbon markets to become an out-of-control, multi-trillion dollar speculative bubble, similar to exotic financial instruments associated with Enron's 2002 collapse (indeed, many Enron employees populate the carbon markets). Seventh, as a 'false solution' to climate change, carbon trading encourages merely small, incremental shifts, and thus distracts us from a wide range of radical changes we need to make in materials extraction, production, distribution, consumption and disposal. And eighth, the idea of market solutions to market failure ('externalities') is an ideology that rarely makes sense, and especially not following the world's worst-ever financial market failure, and especially not when the very idea of derivatives – a financial asset whose underlying value is several degrees removed and also subject to extreme variability – was thrown into question (Lohmann 2006, 2009a, 2009b; Bond 2012; Bond, Dada and Erion 2009).

With Europe as the base, world emissions trade grew to around \$140 billion in 2008, and although markets then went flat due to economic meltdown, increasing corruption investigations and Copenhagen-induced despondency, the trade in air pollution was at one point projected to expand to \$3 trillion/year by 2020 if the US were to sign on. The \$3 trillion estimate did not even include the danger of a bubbling derivatives market, which might have boosted the figure by a factor of five or more (Chestney and Szabo 2009). In November 2010, a new estimate of up to \$50 billion/year by 2020 in North-South market-related transfers and offsets emerged from a United Nations High-Level Advisory Group on Financing for climate mitigation and adaptation, including South African planning minister Trevor Manuel, later a co-chair of the Green Climate Fund (United Nations 2010). World

climate managers evidently hope to skimp on grants and instead beg business to push vast monies into CDMs instead.

Similar controversy surrounds the Reducing Emissions from Deforestation and forest Degradation programme. In theory, REDD sells investors forest protection. But at Cancún, notwithstanding disagreements in civil society, it was seen as a boon to voracious commercial forestry and a danger to indigenous peoples, given that proper safeguards were not adopted in Cancún. And everyone from EU climate commissioner Connie Hedegaard – the Danish conservative who hosted the 2009 Copenhagen summit – to Greenpeace warned that REDD could wreck fragile carbon markets, not only due to socio-ecological forest controversies but because a fresh glut of credits would again crash the price (Lang 2009). As Hedegaard put it, REDD ‘could undermine the entire carbon market’ (Cheam 2010).

Why such fragility? The 2008–9 financial meltdown crashed so many financial institutions and froze credit markets so quickly that carbon values in the emissions-trading markets plummeted by a quarter during the first weeks of October 2008 alone. The price in July 2008 had been a quarter higher still, at more than €33/tonne, before tumbling to €9 in late 2009. The market in Chicago was jolted so badly that it closed entirely in late 2010, especially after it became evident the US Congress would not provide the mandate for national carbon trading.

The only real winners in emissions markets were speculators, financiers, consultants (including some in the NGO scene) and energy sector hucksters who made billions of dollars in profits on the sale of notional emissions reduction credits. As the air itself became privatised and commodified, poor communities across the world suffered and resources and energy were diverted away from real solutions. But one of the most powerful set of critiques came from the inside: internal contradictions that created a tendency to repeatedly crash the market and prevent it from carrying out actual emissions reductions.

In part due to the ETS’ extreme volatility, the overall trend within the market was towards *increased* emissions. By mid-2009, *Grist* columnist Gar Lipow (2009) explained: ‘During the three year period where we have verified emissions, emission among traded entities rose by 1.8 percent. During that same period emissions for the EU as a whole fell . . . The overwhelming evidence is that the ETS is retarding rather than driving emission drops.’ The failure to cut emissions through ETS contrasts with another factor: economic decline and deindustrialisation. The continent’s 2008–9 year-on-year Gross Domestic Product (GDP) fall was 4.1 per cent and industrial output was down 12 per cent. The carbon-intensive construction sector was also adversely affected by the real estate bubble’s burst. Given these economic trends, the medium term outlook for the ETS was grim, with even Lord Adair Turner – chair of the UK Climate Change Committee – admitting, ‘the existing particular form of liberalised market structure has reached the end of its road . . . Prices [will] struggle to reach €20–30/tonne of CO_{2e} by 2020.’ Just a year earlier, Turner’s committee had optimistically assumed a price of €50 by 2020 (Lipow 2009).

