

THE COMMUNIST MANIFESTO AND THE ENVIRONMENT

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The rise of environmental issues to the forefront of contemporary political life over the last few decades has sparked a searching reexamination of the entire history of social thought. In a context set by a widening ecological crisis that now seems to engulf the entire planet, all of the great traditions of modern thought – liberalism, socialism, anarchism, feminism – have sought to reexamine their intellectual forerunners, dropping some ideas and picking up others in an effort to 'green' their understandings of society. As a result an impressive array of thinkers from Plato to Gandhi – have all had their work scrutinized in relation to ecological analysis.'

It is in connection with the work of Marx, however, that one finds by far the most voluminous and controversial body of literature in this regard. This of course is to be expected since Marx remains the preeminent critic of capitalist society. The extent to which his general critique (and that of the various traditions to which he gave rise) can be integrated with an ecological critique of machine capitalism is therefore of great importance. Indeed, much more is involved here than a mere question of 'political correctness' (understood in green terms). The overriding question is rather whether Marx's critique of political economy plays an essential part in the reconstruction of social theory in an age of planetary crisis. Further, how far does he offer insights that are crucial to our understanding of the contemporary ecological malaise?

The participants in this debate have fallen into three camps: those who argue that Marx's thinking was anti-ecological to its core, and directly reflected in Soviet environmental depredations; those who contend that Marx provided 'illuminating asides' on ecology in his work, even if he chose in the end to adopt a 'Promethean' (pro-technological, anti-ecological) viewpoint; and those who insist that Marx had

a deep awareness of ecological degradation (particularly with respect to questions of the earth or soil), and that he approached these issues **systematically**, to the point that they entered into his basic conceptions of both capitalism and communism, and led him toward a notion of sustainability as a key ingredient of any future society.*

Most of the debate about **Marx's** relation to environmental thought has focused on the early philosophical critique of capitalism in his *Economic and Philosophic Manuscripts of 1844* and on his later economic critique embodied in *Capital* in the 1860s – since in both of these works he had a great deal to say about human interactions with nature. Nevertheless, the *Communist Manifesto* has often been invoked as presenting a view that was anti-ecological – some would say the very definition of anti-ecological modernism.

Indeed, the *Manifesto* is customarily viewed as a work that is at best oblivious to environmental concerns, at worst 'productivist' – even 'Promethean' – in character, steeped in notions of progress and the subjection of nature that are deeply anti-nature. This is important because the *Manifesto* is generally viewed as lying at the heart of the **Marxian** system and whatever flaws are to be found in the overall analysis are seen as having their roots there. Yet the question of the relation of the *Manifesto* to the environment is one that has never been addressed systematically. In our time this is no longer adequate, and it is necessary to ask: To what extent is the *Manifesto* – arguably the most influential political pamphlet of all time – compatible with ecological values, as we understand them today? Moreover, how is the *Manifesto* to be situated within the rest of **Marx and Engels'** thought in this respect?

THE SEARCH FOR A SMOKING GUN

One might suppose that compelling textual evidence that **Marx and Engels** were anti-environmentalist in orientation would not be hard to find. They wrote at a time when most thinkers embraced a mechanistic world view in which nature and human beings were seen as diametrically opposed to one another. Indeed, much of the European view of science from the sixteenth and seventeenth centuries on was governed by the notion that science had allowed humanity to escape nature's dominance and to become dominant in turn; and **Marx and Engels** certainly referred frequently – as did nearly all nineteenth century (and most twentieth century) thinkers – to the 'mastery', 'domination', 'conquest' and 'subjection' of nature.

