There is now increased recognition of the severity of the ecological crisis facing our planet, to the extent that even the president of a leading industrialised nation recently questioned the growth/consumption paradigm based on the abundant availability of natural resources, in particular fossil fuels such as oil. The sustainability of economic growth is in doubt because of the rapid depletion of non-renewable fossil fuels (particularly peak oil) and because of carbon emissions from the use of these fossil fuels in production and consumption processes. This has caused climate change resulting in, amongst other things, melting polar ice caps, rising sea levels, floods, drought and a host of other human-induced ‘natural’ disasters which can destroy the earth as we know it (Gore 2009; Magdoff and Foster 2011). In addition, other pollutants from industrial processes, such as acid mine drainage, acid rain and other toxins have polluted the air and rivers, destroying livelihoods and causing a wide range of public health problems, including new diseases that modern medicine is unable to cure (Hallowes 2011). The rapid advancement of industrial and urban growth is also destroying delicate local ecosystems, making a wide range of flora and fauna extinct, thus threatening the planet’s precious biodiversity that holds the key to much of the hitherto-unknown inner workings of the entire ecosystem that governs the earth’s existence (Cock 2007).
This ‘eco-logic’ of industrial capitalism (Friedman 2008) is an intricate web of economic and ecological processes that feed off each other, with very specific social consequences. While the social critique of capitalism (pivoted around the capital–labour contradiction) is associated with Marxist and neo-Marxist paradigms that have emerged over the past century and a half, the ecological critique has been mainly the preserve of environmentalists who have drawn inspiration from non-Western thought (including Native American and Eastern philosophical thought). Indeed, Marx and the varieties of Marxism that flowed out of his thinking over the past century have usually been lumped together with other products of the Enlightenment, allegedly sharing a similar anthropocentric belief in the domination of nature (itself a product of Christian thinking), but departing from Christianity in its belief in the wonders of science and technology and the idea of historical progress (Barry 2004; Ponting 2007).²

In other words, while Marxism is associated with a critique of capitalism, and the idea of social equality, it allegedly shares with neoclassical capitalist thought (free market and Keynesian) the belief that economic growth is based on the infinite supply of fossil fuel and other natural resources (as ‘gifts of nature’) and that the main task of socialism and communism is the equal distribution of the fruits of labour expended during the production process. In this view, nature in and of itself has no intrinsic value – it has only use-value for human beings (and, under capitalism, exchange-value, as a commodity to be bought and sold).

Drawing on a growing corpus of work rethinking Marx’s ecological credentials (see for example, Burkett 2005; Foster 1999 and 2009; Foster, Clark and York 2010; Magdoff and Foster 2011; O’Connor 1998; Pepper 1992 and Williams 2010), this chapter assesses whether Marx’s thinking, in light of the ecological crisis, is irredeemably Promethean in its blind faith in the power of technology and industrial development and thus anti-ecological, or is it relevant to an understanding of the eco-logic of capitalism?

FOSSIL CAPITALISM AND THE CRISIS OF PROMETHEAN MARXISM

The historical trajectory of what Elmar Altvater (2006) calls ‘fossil capitalism’, relies on the burning of fossil fuels as the basis for rapid economic growth. This has its own logic, accumulation for the sake of accumulation, which enriches (in the form of profits, dividends and high salaries) a tiny minority of the
earth’s population, while leaving the vast majority living in squalor and misery (Amin 2008).

Industrial capitalism, in other words, has an ‘eco-logic’ in three interrelated senses. Firstly, its reliance on the easy availability of non-renewable fossil fuels (particularly oil) in abundance is reaching a tipping point (peak oil), such that in 50 to 100 years’ time the oil will run out. This underlines the natural limits to industrial capitalist development (or economic growth) as we currently conceive of it. Secondly, increasing pollution of various kinds, including carbon emissions produced by the burning of fossil fuels (oil, gas and coal), as well as other pollutants produced by production–consumption–urbanisation processes, threaten the very existence of earth as we know it (through amongst other things, the manifold impacts of climate change). Thirdly, rapid deforestation and declining biodiversity (flora and fauna) as a result of these processes threaten delicate ecosystems, which have wide-ranging and devastating impacts. The earth’s carrying capacity to provide resources for exploitation, as well as to act as a sink for waste produced by the production–consumption treadmill, is rapidly reaching its limits (Clapp and Dauvergne 2008).

For a while this terrain of analysis was dominated by environmental economics, which seeks to internalise the costs of environmental damage into the market/growth logic of capitalism and the more radical ecological economics (see Burkett 2005). The latter is critical of economic growth and tends toward at least for the developed economies, considerations of ‘steady state’ economies – namely a return to the pre-capitalist rates of production and consumption based on ‘sufficiency’ rather than incessant, unsustainable growth (Kovel 2002).

This latter group, while at least implicitly anti-capitalist, has nevertheless also been critical of Marxism as an allegedly ‘anthropocentric’ paradigm. Even if Marxism looks forward to the transcendence of capitalism in the form of socialism and communism, where the material abundance produced by industrialisation is continued under different relations of production, such that the fruits of production are more equally distributed to people throughout human society, it nonetheless, like market liberalism and Keynesianism, sees capitalist growth as necessary for human progress (see Barry 2004; Ponting 2007).