Faith in the ETS was shaken again and again by unending tales of scandals and market mishaps. The intrinsic problem in setting an artificially generated market price for carbon was revealed with the April 2006 ETS crash, thanks to the overallocation of pollution rights. The EU had miscalculated on how to set up the market and granted electricity generation firms far too many credits. Carbon lost over half its value in a single day,

destroying many carbon offset projects earlier considered viable. The ETS was delegitimised further in September 2009 when the UN's main verification contractor was disqualified for repeated procedural violations, and in December 2009 when Europol (2009) discovered that up to 90 per cent of trades in some EU countries were flagrant tax scams.

In May 2010, yet another example of corruption was the Hungarian government's resale of carbon credits, which when exposed, drove the price of a ton from €12 down to €1 and crashed two emissions exchanges (Pointcarbon 2010). In December 2010, even the ordinarily pro-trading World Wild Fund for Nature (2010) and Öko-Institut attacked steel producers ThyssenKrupp and Salzgitter as fraudulent carbon profiteers, demanding that 'the EU put a halt to the use of fake offsets'. In late January 2011, the EU ETS was suspended for weeks due to theft of emissions reductions credits from the Austrian and Czech governments, with some of the better-functioning market regulators (for example, Finland and Sweden) requiring a full two months before resuming operations (EULib.com 2011). To underline the market's fragility and vulnerability to fraud, the country that has been the biggest supplier of emissions reductions credits, Ukraine, was suspended by the UN from carbon trading in August 2011. The move blocked delivery on more than 78 million units from carbon-reduction projects through 2011, because, according to the ICIS Heron (2011) consultancy, Ukraine's government 'under-reported its greenhouse gas emissions. Experts advising the enforcement branch said Ukraine had failed to act on earlier warnings it was in non-compliance. The Ukraine argues that many of its actions have stalled due to lack of funding since the recession.'

By that time, it was obvious that emissions markets were in crisis and many credits now represented 'zombie carbon', as Carbon Trade Watch's Oscar Reyes (2011) put it:

Proposed emissions trading schemes in the USA, Japan, and Canada have stalled indefinitely; new markets in Australia and South Korea face significant delays; and climate justice activists have successfully blocked the start of a planned scheme in California. Trading has become ever more concentrated around the EU ETS, which could well see carbon permit prices drop to zero if the 27-country bloc adopts stricter guidelines on energy efficiency. Overall carbon trading volumes were lower in 2010 than in the previous year. The CDM, the carbon offsetting scheme at the heart of the Kyoto Protocol, has declined for four years running, with fewer credits purchased from new projects than at any time since the Protocol came into force in 2005. The price of CDM credits continues to fall, and they are now 'the world's worst performing commodity.'

These flaws did not prevent the new 'sectoral markets' from being proposed for Durban. For governments from the EU, Japan, Australia and Canada – those advanced economies meant to reduce emissions most under Kyoto but which largely failed to do so – the ideal outcome of Durban was retention of the Kyoto Protocol's carbon trading mechanism without its emissions-reduction targets. But without the US taking a lead on promoting carbon trading in its vast financial markets, the other major emitters would not do so. With the resurgence of congressional climate denialists in 2010, the US elite debate over the optimal technical fix to climate change ended, aside from California where it was delayed

by community activists who argued the state's Air Resources Board had not considered other (non-trading) options to comply with state climate legislation.