But they did so almost invariably in contexts which refrained from making nature the enemy. Rather, the domination of nature was seen by them as a phase of historical development – part and parcel of the whole self-alienation of human society, which also meant its alienation from nature – which would necessarily have to be transcended under communism. There are innumerable passages strewn throughout their writings where Marx and Engels demonstrate enormous sensitivity to environmental issues. For example, the 23-year old Engels, in his first work on political economy, published in 1844, wrote: 'To make the earth an object of huckstering – the earth which is our one and all, the first condition of our existence – was the last step toward making oneself an object of huckstering.'³ For his part Marx observed in 1844, in his *Economic and Philosophical Manuscripts*, that 'Man lives from nature, i.e., nature is his *body*, and he must maintain a continuing dialogue with it if he is not to die.' In this same work Marx complained that under the alienated existence of capitalism, 'Even the need for fresh air ceases to be a need for the worker. Man reverts once more to living in a cave, but the cave is now **polluted** by the mephitic and pestilential breath of **civilization**.'⁴

In his more mature works, from the 1860s on, Marx became increasingly concerned about signs of ecological crisis, particularly with respect to the **degradation** of the soil, which induced him to envision future communist society to a very large extent in terms of sustainability. Writing in volume one of *Capital*, Marx argued that 'the destruction' under capitalist agriculture 'of the eternal natural condition of the lasting fertility of the soil' – of the basic elements of 'the metabolic interaction between man and the earth' – **through** the disruption of the soil nutrient **cycle**, compelled 'its systematic restoration as a **regulative** law of social production, and in a form adequate to the full development of the human **race**.'⁵ So dialectical (in the sense of many-sided) was this kind of analysis that William Leiss concluded in his pioneering study, *The Domination of Nature*, that taken together, the writings of Marx and Engels, 'represent the most profound insight into the complex issues **surrounding** the mastery of nature to be found anywhere in nineteenth century thought or *a fortiori* in the contributions of earlier **periods**.'⁶

Still, none of this has kept critics from attempting to find a 'smoking gun' to demonstrate beyond all doubt that Marx and Engels adopted a one-sided, exploitative view of nature. But in order to do so green critics have had to go to quite extraordinary lengths. In attempting to demonstrate (against all the evidence to the contrary) that the early

Marx was insensitive to nature, the social ecologist John Clark lays stress on the fact that Marx, while frequently referring to nature as 'man's body,' also referred to it as an 'inorganic' bodily link. He ends his critique by stating that 'Marx's Promethean and Oedipal 'man' is a being who is not at home in nature, who does not see the Earth as the 'household' of ecology. He is an indomitable spirit who must subjugate nature in his quest for self-realization.' But as evidence to back up this **charge** Clark is only able to offer some stanzas from Marx's youthful and not very remarkable poetry (written when he was 19 years old in 'The Book of Love, Part II,' dedicated to Jenny) in which he wrote,

I am caught in endless strife,
Endless ferment, endless dream;
I cannot conform to Life.
Will not travel with the stream.'

For Clark this is definitive proof that, 'For such a **being** [Marx], the forces of nature, whether in the form of his own unmastered internal nature or the menacing powers of external nature must be subdued.'" One cannot but wonder how many **youthful** poets Clark might not condemn based on like evidence. Who has never wanted to go 'against the stream'?

Other green critics have pointed, with **more prima facie** justice, to a passage by Engels in *Anti-Dühring* on the growing mastery of nature that will ensue once human beings have transcended social alienation:

The conditions of existence forming man's environment, which up to now have dominated man, at this point pass under the dominion and control of man, who now for the first time becomes the real conscious master of Nature, because and in so far as he has become master of his own social organisation. The laws of his own social activity, which have hitherto confronted him as external, dominating laws of Nature, will then be applied by man with complete understanding, and hence will be dominated by man. . . . It is humanity's leap from the realm of necessity into the realm of freedom.'