This productivist, Promethean logic based on the marvels of technological progress has been the standard signifier of twentieth-century orthodox Marxism (particularly its Leninist and social democratic forms) that came to define the legacy of Karl Marx and Friedrich Engels.
For orthodox Marxism, capitalism’s demise will emerge out of the social contradictions embedded in capitalism – namely, the capital/labour contradiction through which capitalism creates its own gravedigger in the form of the organised working class (Marx and Engels [1848/1888]1999). The area of debate around strategy and tactics, which divided the Bolshevik Leninists from the Menshevik social democrats in Russia before the 1917 revolution, and which forever split Marxism throughout the world thereafter between revolutionary Leninism (whether Stalinist or Trotskyist) and social democracy and later ‘Eurocommunism’ (or ‘evolutionary’ Marxism), was over the manner in which socialism would emerge. For the Bolsheviks (or Marxist–Leninists), the revolution needed to be induced from the outside (through the voluntarist action of a revolutionary party of the working class, or in Antonio Gramsci’s [1971] terms, a ‘war of manoeuvre’ against the capitalist state), while Marxists such as Eduard Bernstein and Karl Kautsky believed that the endemic crises arising out of capitalism’s internal contradictions would bring about its own downfall (thus allowing social democratic parties to participate in the electoral system of ‘bourgeois democracy’ through Gramsci’s ‘war of position’, building counter-hegemony within the interstices of capitalism, such that when the crisis reaches its ultimate tipping point, a socialist ethos would prevail within the working class and broader society).

Arguably Joseph Stalin’s emphasis on the two-stage revolution (first the national-democratic stage and then later the socialist stage), which imprinted itself on all Marxist–Leninist–Stalinist communist parties over the past century, meant that during the ‘first stage’ communist parties would in substance be ‘left’ versions of social democratic parties – except that politically they would be aligned with either the Soviet Union or China during the cold war (whilst social democratic parties invariably aligned themselves with the US-led West). Gradually, many social democratic parties dropped their overt links to Marxism and their vision of a transition to fully fledged socialism (in favour of the Keynesian compromise between capitalism and socialism).

Today, with the fall of Soviet statism (see Wright 2010) and the crisis of the Marxist revolutionary project, most established Marxist–Leninist parties, such as the South African Communist Party (SACP) or the communist parties in India, are in substance, if not in form, social democratic parties (usually occupying the left space abandoned by self-declared social democrats since the 1980s and still looking forward, in the very long term, to a rather abstract socialism and eventually communism). In other words, a great displacement has happened – traditional social democrats (such as the British Labour Party,
or the German Social Democratic Party ([SPD]) have moved to the right, and become market liberal with a dash of welfarism, while communists have become true social democrats in the spirit of Kautsky (even while denouncing him, as Vladimir Lenin did, as a renegade for opposing the dictatorship of the proletariat after the Russian Revolution of 1917).

The long march from capitalism to socialism and, seemingly, back to capitalism during the 1990s’ triumph of the West, was seemingly evidence of the ‘end of history’ (Fukuyama 1992) – namely, the end of Marx’s vision of historical stages from capitalism to socialism to communism. Capitalist democracy, it seems, was the final stage: Allow the market its freedom across the globe and all boats will rise, as economic development will apparently sweep the world out of poverty (but not inequality, which is conveniently regarded by most neoliberals as the necessary catalyst for growth and development).

With Russia and its former East European satellites going for full-blown free market ‘disaster capitalism’ (Klein 2008), other so-called socialist countries such as China and Vietnam increasingly embraced the market mechanism (if not the political form of multi-party liberal democracy), to become mixed or ‘state capitalist’ economies.

In the 1990s and early 2000s Marxism, it seemed, was, if not dead, then dying a slow death. Indeed, even the new social movements that rose to fight the social ills caused by disaster capitalism – ranging from environmental degradation to free trade, privatisation, land dispossession and various forms of identity politics – seemed keen to embrace postmodern or post-Marxist conceptions of struggle. The industrial working class and traditional trade unionism had lost their social weight as the historical agent of social liberation in most countries (except perhaps South Africa and Brazil), particularly as their numerical weight declined with the rise of informalised labour and unemployment worldwide.

Even in academia, Marxism seemed on the decline, as a de-classed, decentred and apparently non-dogmatic postmodernism swept forward to explain power, alienation and marginalisation under globalised capitalism. Marx remained important as a historical figure – as a founding father of the social sciences – but he was exhausted, no longer really relevant (except in isolated corners of intellectual life, where a more Gramscian Marxism tried, in dialogue with postmodernism, to redeem the dialectical, nuanced Marx from the dregs of his more dogmatic Leninist progeny). The certainties of the twentieth century were replaced by the uncertainties of the globalised twenty-first century, dominated by global capital under the tutelage of US hegemony.
THE CAPITALIST CRISIS AND A REVIVAL OF MARX

Along with the rise of ‘twenty-first century socialism’ in Latin America, given the dramatic failure of neoliberalism in that region, the recent capitalist crisis has revived popular interest in Marx (for his analytical insight) and an open Marxism (for its revolutionary potential).

However, it is not business as usual. Three factors have now become central to any reconsideration of the Marxist project: first, multi-party democracy based on principles such as freedom of expression and association (given the horrors of Stalinist dictatorships); second, the enduring efficacy of the market mechanism, albeit subordinated to society (à la Karl Polanyi [1944]), in the production and distribution of goods and services (given the failures of statist production/distribution, which often facilitate networks of patronage); and third, the ecological limits to capitalist growth, as a ‘second contradiction’ or gravedigger of capitalism.