Capitalist crises and the non-capitalist sphere

Climate-crisis capitalism amplifies the often mind-numbing contradictions associated with the economic system as a whole, including an inability by many of us to see the forest from the trees. As one of the world's leading climate scientists, James Hansen (2009), asked plaintively about carbon trading, 'Cap-and-trade is the temple of doom. It would lock in disasters for our children and grandchildren. Why do people continue to worship a disastrous approach? Why do 'people' – or more precisely, the governing and financial elites, many of whom in the US are caught in the Goldman Sachs-Treasury revolving door – along with mainstream environmental allies and even reformist economist Paul Krugman (2009) worship carbon trading? The answer has to do with several interrelated factors, including the way a longer-term capitalist crisis generated the rise of financial sector power within an ever-more frenetic and geographically ambitious system; the financial markets' sophistication in establishing new routes for capital across space, through time, and into non-market spheres; and the mainstream ideological orientation to solving every market-related problem with a market solution, which even advocates of a Post-Washington Consensus and Keynesian economic policies share. Yet from these indefensible factors, we will develop theoretical ammunition against that disastrous strategy, emissions trading, favoured by climate-crisis capitalism.

As leading eco-feminist Ariel Salleh (2010) explains: 'The current financial and climate crises are consciousness-raising opportunities all round, but green new deals designed to revive the faltering international system will delay fundamental change.' In the same spirit, Samir Amin (2009) offers this argument about economic theory applied to ecology:

Capture of ecology by vulgar ideology operates on two levels: on the one hand by reducing measurement of use value to an 'improved' measurement of exchange value, and on the other by integrating the ecological challenge with the ideology of 'consensus.' Both these manoeuvres undermine the clear realization that ecology and capitalism are, by their nature, in opposition. This capture of ecological measurement by vulgar economics is making huge strides. Thousands of young researchers, in the United States, and, imitating them, in Europe, have been mobilised in this cause. The 'ecological costs' are, in this way of thinking, assimilated to external economies. The vulgar method of measuring cost/benefit in terms of exchange value (itself conflated with market price) is then used to define a 'fair price' integrating external economies and diseconomies.

For Amin (2009), there are obvious limitations to these sorts of reforms based on actually existing power relations within capitalism:

It goes without saying that the work – reduced to mathematical formulas – done in this traditional area of vulgar economics does not say how the 'fair price' calculated could become that of the actual current market. It is presumed therefore that fiscal and other 'incentives' could be sufficiently effective to bring about this convergence. Any proof that this could really be the case is entirely absent. In fact, as can already be seen,

oligopolies have seized hold of ecology to justify the opening up of new fields to their destructive expansion. Francois Houtart provides a conclusive illustration of this in his work on biofuels. Since then, 'green capitalism' has been part of the obligatory discourse of men/women in positions of power, on both the Right and the Left, in the Triad (of Europe, North America and Japan), and of the executives of oligopolies.

Amin (2009) faults Joseph Stiglitz for having 'openly embraced this position', proposing 'an auction of the world's resources (fishing rights, licences to pollute, etc.). A proposal which quite simply comes down to sustaining the oligopolies in their ambition to mortgage further the future of the people of the South.' This is the core idea that has come to be known as 'ecological modernisation' and that motivates 'Green Economy' supporters, especially at the Rio+20 world summit in June 2012. If we set aside for the moment the moral challenges Amin raises about the maintenance of unfair North-South power relations, another part of the problem is that the market does not readily map on to natural phenomena that are only now being understood by the world's leading climate scientists, such as the sequestration of carbon in forests, oceans and grasslands. As David Harvey (2006, 96) warns:

[T]he spatio-temporality required to represent energy flows through ecological systems accurately, for example, may not be compatible with that of financial flows through global markets. Understanding the spatio-temporal rhythms of capital accumulation requires a quite different framework to that required to understand global climate change.

The increased commodification of nature runs under such constraints of uncertainty into various limits, Harvey is quick to point out, in part because spatio-temporal rhythms of crazed financial markets now drive global-scale public policy, even when it comes to addressing the crucial problem of global climate change (Harvey 2010). Hence there arose the notion in vulgar economic ideology that financial solutions really do exist for the purpose of mitigating greenhouse gas pollution.