Ted Benton criticizes Engels on the **grounds** that such a view 'presupposes control over nature' and hence 'an underlying antagonism between human purposes and nature: either we control nature, or it controls us!'¹⁰ In other words, **Engels is said** to have adopted an extreme anthropocentric rather than ecocentric perspective. But is Engels' argument here really vulnerable to such criticism? Despite the use of such terms as 'master of Nature' the intent of this passage ought to be quite clear. It is that a revolution in social organization is necessary to allow human beings to avoid **being** simply prey to natural forces (or

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forces that purport to be 'natural,' as capitalist economic forces are represented in bourgeois political economy). In fact, what is being celebrated here is not human mastery of nature so much as the human mastery of the making of history, which gives humanity the capacity to reorganize its relation to nature, under conditions of human freedom and the full development of human needs and potentials. There is nothing here to suggest an underlying antagonism toward nature in Engels' notion of the realm of freedom. Communism, Engels observed elsewhere, was a society in which people would 'not only feel, but also know, their *unity* with nature.'"

The same response may be given to criticism of Marx's closely related discussion of the 'realm of necessity' and 'the realm of freedom' in volume 3 of *Capital*. 'The true realm of freedom, the development of human powers as an end in itself,' commences where the realm of necessity ends, 'though it can only flourish with this realm of necessity as its basis. The reduction of the working day is the basic prerequisite.'¹² The full development of human freedom and the human relation to nature, for Marx, therefore requires the transcendence of a bourgeois order which makes labour – the means by which the metabolic relationship between human beings and nature is expressed – simply a matter of bare, material necessity for the workers, even as the accumulated wealth and the combined powers of society grow. As Paul Burkett writes: 'The expansion of free time and collective-democratic control over the social use of the conditions of production in Marx's communism' establishes the fundamental basis for sustainability in social and ecological relationships because it creates 'conditions conducive to noninstrumental valuation of nature (i.e., to the further development of ecological needs and capabilities among the society of producers).'¹³

In the most revolutionary phase of human development, Engels along with Marx always insisted, the object would be to transform the human relationship to nature in ways that went beyond the childish notion of having 'conquered' nature. 'At every step,' Engels wrote near the end of his life, 'we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature – but that we, with flesh, blood, and brain, belong to nature, and exist in its midst, and that all our mastery of it consists in the fact that we have the advantage over all other beings of being able to know and correctly apply its laws.' One of the basic principles in relating to nature was in fact reciprocity, leading Engels to argue that one could view as a natural necessity the 'demand . . . that man shall

give back to the land what he receives from it.¹⁴

It is true that Marx and Engels focused on human needs rather than on those of nature and thus can be accused of being 'anthropocentric' rather than 'ecocentric.' But this is, from Marx and Engels' own standpoint, a false dualism. Nature and society, in their perspective, cannot be viewed as diametrically opposed categories, but evolve in relation to each other as part of a dynamic process of 'metabolic' interaction. This was similar in its broad outlines to what is now called the 'coevolutionary' perspective, in which it is argued that nature and human society each coevolve in a complex process of mutual dependence. The complexity of the interaction between nature and society envisioned by coevolutionary theory leaves little room for such ideas as 'anthropocentric' and 'ecocentric' since even in defending nature we are often defending something that was reshaped by human beings.¹⁵

RURAL SOCIETY AND AGRICULTURE

The difficulty of finding anything that would even today be considered a strongly anti-ecological statement in the work of Marx and Engels has meant that critics have often been compelled to quote the reference to 'the idiocy of rural life' in Part I of the *Manifesto* as their main textual 'evidence' (frequently their only such evidence) of the alleged anti-environmental orientation of the founders of historical materialism. For example, Victor Ferkiss states: 'Marx's attitude toward nature can in large measure be inferred from his numerous remarks about such things as 'the idiocy of rural life.' He was a notorious critic and indeed an enemy of the peasantry . . . Such an attitude is hardly compatible with idealization of unspoiled nature.'¹⁶ The deep ecologist Gary Snyder adopts a similar view, claiming that within the U.S. today we are seeing 'an alliance of Capitalist Materialists and Marxist Idealists in an attack on the rural world that Marx reputedly found idiotic and boring.'¹⁷

There is a host of questions raised by these statements. What did Marx and Engels mean by 'the idiocy of rural life'? Is this to be regarded as an anti-ecological statement? Was Marx really 'an enemy of the peasantry'? In order to be an environmentalist is it necessary to idealize unspoiled nature? Was Marx a one-sided advocate of urbanism in opposition to rural existence, as some critics like Ferkiss and Snyder have suggested? Such questions are best addressed not in the abstract but through an examination of the *Manifesto* itself, along with Marx's other writings. The reference to 'the idiocy of rural life' comes in the

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midst of the paean in Part I of the *Manifesto* to the bourgeoisie's revolutionary historical role.