The current capitalist crisis has evoked a variety of responses: from the very narrow, one-dimensional approaches (free market and Keynesian-lite), which see the crisis as a purely financial one, to broader Marxist (and Keynesian–Marxist) approaches which conceptualise the crisis as economic, rooted in the stagnation of the real economy (particularly the falling rate of profit in the manufacturing sector), to the very broad, multidimensional eco-Marxist approaches, which see the crisis as a complex interaction between economic, ecological and social crises that has its roots in industrialisation based on fossil capitalism.

The free market (or orthodox neoclassical or ‘neoliberal’) approach, whilst currently under severe attack, nevertheless remains embedded amongst economists as a default set of assumptions. As British heterodox economist Ben Fine remarked recently, the economics profession has, since the 1980s, been so drenched in neoclassical economic thinking – which both disembodies the economy from society as well as the economics profession from the other social sciences – that economists in the former British government found it difficult to respond to the Labour Party’s drift towards Keynesian thinking at the political level, which they barely understood.

As the crisis temporarily subsides, free market thinkers are becoming bolder again. However, the generally accepted view is that, in the words of Time magazine’s Peter Gumbel, ‘the markets have failed, and in doing so they have destroyed the conventional wisdom about how to run an efficient economy’
(2 February 2009). The finger is pointed firmly at the financialisation of capitalism, due to the deregulation of capital movements, beginning in the 1980s.

But is the finger pointing at greedy bankers a sufficient explanation of the crisis? And will Keynesian fiscal stimulation (mainly bailing out banks with billions of dollars) and financial regulation (including the increasingly popular Tobin tax on global financial transactions) address the roots of the crisis, or merely patch over the cracks until the dam bursts open again, only more fiercely?

Marx inspired a deeper political economy-historical perspective that traces the roots of the crisis to deeper, structural faults in the entire system. As many Marxists argue, the financialisation of capitalism is not the cause of the capitalist crisis, but was itself a response to the manufacturing crisis of the 1970s (Arrighi 2007; Brenner 2009; Harvey 2010). Inherently crisis-ridden, this new financial ‘fix’ has spawned a number of short-term crises in different parts of the world over the past two decades. The current financial crisis, which hit the core, developed countries directly, is the deepest since the Great Depression.

John Bellamy Foster and Fred Magdoff (2009), in an extension of the Paul Baran and Paul Sweezy (1968) analysis, characterise the new stage of capitalism as monopoly-finance capitalism. It is based on ever-increasing concentrations of capital, under the rule of mega-financial institutions that straddle the globe, where manufacturing firms are intermeshed with financial firms and investments.

It is a system of accumulation based on mass consumerism (the creation of everlasting wants). However, particularly in the US centre of global capitalism, these new wants could not be satisfied because potential consumers, experiencing stagnant or declining real wages, did not have the means to purchase the commodities produced. The only way out was increased indebtedness – creating fictitious wealth built on sand, which would eventually collapse, as it did. The ‘recovery’ is mired in rising unemployment and growing inequality, as the bankers dole out billions of dollars in bonuses to themselves. In 2009, in the midst of the crisis, India’s number of billionaires doubled (just as the Maoist rebellion on behalf of displaced farmers grew [Perry 2010]). Despite the talk, there are no signs that Western governments are able to stand up to the power of Wall Street. It seems that Western politicians, like modern-day shareholders of companies, can think only short term – to the next election, or the next big payout (Harvey 2010).

Marx, according to David Harvey (2010), argued that capitalism is based on an average of three per cent compound growth per annum (accumulation for the sake of accumulation). It is now reaching its limits in two senses –
where do the super-rich, sitting on trillions of dollars, invest this capital, other
than in fictitious commodities? And if they do find some avenues of invest-
ment in real commodities, can the earth sustain more mining, deforestation
and industrial pollution?

MARX’S ECOLOGY

If Marx is still relevant as a prescient analyst of capitalist economic crisis
(what James O’Connor [1998] calls the first contradiction of capitalism), does
Marx have anything to offer in terms of the ecological crisis (O’Connor’s
second contradiction)?

There are at least four possible ways of viewing Marx on the matter: the
dominant view, depicted above, is that Marx was anti-ecological and his think-
ing was indistinguishable from Soviet practice (see Ponting 2007). Alternatively,
many environmental sociologists feel that Marx had moments of ecological
insight, but that these were minor compared to his pro-technology, pro-growth
(or Promethean) stance (Barry 2004). Others, including many ecological
Marxists such as Ted Benton (1996), David Pepper (1992) and James O’Connor
(1998), go further and argue that Marx had a theory about ecological degrada-
tion in agriculture and in his sober moments valued nature as much as labour,
but that this was separate from his core social analysis, as Marx (and Engels)
were ambiguous about nature.

Finally, there are the views of Foster and Paul Burkett, who have inspired
a new generation of Marxist ecologists who are adamant that, all along,
Marx had a systemic approach to nature and to environmental degrada-
tion (Burkett 2005; Foster 1999) – even if he gave prominence to the social
contradiction (between capital and labour), given the pressing issues of his
time. Had Marx lived today and witnessed the extent of the ecological crisis,
it is most likely that he would have placed it alongside the social crisis, with
equal emphasis.