Exemplifying vulgarity in the expression of financial market power, there is no one better than Larry Summers, who as a leading US Treasury Department official arranged Wall Street bailouts in 1995 (Mexico), 1997–8 (East Asia) and 2009–10 (across the world but mainly helping Wall Street and the City of London) through extreme devaluations visited upon vulnerable countries and people. This tendency to devalue other people's wealth and lives harks back to December 1991 when, as World Bank chief economist, Summers (1991) famously wrote (or at least signed a memo written by Lant Pritchett) that 'the economic logic behind dumping a load of toxic waste on the lowest-wage country is impeccable and we should face up to that . . . African countries are vastly underpolluted.'

The implications of Summers' analysis and strategy – which extreme as these words sound, in modified form still represent the ecological modernisation philosophy to which the World Bank and its allies adhere – are that the US and other Northern polluters should: *shift* problems associated with environmental market externalities to the South; *stall* a genuine solution to the problems by instead opening up the field of pollution-trading for a future market solution, using financialisation techniques, derivatives and imaginary 'offsets' ostensibly aimed at building tomorrow's sinks so as to mop up today's dangerous

forms of Northern pollution; and *steal* more of the world's environmental carrying capacity – especially for greenhouse gas emissions – and perhaps pay a bit back through commodification of the air (resorting to mythical carbon markets and offsets) while denying climate debt responsibilities.

How did the perspective of Summers in commodifying nature and privatising the air through financial markets – i.e., shifting, stalling and stealing – come to be dominant? To answer, we first consider crisis formation in the world economy and the rise of the financiers, especially considering a few specific convulsions that reflected the dialectic of combined power and vulnerability. In short, as financial markets repeatedly demonstrated their tendencies to disequilibrium and indeed economic chaos, they also retained enormous political power, as well as a 'Too Big to Fail' blackmail threat. So in spite of the 2008–9 crash of financial assets, including half the value of stock market shares across the world over a six-month period, followed in August 2011 by another dramatic crash, neoliberalism reasserted itself as the core policy of financial capital, and financial capital reasserted itself as the core fraction of global capital. The Cancún announcement of reborn carbon trading is just one reflection of this tragedy. And yet the core argument in this chapter is that the use of emissions markets as tools for management of economic and ecological crises are attractive (to capital) in principle but *impossible to implement in practice*, largely because of ongoing disputes about how the deeper capitalist crisis is displaced.

Capitalist 'crisis' is, Harvey (2010, 45) tells us in *The Enigma of Capital*, drawing on Marx's *Kapital*:

a condition in which surplus production and reinvestment are blocked. Growth then stops and there appears to be an excess overaccumulation of capital relative to the opportunities to use capital profitably. If growth does not resume, then the overaccumulated capital is devalued or destroyed. The historical geography of capitalism is littered with examples of such overaccumulation crises.

How must the capitalist system ultimately address this underlying tendency to overaccumulate? 'In a general crisis, a lot of capital gets devalued,' Harvey (2010, 46) argues. 'Devalued capital can exist in many forms: deserted and abandoned factories; empty office and retail spaces; surplus commodities that cannot be sold; money that sits idle earning no rate of return; declining asset values in stocks and shares, land, properties, art objects, etc.'

But in lieu of sufficient devaluation of overaccumulated capital, those responsible for crisis management attempt various other crisis displacement tactics. One of these, the rise of carbon trading, can be compellingly understood using a theory of capitalist crisis developed in the tradition of Marxian political economy. The two primary ways Harvey's (1982) book *Limits to Capital* added to Marx's crisis theory were through understanding space and time in part as displacement strategies during a capitalist overaccumulation crisis. A third strategy, 'accumulation by dispossession', Harvey (2003) explained in *The New Imperialism*, would allow capital to interact with society and nature on non-capitalist terrain in search of scarce profits. Across the world there are a great many examples that Harvey (2003, 145) traced back to Marx's idea of primitive accumulation, including

conversion of various forms of property rights (common, collective, state, etc.) into exclusive private property rights; suppression of rights to the commons; ... colonial, neocolonial and imperial processes of appropriation of assets (including natural resources)... and ultimately the credit system as radical means of primitive accumulation.