The bourgeoisie has subjected the country to the rule of the towns. It has created enormous cities, has greatly increased the urban population as compared with the rural, and has thus rescued a considerable part of the population from the idiocy of rural life. Just as it has made the country dependent on the towns, so it has made barbarian and semi-barbarian countries dependent on the civilized ones, nations of peasants on nations of bourgeois, the East on the West."

This is a very compressed statement which needs sorting out. In the first place, Marx had a classical education and we may presume knew that the meaning of 'idiot' in classical Athens derived from 'Idiotes', a citizen who, unlike those who took the trouble to participate in the assembly, was cut off from public life and who viewed it from the parochial, privatized standpoint. Pre-capitalist Europe – tribal, feudal – made peasants necessarily 'idiotic' in this sense. And while primitive accumulation only made things worse in this respect, there seems no reason to doubt that Marx thought the long-run effect of capitalism was to 'rescue' people from this by driving them into cities and new forms of association with each other. Like nearly all nineteenth century European intellectuals Marx and Engels saw the forces of enlightenment and civilization in their time as emanating principally from the towns. But their recognition of the way in which the bourgeoisie had made the 'country dependent on the towns' should not be seen as uncritical support for this social arrangement, since the best that could be said for it from their point of view (at least at this stage in their thought) was that it was a necessary part of the whole bourgeois revolution, inseparable from the **general** achievements of the latter.

Marx and Engels saw the dependence of the country on the towns as a product in part of the enormous 'agglomerations of population' that emerged within cities during the bourgeois era – an issue that they discussed in the paragraph immediately following the above quotation. Hence included in their vision of revolutionary change, as depicted in Part II of the *Communist Manifesto* (which was devoted to the historically specific demands of proletarians and communists) was an insistence on the need to carry out 'a **gradual** abolition of the distinction between town and country, by a more equitable distribution of population over the country.' Indeed, throughout their writings – and with increasing emphasis in the later works such as Engels' *The Housing Question (1872)* – Marx and Engels insisted on the need for the abolition of the antagonism between town and country, whereby

the latter became dependent on the former. They saw this antagonism as one of the chief contradictions of capitalism and a principal means through which a double exploitation of the urban proletariat and the rural worker (in England no longer a peasant) was carried out. 'The abolition of the antithesis between town and country,' **Engels** wrote in *The Housing Question*, 'is no more and no less utopian than the abolition of the antithesis between capitalists and **wage-workers**.'¹⁹

This sense of the contradiction between town and country was not a mere slogan inherited from the utopian socialists but was seen as **taking** the form of a rupture in the necessary 'metabolic' relation between human beings and nature. Thus in *Capital* Marx was to contend that by agglomerating the population in large urban centres capitalism: (1) 'prevents the return to the soil of its constituent elements consumed by man in the form of food and clothing; hence it hinders the operation of the eternal natural condition for the lasting fertility of the soil'; and (2) 'destroys at the same time the physical health of the urban worker, and the intellectual life of the rural

It was the combined action of the emigration of all culture to the city, the dispersal of a shrinking rural labour force over a wider countryside, and the annihilation of traditional connections both to the soil and to human community, that Marx saw as the source of 'the idiocy of rural life' within bourgeois civilization. Thus he took seriously (though not without offering some criticism) David Uruquart's observation that society was increasingly divided into 'clownish boors' and 'emasculated dwarfs' as a result of the extreme division between rural and urban existence, which deprived one part of the working population of material sustenance, the other of intellectual sustenance. The point was not that nature was to be despised but rather that the **antagonism** between town and country was **one** of the chief manifestations of the alienated nature of bourgeois **civilization**.²¹