It is debatable as to whether it is analytically feasible to speak of one, inter-
connected set of capitalist contradictions, or two – the first, or economic, and
the second, or ecological (O’Connor 1998), in the sense that the two have
separate rhythms of their own, even if they collide and at times reinforce each
other. Nevertheless, even if ecological crises can be found to precede capitalism
(such as the Roman’s plunder of natural resources [Ponting 2007], ecological
degradation has intensified exponentially on the capitalist production treadmill. Burkett (2005: 7) criticises O’Connor for arguing that Marx does not ‘adequately account for the natural and social conditions of production’ and then, in a functionalist’s manner, grafting such conditions ‘onto a Marxian model of accumulation and crisis’. This, according to Burkett, has prevented a full engagement between ecological economists and Marxists and allowed ‘the infiltration of neoclassical visions and concepts into ecological economics’ (8) – particularly the supply-and-demand framework and in the process weakening the anti-market current within the discipline and reducing its interdisciplinary plurality.

Burkett (11) points to recent research that has established that Marx’s and Engels’s ‘engagement with the natural sciences was more intensive and extensive than anyone could previously have imagined’. The natural sciences, including Charles Darwin’s *Origins of the Species* ([1859] 2012) and what is currently known as ecological analysis, were central to their materialist approach. In other words, the allegation that they ignored natural limits, thought that humans should dominate nature, embraced an anti-ecological industrialism, under-appreciated capitalism’s reliance on materials and energy and saw wealth only in terms of labour, ‘have been thoroughly debunked’ (Burkett 2005: 11).

Indeed, Foster (2009: 266) asserts that Marx and Engels, throughout their writings, grappled with the main ecological problems of society:

… the division between town and country, soil depletion, industrial pollution, urban maldevelopment, the decline in health and crippling of workers, bad nutrition, toxicity, enclosures, rural poverty and isolation, deforestation, human-generated floods, desertification, water shortages, regional climate change, the exhaustion of natural resources (including coal), conservation of energy, entropy, the need to recycle the waste products of industry, the interconnections between species and their environments, historically conditioned problems of overpopulation, the causes of famine, and the issue of the rational employment of science and technology.

Foster’s *Marx’s Ecology* (1999) is a detailed and highly persuasive examination of Marx’s ecological insights, starting with his PhD thesis and maturing with his later work, when he delved deeply into the problems of soil fertility and the nutrient cycle. The following quotes give a sample of Marx’s views on nature
and the ecological contradiction embedded in capitalism – and casts significant doubt on the Promethean view of Marx expressed by Marxists and non-Marxists over the past century. This quote from the little-read volume three of *Das Kapital* reveals an explicit view of ‘sustainable development’ a century before the famed Brundtland Commission of 1982, which defined ‘sustainability’ as development that preserves the natural environment for future generations (Clapp and Dauvergne 2008). According to Marx ([1894] 1981: 911):

> Even an entire society, a nation or all simultaneously existing societies taken together, are not owners of the earth, they are simply its possessors, its beneficiaries, and have to bequeath it in an improved state to succeeding generations, as *boni patres familias* [good heads of households].

Of course Marx goes way beyond Brundtland, which was a compromise between environmentalists who wanted real ecological sustainability and big business that wanted continued economic growth. The end result was ‘sustainability’ that was subsumed under the growth imperative – allowing corporations to proceed with accelerated accumulation over the past 30 years, resulting in increased carbon emissions and heightened climate change – but under the cover of ‘greenwashing’ (Bruno and Karliner 2004).

For Marx, the social relations of production – the private ownership of productive resources, or the rule of capital – must change before real sustainable human development can occur. Although many believe that Marx conceptualised the labour theory of value to the neglect of nature as a source of value, he saw both labour and nature as sources of value:

> All progress in capitalist agriculture is a progress in the art, not only of robbing the worker, but of robbing the soil; all progress in increasing the fertility of the soil for a given time is a progress toward ruining the more long-lasting sources of that fertility … Capitalist production, therefore, develops technology, and the combining together of various processes into a social whole, only by sapping the *original sources of all wealth – the soil and the labourer* (Marx [1887] 1954: 475, my emphasis).

Marx’s theory of the metabolic rift between town and countryside, which he mentions in the *Communist Manifesto*, is also about the rift between humans
and nature. Marx, unlike anthropocentric thinkers, saw humans as part of nature and who, as such, had to respect the laws of nature. In Capital (volume one) he says:

Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material reactions [metabolism] between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature’s productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature … it is the necessary condition for effecting exchange of matter [the metabolic interaction] between man and nature; it is the everlasting Nature-imposed condition of human existence. (Marx [1887]1954: 173–179, my emphasis)

This intimate, interconnected (or dialectical) view of humans and nature, is so holistic that most deep ecologists would find little fault with it. For Marx, capitalism has torn asunder this metabolic interaction, creating a rift between humans and nature that is now threatening the existence of earth. While Marx did not, in his time, foresee the full detail of the consequences of this rift, he saw enough to warn us of its dangers. It may not have captured the headlines of his thinking, but Marx had a systematic view of humans and nature, stemming from his PhD thesis (Foster 1999).