From such origins of understanding capitalist/non-capitalist power relations, a theory of imperialism emerged based on accumulation by dispossession, perhaps best articulated in terms of crisis-ridden capitalism by Rosa Luxemburg (1968, 347) in 1913:

Accumulation of capital periodically bursts out in crises and spurs capital on to a continual extension of the market. Capital cannot accumulate without the aid of non-capitalist organizations, nor . . . can it tolerate their continued existence side by side with itself. Only the continuous and progressive disintegration of non-capitalist organizations makes accumulation of capital possible.

These concepts help us to better locate the carbon markets and other emissions trading and offset strategies as vehicles for displacing overaccumulated capital, during a period of extended crisis. Starting with Mexico in late 1994, the US Treasury's management of the 'emerging markets' crises of the mid- and late 1990s again imposed austerity on the Third World. It also offered further bailouts for investment bankers exposed in various regions and countries – Eastern Europe (1996), Thailand (1997), Indonesia (1997), Malaysia (1997), Korea (1998), Russia (1998), South Africa (1998, 2001), Brazil (1999), Turkey (2001) and Argentina (2001) – whose hard currency reserves were suddenly emptied by runs. In response to the bursting of a vastly overinflated US economy whose various excesses spectacularly unravelled – in the dot.com stock market (2000–1) and banking and real estate (2007–9) bubbles – and the sovereign debt meltdowns of European countries stuck with failing banks (Iceland, Greece, Ireland, Portugal, Spain, Italy and others still to unravel) (2008–11), China and India picked up the slack in global materials and consumer demand during the 2000s. However, this is not without extreme stresses and contradictions that in coming years will continue to threaten world finances, geopolitical arrangements and environmental sustainability (Bond 2009).

As financial capital was, in the process, deregulated and internationalised, this list of convulsions reflected tensions and partial write-downs, but never genuine resolutions, to the growing overall problems of volatility and rising debt/speculation. The worsening chaos contrasts to a more stable, predictable, prosperous and evenly distributed set of political-economic relations during the immediate post-Second World War quarter-century. Nevertheless, no one can deny that crisis *displacement* techniques have not become much more sophisticated since an earlier capitalist crisis process unfolded during the 1930s, including the freezing of financial markets, crash of trade, Great Depression and by 1939 the inter-imperial turn to armed aggression. The difference today is that drastic forms of destruction have been averted, largely through *moving* devaluation across two dimensions: time (via the credit system) and space. Moreover, capital also draws on non-market spheres (environmental commons, women's unpaid labour, indigenous economies) for new surpluses by way of extra-economic coercions. The latter range from biopiracy and privatisation to deepened reliance on unpaid women's labour for household reproduction.

This is also a matter of military and territorial power, as Naomi Klein (2007) reminds in her account of combined financial/fiscal and ecological catastrophes associated with 'disaster capitalism.'

The result of all this economic turmoil and geopolitical tension is an economy that concentrates wealth and poverty in more intense ways geographically and brings markets and the non-market spheres of society and nature together in ways adverse to the latter. This phenomenon is sometimes termed uneven and combined development.

In sum, we can discern three central political-economic processes that have generated the contemporary capitalist crisis. First, the durable late twentieth century condition of overaccumulation of capital witnessed huge gluts in many markets, declining increases in per capita GDP growth and falling corporate profit rates. This was displaced and mitigated (shifted and stalled geographically and temporally) at the cost of much more severe tensions and potential market volatility in months and years ahead. Second, the temporary dampening of crisis conditions through increased credit and financial market activity has resulted in the expansion of 'fictitious capital'. This is especially so in real estate but other speculative markets based on trading paper representations of capital (derivatives), far beyond the ability of production to meet the paper values. Third, geographical shifts in production and finance continue to generate economic volatility and regional geopolitical tensions, contributing to unevenness in currencies and markets as well as pressure to combine market and non-market spheres of society and nature in search of restored profitability. The interlinked problems of overaccumulation, financialisation and globalisation brought not only pressures for war, as witnessed by the battles for resources especially in the Middle East, North Africa, Central Asia and Central Africa. The circumstances mainly associated with hyper-expansion of commerce in a context of technological/transport changes also generated threats of catastrophic climate change.