In their reference to the 'idiocy of rural life' Marx and Engels, who already saw capitalism as evolving largely along the lines of England, were not referring only to the peasantry, since one of the things that most distinguished the **English** political economy was the thoroughness with which the expropriation of peasant lands had taken place, leaving behind a landless rural proletariat (as well as landed proprietors and tenant farmers). Nevertheless, it is worth noting – in the face of **Ferkiss'** criticisms – that **Marx's** view of the peasantry was always complex – because historically nuanced. It is **true** that he saw the French peasantry as a class playing a reactionary role by the time of

Napoleon III's Second Empire, yet he also distinguished the revolutionary from the conservative peasantry. The former he described in heroic terms as 'the peasant that strikes out beyond the condition of his social existence, the smallholding.' The revolutionary peasant, for Marx, was characterized by 'enlightenment' and represented the future, the 'modern Cévennes.'²²

In *Anti-Dühring* Engels argued that large landholders have almost invariably been more destructive in their relation to the land than peasants and free agricultural labourers. The Roman Republic in Pliny's day replaced tillage with stock raising and thereby brought Italy to ruin (*latifundia Italiam perdidere*); in North America 'the big landlords of the South with their slaves and their improvident robbery of the land, exhausted the soil until it could only grow firs' – thereby representing a much more destructive relation to the earth (as well as to society) than the labour of free farmers.²³

Moreover, the whole question of peasant societies (and peasants within capitalist societies) should not be confused with the issue of pristine nature – as Ferkiss seems to do. Peasant agriculture is non-industrial in character and 'closer to the earth,' but it is already well down the road of the human transformation of nature, including 'man'. If one looks back far enough there were subsistence economies – i.e. not defined by market relations – but one should be careful not to idealize them. Long before primitive accumulation generated capitalist social forms genuine communal agriculture had been largely eliminated under noncapitalist modes of production in most of Europe. In some of these societies the majority of human beings were, as Raymond Williams observes, 'working animals, tied by forced tribute, forced labour, or 'bought and sold like beasts'; 'protected' by law and custom only as animals and streams are protected, to yield more labour, more food, more blood.'²⁴

For Marx and Engels nature was intertwined with human history and on these grounds they sharply attacked those conservative romantics of their day who sought to root themselves and society in a conception of unspoiled nature – as an adequate basis for a revolt against capitalism. Hence, in criticizing idealizations of a rural order emanating from feudal times, they were not thereby rejecting 'unspoiled nature' – though they carefully avoided any idealization of pristine nature. Indeed Marx thought it important to remark in volume I of Capital that, 'Everyone knows there are no true forests in England. The deer in the parks of the great are demure domestic cattle, as fat as London aldermen.' While in Scotland the so-called 'deer-

forests' that were **being** established for the benefit of the huntsmen (at the expense of rural labourers), contained deer but no trees. 'The development of civilization and industry in general,' Marx wrote in volume 2 of *Capital*, 'has always shown itself so active in the destruction of forests that everything that has been done for their conservation and production is completely insignificant in comparison.'²⁵

SUSTAINABILITY AND THE EARTH

In the Communist *Manifesto* Marx and Engels included in their ten-point programme for revolutionary change not only '1. Abolition of property in land and application of all rents of land to public purposes,' and (as previously mentioned) '9 . . . gradual abolition of the distinction between town and country, by a more equable distribution of population over the country,' but also '7 . . . the bringing into cultivation of waste lands, and the improvement of soil generally in accordance with a common plan.'²⁶ At this point in the development of their thought they adopted what might be thought of as an early conservationist approach in relation to such issues as the 'improvement of soil.' They had been influenced early on (as early as 1843 in the case of Engels) by the pioneering research of the great German soil chemist Justus von Liebig. From Liebig, whom they considered to be the greatest representative of bourgeois science in the area of agriculture, as well as from other figures like the Scottish political economist James Anderson, Marx and Engels learned of the necessity of returning to the soil the nutrients that had been taken from it. Their insistence on the 'Improvement of [the] soil generally in accordance with a common plan' is then to be understood in this sense.²⁷