Marx understood, following the work of Justus von Leibig (Foster 2002), that the metabolic rift between town and country – a central feature of capitalism, as urbanisation envelops the earth – leads to two things. Firstly, the soil is deprived of its nutrients, which are taken to the cities (in the form of food and clothing, for example) and then dumped into rivers or landfills in the cities. Human and non-human animal waste, which had previously been used to fertilise the soil in a continuous process of recycling, are, under capitalism, sources of pollution and potential danger to public health. Secondly, this has led to a crisis in agriculture and the frantic search for fertiliser in the form of guana (bird-droppings) amongst other things, leading to the colonisation of islands rich in guana, until this, too, dried up. Eventually artificial fertiliser had to be created, and this still forms the basis of capitalist agriculture, with recycling occurring only at the margins of global agriculture.
This example of the metabolic rift between town and country received focused attention from Marx, particularly in his later years, and is strong evidence of an ecological imagination that was quite advanced for his time. This is how Marx himself put it:

Large landed property reduces the agricultural population to an ever decreasing minimum and confronts it with an ever growing industrial population crammed together in large towns; in this way it produces conditions that provoke an irreparable rift in the interdependent process of the social metabolism, a metabolism prescribed by the natural laws of life itself. The result of this is a squandering of the vitality of the soil, which is carried by trade far beyond the bounds of a single country ([1894]1981: 949, my emphasis).

In Capital (volume one) Marx ([1887]1954: 474) makes the following point: ‘Capitalist production … violates the conditions necessary to lasting fertility of the soil. By this action it destroys at the same time the health of the town labourer and the intellectual life of the rural labourer.’

Marx is referring here to the isolation of rural communities from developments in the sciences and the arts in cities. Indeed, this observation of Marx and Engels in the widely read Communist Manifesto was mistranslated, as Hal Draper (1978: 344) discovered in the 1970s, as the ‘idiocy of rural life’, and for the past century this has been quoted extensively to prove that Marx and Engels looked down upon the peasantry – giving force to the Promethean perspective that capitalist industrialisation was a necessary precursor to socialism/communism. As Foster (1999) argues, Marx at the same time as he wrote the Manifesto also expressed great admiration for peasant leaders such as Thomas Muntzer.

Unlike Marxists such as Reiner Grundmann (Benton 1996; Foster 2009), who sought to justify the popular view of Marx as an anthropocentric advocate of the domination of nature, the above quotes give a different picture of Marx and Engels, as advocating the mastery of nature in accordance with nature’s laws. In other words, far from being a blind technological determinist, Marx was much more nuanced in his thinking about the limits and possibilities of technology as a solution to the problems of human society. Technology, for it to be socially useful, had to be subjected to social priorities (as opposed to market priorities) in accordance with the laws of nature.
MARX AND MARXISM

If all this was so self-evident, why has a century of Marxism gone by without ecology being at the forefront of Marxist thought? Well, as Marx once said, ‘I am not a Marxist’ (Wheen 1999).

According to Foster (1999) Marxists did address ecological issues in the early part of last century – including Lenin, Rosa Luxemburg, Nikolai Bukharin and early Soviet scientists. However, after Lenin died, Stalin embarked on a rapid industrialisation path and obliterated the ecological movement within the Soviet Union. The blind pursuit of industrial development at all costs, in the form of state capitalism (Wallerstein 1979; Foster 2009), was little different to the production treadmill of the capitalist West – except that a bureaucratic bourgeoisie was at the helm. This path was celebrated by Soviet-inclined Marxists in the post-war race with the West, as various Soviet leaders promised to outpace the West in industrial development.

While the horrors of Stalinism produced a wide range of responses from more democratically minded Marxists – ranging from followers of Leon Trotsky to various strands of Western Marxism (McLellan 1979), few of these departed from the Promethean emphasis of Stalin. Indeed, as Foster (1999) observes, Western Marxism’s aversion to positivism and the natural sciences led to a neglect of Marx’s ecology, with a few exceptions amongst British Marxists, in particular Christopher Caudwell. It is only from the 1970s, with the rise of the environmental movement, that Marxists have begun to take ecology seriously again.

Was Marx at least partly to blame for this? As mentioned above, some Marxists (such as Benton 1996) believe that, despite his ecological insights, Marx does reveal a certain ambiguity regarding the ecological question – thus allowing for the Promethean emphasis of most twentieth-century Marxists. Burkett (2005) and Foster (1999) are adamant that this is not the case, that nature is embedded in the core of Marx’s analysis. Foster, however, concedes that Marx did expect the imminence of the socialist revolution, based on the social contradiction, as the working-class movement grew during his time. He thus focused more on the exploitation of labour as the gravedigger of capitalism, than on the contradictions of nature. He consequently devoted more attention to ecology in post-capitalist society, as a form of sustainable human development. This features prominently in the latter (but little understood) part of the Communist Manifesto, where explicit reference to the need for a metabolic restoration between town and country is made.
THE RELEVANCE TODAY

The Indian Marxist Randhir Singh (2010: 167) notes that Engels warned followers ‘not to pick quotation from Marx or from him as if from sacred texts, but think as Marx would have thought in their place’. In this light, why is it important whether Marx had an ecological perspective or not?