To reiterate, the argument reminds that capitalism intrinsically externalises costs in its search for profits. The emission of greenhouse gases without regard for their disastrous impact decades – and now just a few years – away is one of the reasons to transcend this mode of production before its intrinsic tendency to crisis threatens the continuation of life in large parts of the planet. And what the theorists referred to above remind is that there is no use in simply moving the crisis tendencies around, because under present conditions it is evident they are being amplified by the techniques of shifting, stalling and stealing, especially when this is facilitated by emissions trading.

From capitalist crisis to climate-crisis capitalism

The Kyoto Protocol's opportunities for profit from the trade in rights to engage in environmental degradation – the emissions market – are considered in *The Ecological Rift*, by John Bellamy Foster, Brett Clark and Richard York (2010, 50):

By the perverse logic of the system, whole new industries and markets aimed at profiting on planetary destruction, such as the waste management industry and carbon trading, are being opened up. These new markets are justified as offering partial, ad hoc 'solutions' to the problems generated non-stop by capital's laws of motion . . . Such schemes continue to be advanced despite the fact that experiments in this respect thus far have been a failure – in reducing emissions. Here, the expansion of capital trumps actual public interest in protecting the vital conditions of life. At all times, ruling-class

circles actively work to prevent radical structural change in this as in other areas, since any substantial transformation in social-environmental relations would mean challenging the treadmill of production itself, and launching an ecological-cultural revolution. Indeed, from the standpoint of capital accumulation, global warming and desertification are blessings in disguise, increasing the prospects of expanding private riches.

It is through the double lens of capitalist crisis and, consequently, the more desperate search for profit that we can substantially understand how overaccumulated capital found spatial, temporal and imperialist routes to flow through, over the past three decades, eventually landing in the emissions markets over the last decade. Financial markets are central to the story, for they exploded in size and reach once the temporal fix began in earnest with liberalisation and a shift to a higher-interest rate regime in the late 1970s. As productive sector profit rates in the North declined and financial returns boomed, financial expansion into various exotic derivative investments permitted virtually any notional value to be marketed as a credit for packaging and onward sale, including emissions of SO₂ in the US in the early 1990s and carbon in Europe by the late 1990s.

With this sort of lubrication, the commodification of the environmental commons proceeded apace, with water privatisation, biopiracy, genetic modification and other processes controlled by multinational corporations generating expectations for what became the world's largest artificial market, i.e., carbon emissions. But the financial markets overextended geographically during the 1990s–2000s as investment portfolios diversified into distant, risky areas and sectors. Global and national financial governance proved inadequate, leading to bloated and then busted asset values ranging from subprime housing mortgages to illegitimate emissions credits. Likewise, geopolitical tensions emerged over which sites would be most vulnerable to suffer devalorisation of overaccumulated capital after 2008, i.e., which regions or countries would bear the brunt of the deep financial sector and real economic downturns. The global political context during the 2000s was a sole military superpower oriented to neoconservative imperialism (especially in relation to US energy needs and hence in-built climate-change denialism), but mitigated somewhat by a global class politics of neoliberalism.

The neoliberal agenda was so dominant that notwithstanding the 2007–9 financial market crashes, the pseudo-Keynesian financial bail-out and public works strategies adopted in late 2008 were reversed in the US just over a year later, as the Obama administration announced a budget freeze and state and municipal governments engaged in drastic spending cuts. Indeed, when one considers the recessionary impact of 50 US states, Washington's fiscal stimulus amounted to a net neutral role, and the only major state resource transfer was the \$12 trillion or so that the US Federal Reserve channelled into the Too Big to Fail banks. By mid-2011, the US government was contributing to economic stagnation through its austerity regime, but even this was not sufficient to prevent one of the financial industry's main policemen, Standard & Poor's, from a downgrade of Washington's credit rating to AA.