Three reasons spring forth: firstly, to set the record straight, as Marx remains a foundational thinker within the social sciences; secondly, to provide a deeper analysis of the ecological crisis and point to possible limitations in current ecological thinking around the internalisation of environmental costs, without looking at the social relations of production; and thirdly, to build a broader, red-brown-green alliance against fossil capitalism, where traditional Marxist groups revise their approach towards ecology, and environmental groups likewise see the interconnections between environmental issues and capitalism as an economic system.

As a purely intellectual exercise, the work of Burkett and Foster serves a purpose, since it debunks a century of misunderstanding regarding Marx’s and Engel’s ecological insights. It goes along with the rediscovery of the ecological insights of other foundational sociological thinkers, such as Max Weber, who ‘recognised the finitude of the world’s fossil resources and the “heedless consumption of resources for which there are no substitutes”’ (Urry 2011: 39–40). This serves to undermine the traditional separation of ‘social facts’ from ‘material facts’ and helps us to understand more fully the carbon resource bases of modern societies. Social scientists are slowly beginning to see the necessity of asserting the social back into an analysis of climate change and environmental degradation and of displacing economics as the primary discipline in such analyses (see White 2004). Marx, in particular, encourages a holistic perspective that undermines the boundaries between the natural and the social sciences, along with the subordination of economics to both.

The rediscovery of Marx’s ecology also has important political implications. With the failure of the working-class movement to live up to its potential as the gravedigger of capitalism in the twentieth century – either through failed Stalinist/Maoist revolutions, or the absorption of the industrial working class as junior partners or labour aristocrats into social pacts with capital, nature has now stepped forward as a candidate to become gravedigger of capitalism. The depletion of fossil fuels to drive further industrialisation, climate change as a result of carbon emissions, various forms of pollution that threaten public health, as well as the destruction of ecosystems, all threaten our planet.
Responses to this impending doom have been varied. At the one extreme is the eco-centric (or bio-environmentalist) view, which tends to privilege ‘nature’ over humans. A key focus of their critique is not industrial capitalism in the first instance, but overpopulation and urbanisation, which has encroached on the living space of non-human animals and damaged delicate ecosystems (Clapp and Dauvergne 2008). In other words, the battle is between nature and humans and the underlying principle is that nature has intrinsic value – that is, value in itself, as opposed to use-value for the benefit of humans, or exchange-value for capitalism. The political implications of such a perspective are varied, ranging from green anarchism and deep ecology to neo-Malthusianism, where population control is a key policy instrument, as well as the return to nature, or living in small, localised communities in complete harmony with nature.

Marx and Engels were not romantic environmentalists, who sought a return to living in small rural communities. As Foster (2002) argues, they were neither anthropocentric nor eco-centric, but saw the two as a false dualism. Human beings do occupy the upper rung of the animal ladder, but they should use that position with care and sensitivity to the rights and laws of nature. Humans do not possess knowledge and understanding of the complex workings of nature. If they arrogantly think they do – witness the fanciful proposals to control the weather – then only disaster can befall humankind. In other words, it is neither humans nor nature but the dialectical interaction between the two, rooted in Darwin’s theory of evolution (which Marx greatly admired as scientific proof of his materialist conception of history).

At the other end of the spectrum is the anthropocentric ‘ecological modernisation’ perspective, which has two broad variants – the market liberal and the institutionalist (Clapp and Dauvergne 2008). For market liberals, sustainability is subordinated to economic growth, while institutionalists seek to regulate the market at global and national levels, without questioning the logic of accumulation. For these perspectives, the internalisation of environmental costs means ‘getting the prices right’ (Friedman 2008), with market liberals favouring instruments such as carbon trading, which implies a more complete commodification of nature. In addition, accumulation can proceed as long as greater efficiencies in resource consumption are made and green technologies are found to replace fossil fuels. More radical Keynesians propose incentives as well as taxation to encourage entrepreneurs to invest in wind, solar and hydro technologies – and believe that Germany has shown that it is feasible to produce all its electricity needs by 2050 with renewable sources (Dullien, Herr and Kellerman 2011).
While for some, unproven ‘clean coal’ technology is advocated, for most ecological modernisers the key is nuclear power (Friedman 2008). Indeed, as Alexander Cockburn (2011) laments, most environmentalists in the US support nuclear power, as does the radical British environmentalist, George Monbiot, on the grounds that it is now safer in all respects, including waste disposal. This seems to be the compromise between environmentalists panicked by the impending climate disaster and the need to find a quick fix and the corporate-led accumulation/consumption treadmill, which both consumers and producers are reluctant to move off. Is this not a case of having one’s cake and eating it? As Cockburn (2011: 79) concludes:

Look at the false predictions, the blunders. Remember the elemental truth that Nature bats last, and that folly and greed are ineluctable parts of the human condition. Why try to pretend that we live in a world where there are no force 8–9 earthquakes, tsunamis, dud machinery, forgetful workers, corner-cutting plant owners, immensely powerful corporations, permissive regulatory agencies, politicians and presidents trolling for campaign dollars? Is that the shoal on which the progressive movement in America is beached? This shameful pact between the nuclear industry and many big greens has got to end.

**SUSTAINABLE (HOLISTIC) HUMAN DEVELOPMENT**

A more holistic, Marxist analysis makes the connection between pollution, plunder and poverty. In what Harvey (2005), following Marxist Luxemburg, calls a process of ‘accumulation by dispossession’, capitalism has resulted in a form of enclave development whereby wealth and power is concentrated in certain regions of the world (the core) and within a super-class (Rothkopf 2009) of a few thousand people (the core within the core). The rest of the (mainly post-colonial) world continues to be characterised by extreme inequality, poverty and dispossession, with a few exceptions. While rapid economic growth in parts of the semi-periphery, particularly the BRICS countries (Brazil, Russia, India, China and South Africa), threatens to spread this wealth and power in the supposedly great levelling process called ‘globalisation’, this amounts to little more than enlarging the core within the
periphery, without significantly altering the global or national core-periphery division of labour, wealth and power (Amin 2008; Wallerstein 1979).

The only exceptions to this scenario have been in parts of South East Asia (most notably Japan and the Asian tigers South Korea, Taiwan, Singapore and Hong Kong), under special geo-political conditions during the cold war. The expectation that this model of state-led development, based on rapid industrialisation, can spread to the rest of the world, is more hope than reality. The reality, in fact, is that this model, based on non-renewable sources of energy, seems as doomed as the free market (or neoliberal) model. Any ‘solution’ to the capitalist poly-crisis (the intertwined social and natural limits) that is not holistic will be piecemeal and of benefit to the few who have already concentrated wealth into their own hands – green, gated communities behind immigration walls in developed countries, or fenced-off wealthy suburbs in islands of excess amidst seas of poverty. If one leaves aside the immorality of growing social inequality, this is a recipe for instability on a national and global scale.

In other words, the natural limits to growth cannot be addressed without confronting the social contradiction arising out of the accumulation process – namely, the social relations of production. For ecological Marxists, the socio-economic and ecological crises have a common origin – industrial capitalism – and ultimately, a lasting solution to these crises cannot be found within capitalism. The very nature of capitalism needs to be transcended to find solutions for all of humanity, in harmony with the natural environment. The question is, what does this mean in practice?

If Marx is still relevant to the analysis of fossil capitalism, does it then follow that his belief in socialism/communism, as a form of sustainable human development (Foster 2009; Burkett 2005) is also still relevant? In other words, is sustainable human development for all only realisable under communism? If so, and if ‘communism’ is not the state-dominated authoritarian experiment in ‘actually existing socialism’, where democracy was emptied of most of its content, what is it? Does it include a role for the market and the state, or is it an ideal of workers’/citizens’ self-management that will always remain an aspiration rather than a realisable utopia? Foster and Burkett do not directly address these questions – except to point to the potential inherent in the Latin American movements towards ‘twenty-first-century socialism’, as well as the participatory planning achievements of the Indian state Kerala and the Brazilian city of Porto Alegre (Foster 2009). These ‘islands of hope’, including Cuba’s widely
admired organic urban community gardens, remain fragile amidst ‘the class
and imperial war imposed from above by the larger system’ (Foster 2009: 276).

The exact shape of a future where the state and market are subordinated to
society remains a question of struggle and further theoretical reflection, as an
open-ended set of questions in keeping with Marx’s approach to continuous
critical enquiry (see Wright 2010).

The red-brown-green alliance those in the environmental justice movement
are calling for (Cock 2007) is a deep engagement, based on mutual respect,
between Marxists (red) and environmentalists that are engaged in both urban
ecological struggles dealing with pollution and waste issues (brown) as well as
the more traditional conservation issues (green). It is a recognition that while
Marx and Engels may have had an ecological imagination that permeated
their thinking, they could not have foreseen the depth, extent and complexity
of the multifaceted ecological crisis facing the planet. As much as environ-
mentalists need to infuse their understanding of ecological crises with a class
perspective (Magdoff and Foster 2011), so do Marxists need to build on the
insights of Marx and Engels, with a deeper understanding of ecological crises
and the natural limits to growth (Angus 2009; Pepper 1992). For this alliance in
struggle to succeed, it must combine with a necessary convergence of research
and thinking between natural and social scientists.

CONCLUSION

Terry Eagleton, in his book Why Marx was Right (2011), argues that to be a
Marxist does not mean agreeing with everything Marx has written. However,
he asserts that Marx was right enough of the time about enough important
issues, including the natural environment and its relationship to capitalism, the
historical object he was the first to identify, ‘to show how it arose, by what laws it
worked, and how it might be brought to an end’ (xi). The foundational insight of
his work remains critical for as long as capitalism exists as a crisis-prone system
based on incessant accumulation and the exploitation of land (that is the natural
environment) and labour, which are for Marx the original sources of all value.

An eco-Marxist or eco-socialist school of thought is emerging to give added
depth to the growing belief that capitalism may be reaching its natural limits.
The ecological consequences of hyper-accumulation have become so apparent
that few dare ignore it.
The work of ecological Marxists, in particular that of Burkett and Foster, has sparked considerable interest around the world – particularly in China which, despite its drift towards state capitalism in recent decades, is still officially a ‘socialist’ or ‘Marxist’ state, increasingly grappling with the ecological contradiction. Zhihe Wang (2012) notes that since 2001 there has been an explosion of articles published in this area, from 45 during the period 1991 to 2000, to 598 during the 2001 to 2010 period, as well as 9 books, 75 MA theses and 15 doctoral dissertations. Wang (2012: 2) observes:

Today ecological Marxism is part of the totality of Marxism in China. Ecological Marxism is regarded by some Chinese Marxists as not only ‘one of the most influential movements in contemporary Western Marxism’ and ‘a new development of Marxism’, but also as ‘a very important force among various ecological theories’. Some Marxist scholars even argue that ecological Marxism is ‘the most creative aspect of American Marxist Philosophy’.