And in the Third World, where the IMF quickly reverted to austerity mode, numerous economic pressures – debt repayments, current account deficits, rapidly slowing Foreign Direct Investment, more erratic portfolio capital flows and stagnant Overseas Development Aid – generated ever greater desperation for fresh financial capital inflows, including

emissions mitigation investments. Although the larger middle-income countries were generating cash reserves – and in some cases such as China and Venezuela, reconsidering their location in the US – by 2011, the IMF had moved into the periphery of Europe, terrifying social policy advocates and ordinary people from Iceland to Greece. This is why, after discovering that the emissions markets have languished in the doldrums, they should nevertheless not be dismissed. The emissions trade is yet to make further comebacks, not only thanks to Cancún's (and in late 2011, Durban's) market revivalism, but because of the broader trajectory of climate-crisis capitalism.

Conclusion

What can we conclude about the dynamics of climate-crisis capitalism? As argued above, the simplest way to express the core process of crisis displacement is via three management techniques corresponding to the way Harvey explains space, time and accumulation by dispossession. The shifting, stalling, stealing strategy is at the heart of contemporary capitalism, which has addressed its deep-rooted problem of overaccumulation, dating to the 1970s, using what Harvey terms, respectively, the 'spatial fix', the 'temporal fix' and accumulation by dispossession. In order to consolidate this theoretical apparatus, recall that these concepts refer to: *globalisation's* ability to shift problems around spatially, without actually solving these problems; *financialisation's* capacity to stall problems temporally, by generating credit-based techniques – including securitisation of toxic loans – that permit the purchase of products today at the expense of future arrears and defaults when the upside-down pyramid topples; and *imperialism's* compulsion to steal from weaker territories via extra-economic extractive systems, variously termed 'articulations of modes of production', 'primitive accumulation', 'uneven and combined development', the 'shock doctrine', and accumulation by dispossession.

The management and mismanagement of capitalist crises, most spectacularly in 2008–9, included vast taxpayer bank bailouts when the financial bubbles burst, as well as bouts of 'Quantitative Easing' by the US Federal Reserve, to push dollars into the economy as an artificial stimulant. These techniques, in turn, set the stage for another coming round of subprime disasters, including sovereign debt defaults and the more rapid devaluation of the dollar. In what may be the next bursting bubble, the vast devaluation of energy capital is still ahead. The unusable fossil fuels that society must prevent from being burned will have to be written off the books of large corporations. The City of London consultancy CarbonTracker has estimated that if global climate managers intend on keeping warming to 2°C (with a 20 per cent chance of not succeeding), then from 2010–40 there are only 565 billion tonnes of CO₂ that can be permitted into the atmosphere. But fossil fuel reserves are known to be 2 795 billion tonnes of CO₂, about two thirds of which is coal, 22 per cent oil and 13 per cent gas. According to these calculations – not even aspiring to a lower emissions target – then around 80 per cent of the reserves must stay below ground. This presents no small dilemma for climate-crisis capital. The largest 100 coal and 100 oil/gas firms – worth \$7.4 trillion in stock market valuation in mid-2011 – have reserves of 745 billion tonnes of CO₂ already, not including those held by home countries' governments. Not only are the firms at risk of a price crash once it is clear that their fossil fuel assets are worthless, but according to CarbonTracker (2011), 'London's role as a global financial centre is at stake if these assets become unburnable en route to a low carbon economy'. Not aware of the planet's limits, of course, City of London managers are apparently allowing

many new mining houses to list on the stock market 'with no consideration by the regulators of potential systemic risks to financial markets of the increased exposure to climate change risk'. In turn, these assets feed into the petro-military complex's dominance in so many societies, and especially the financial-policy power nexus of Washington-London-Brussels-Tokyo.

No matter how much the shifting, stalling and stealing, more is required than US Treasury, the Federal Reserve and European and Japanese authorities have accomplished, as repeated G7 finance minister and G20 crisis summits reveal. The limits are now emerging into plain view, but this difficulty in papering over the cracks represents a general problem, given the several decades of convulsions. Shifting, stalling, stealing moves are required when capital exhausts traditional options to address longstanding overaccumulation crises, during which can be discerned the shorter-term business cycle eruptions such as 1973-5, 1980-2, 1989-92, 1997-2001 and 2007-9, with more to come judging by the financial instability and debt crises of 2011. These older strategies would include what Marx identified as countervailing tendencies to crisis, such as raising the profit rate through work speed-up and intensity ('absolute surplus value') or more efficient, capital-intensive production ('relative surplus value'). But it is abundantly evident that the crises cannot be solved in these ways, because overaccumulation stems from excessive productive capacity and gluts of markets, commodity stocks, labour pools and financial assets unable to achieve deployment in a manner that generates acceptable levels of profit.

The situation has degenerated so far that even world climate negotiations no longer hold out prospects for a sustained carbon market fix, although there is no better way to envisage shifting, stealing and stalling than in the privatisation of the air itself. Neither multilateral emissions rearrangements nor national regulation are preparing financial markets to play a constructive role in management of climate policy, in part because of the profound lack of confidence that neoliberal financial deregulation has generated in these markets. The late 2011 sessions of the Durban COP17 and French-hosted G20 summit, both of which enhanced carbon markets as revenue sources for the Green Climate Fund, are last-gasp efforts at reviving the stagnant emissions trade.

The role of the World Bank is especially pernicious in this, insofar as a September 2011 report (cited in Lang 2011) set out the perceived need for further multilateral subsidies:

[C]arbon offset markets – and carbon markets as a whole – now face major challenges. The value of transactions in the primary CDM market declined sharply in 2009 and further in 2010, amid chronic uncertainties about future mitigation targets and market mechanisms after 2012. A number of other factors are further constraining the potential of carbon finance, including market fragmentation in the absence of a global agreement, transaction costs associated with complex mechanisms, low capacity in many countries, lack of upfront finance, weaknesses in the current 'project by project' approach and non-inclusion of some sectors with significant abatement potential (e.g., agriculture).

Remarks Chris Lang (2011), the leading watchdog of REDD projects, 'The Bank, then, is suggesting diverting money from climate mitigation to bail out the carbon markets. This is a beautiful example of the way the World Bank's carbon market proponents think. Having

realised that there is a massive problem with the carbon market, they look for ways of rescuing it – regardless of the impacts on the climate.’

The contradictions are so profound that it makes sense to revive the demands by Climate Justice advocates at the April 2010 Cochabamba meeting: massive climate debt payments (6 percent of Northern countries’ GDP) and carbon market decommissioning. The Climate Justice movement’s orientation to blocking or regulating fossil fuels and replacing these with renewables, as well as transformed low-carbon economic systems, is laudable, yet in addition, these elite strategies of financialised climate management appear most vulnerable. At a time of rising popular hatred of financial capital, from Athens to Wall Street, they are worthy of more sustained critique.

After all, the elites’ strategies now have to be augmented not only by ever-greater public subsidies, but through the spatial and temporal spheres: ever-more frantically shifting the problems around geographically, and building up vast debt and blowing speculative bubbles so as to stall crises until later. At this stage, capital often needs more routes to offset the tendency of the rate of profit to fall, including the appropriation of non-capitalist spheres of society and nature through extra-economic, imperialist techniques. If the Earth’s atmosphere – specifically, climate and weather patterns that are viable for human life and capital accumulation – is considered to be an element of ‘non-capitalist organisation’, as it should be, then the commodification of the air itself, via the carbon markets, is a way for capital to accumulate on the one hand. Yet on the other hand, at the same time, it is a way for capital to contribute to the ‘continuous and progressive disintegration’ of a liveable climate, because as we again must point out, carbon markets are a false solution to the climate crisis.

Rosa Luxemburg’s framing – ‘only the continuous and progressive disintegration of non-capitalist organizations makes accumulation of capital possible’ – applies here, as it does to so many other facets of the relationship between capital and non-capitalist spheres. Both spheres are necessary, and as the non-capitalist becomes commodified as a source of profit, it also plays its role in amplifying the crisis when that systemic relationship breaks down. Hence the stressing of so many aspects of natural ecological conditions, as well as society, to the point of no return.

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