In South Africa, there is a growing awareness within the labour movement about the links between capitalism and the ecological crisis – outstripping that of the SACP, which a few years back began linking the economic and ecological crises (see Bond 2009; Cronin 2009) before becoming immersed in government and endorsing tame green policies such as the New Growth Path, which subordinates sustainability to the logic of accumulation. The National Union of Metalworkers of South Africa (Numsa), one of the largest affiliates of the Congress of South African Trade Unions (Cosatu), is at the forefront of an emerging ecological Marxist perspective. Its president recently declared that ‘it must always be clear that capitalism has caused the crisis of climate change that we see today. There is an urgent need to situate the question of climate change in a class struggle perspective’ (Gina 2011). This echoes the thinking of an embryonic formation, the Democratic Left Front (2011) which explicitly promotes an eco-socialist form of politics.

Of course, in both China and South Africa the prospects of ecological Marxism becoming dominant forms of thinking are as yet remote. China may be ruled by a communist party, but its adherence to Marxism is questionable, even though Marxism remains the official doctrine and Marxist studies are promoted. Nevertheless, the emergence of an ecological Marxism has begun to
challenge the dominant growth-at-all-costs perspective, as China increasingly comes to terms with the ecological costs of rapid growth.

In South Africa, Numsa’s strident anti-capitalism is constrained by its alliance, through Cosatu, with the ruling party, the African National Congress and the SACP, which obliges it to, at best, negotiate policies that seek greater state intervention in the economy, as opposed to a more substantive democratic, holistic developmental path. In other words, in both China and South Africa, the best that can be hoped for in the immediate future is some form of social-democratic ‘new deal’, whereby the excesses of capitalism are regulated at the global and national levels.

Whether one adopts a green ‘new deal’ perspective, or a more radical eco-socialist perspective, both pose fundamental challenges to capitalism’s growth-at-all-costs tendencies. The transcending of capitalism is of course not on the immediate agenda – although in parts of Latin America, countries like Bolivia and Ecuador have given the earth constitutional rights, with strong support from rural indigenous communities (within the highly contested framework of pursuing twenty-first-century socialism in alliance with Venezuela, Nicaragua and Cuba – as well as the political support of Brazil, Argentina and Uruguay). These experiments are hemmed in by global constraints and the temptation of urban elites to pursue extractive development paths, in order to more quickly deliver social benefits to the population.

Whether or not a ‘green new deal’ is pursued as a stepping stone towards more fundamental options in the longer term, it is worthwhile remembering these words of Bolivian President Evo Morales (2009: 168):

It is nothing new to live well. It is simply a matter of discovering the ways of our forebears and putting an end to the kind of thinking that encourages individualistic egoism and the thirst for luxury. Living well is not living better at the expense of others. We need to build a communitarian socialism in harmony with the Mother Earth.
NOTES

1 The former right-wing president of France, Nicolas Sarkozy, had a moment of rare insight in 2008, during the height of the financial crisis.

2 In one sense, all humans are ‘anthropocentric’ in that we conceptualise the world through a human lens, even when we advocate extreme eco-centric views that seemingly pit nature against humans. The only human community that comes close to true ‘eco-centrism’ are the Jains in India, who refuse to harm any living creature whatsoever. Here we distinguish between a ‘hard’ anthropocentrism that seeks the domination and exploitation of nature, with little or no regard for its sustainability and softer versions that seek greater harmony between humans and the natural environment. The term ‘anthropocentric’ is used here in the harder sense.

3 Amongst Marxists there is a long-standing debate about whether these regimes were more state socialist or state capitalist – the term ‘statism’ leaves this debate open. Neither critical Marxists nor the Soviet regimes themselves ever called their systems ‘communist’ – this was a stage of statelessness for the long-term future.

4 Since the SACP became enmeshed in the Zuma administration after 2007, it has acted less as a ‘social democratic’ party in the radical sense of the term and more as left fig-leaf for the continuation of neoliberal policies under the guise of the ‘national-democratic revolution’, even supporting authoritarian moves to narrow democratic space in the country. On the other hand, the Communist Party of India (Marxist) in Kerala, despite its recent internal problems which saw it removed from power, has promoted participatory democratic forms of governance that took it way beyond traditional social democracy (see Williams 2008).

5 This remark was made at a Global Labour University workshop in Johannesburg, 22 September 2009.

6 This is derived from Foster (2009).

7 As Foster (1999: 136) points out, the word *Idiotes* in ancient Greek meant ‘to be cut off from public life’. In addition, in *The German Ideology* (1932) Marx and Engels referred to the division between town and country as a form of division between mental and manual labour, resulting in a restricted town-animal (cut off from nature) and a restricted country-animal (cut off from ‘all world intercourse, and consequently from all culture’ [quoted in Foster 1999: 137]).

8 Foster (2009) likens domination to the desire to exploit and crush, while mastery is more subtle – such as the mastery of the violin, where the musician lovingly learns how to harmonise his inner being with the laws of the instrument.

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