Marx saw the bourgeoisie engaging in the utmost exploitation of the earth or soil on the same basis as every other element of commerce. For the bourgeoisie, he wrote in 1852, 'the soil is to be a marketable commodity, and the exploitation of the soil is to be carried on according to the common commercial laws. There are to be manufacturers of food as well as manufacturers of twist and cottons, but no longer any lords of the land.'²⁸

Beginning in the 1860s, when he was completing *Capital*, Marx was influenced by the widespread concern that emerged in Europe and North America over the crisis of the earth or soil, resulting from the forms of exploitation applied by capitalist agriculture – a crisis that was given definitive expression in the work of such thinkers as Liebig, the

Scottish agricultural chemist James F.W. Johnston, and the U.S. economist Henry Carey. By 1859 Liebig was arguing that the 'empirical agriculture' of the trader had given rise to a 'spoliation system' in which the 'conditions of reproduction' of the soil were violated. Soil nutrients (such as nitrogen, phosphorous and potassium) were 'carried away in produce year after year, rotation after rotation.' Both the open system of exploitation of American farming and the so-called high farming of European agriculture were forms of 'robbery.' 'Rational agriculture,' in contrast, would give 'back to the fields the conditions of their fertility.'²⁹

Marx's concern over the condition of agriculture and the crisis of the soil led him toward a much more sophisticated understanding of environmental problems from the 1860s on, focusing on the issues of ecological degradation (disruption of the soil nutrient cycle), restoration, and sustainability – all of which were linked in his analysis to changing social relations. 'Large landed property,' he wrote at the end of his critique of capitalist ground rent in volume 3 of *Capital*,

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.'³⁰

Sustainable development has been defined in our time by the Brundtland Commission as 'development which meets the needs of the present without compromising the ability of future generations to meet their needs.'³¹ It was the need for sustainability in precisely this sense that Marx came to emphasize as a result of his research into the crisis of the earth or soil under capitalism, and which became an integral part of his conception of a future communist society. As he himself put it, 'The way that the cultivation of particular crops depends on fluctuations in market prices and the constant changes in cultivation with these price fluctuations – the entire spirit of capitalist production, which is oriented towards the most immediate monetary profits – stands in contradiction to agriculture, which has to concern itself with the whole gamut of permanent conditions of life required by the chain of successive generations.'³²

Indeed, for Marx, who understood that transcending the ecological contradictions of capitalist agriculture was an absolute necessity for communist society, the question of sustainability was central to the

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future development of humanity. 'A conscious and rational treatment of the land as permanent communal property,' he wrote, was 'the inalienable condition for the existence and reproduction of the chain of human generations . . .'³³ In this sense, ecological sustainability could be viewed as a nature-imposed necessity for human production. The implications of this as understood by Marx were truly global in scope:

From the standpoint of a higher socio-economic formation, the private property of particular individuals in the earth will appear just as absurd as the private property of one man in other men. 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 the household].³⁴

Devising a sustainable alternative to the destructive ecological tendencies of capitalist society was thus not merely a technical problem for Marx, but one that required a far-reaching transformation of society. The basic change needed was a shift to a society controlled by the associated producers, characterized by the expansion of free time and collective-democratic organization, and hence by a non-instrumentalist approach to nature and human society. Among the revolutionary changes necessary to bring this about was an end to 'the monopolized earth' of private property. 'Private property,' Marx contended, referring to James Johnston's analysis of the impoverishment of the soil in the mid-nineteenth century, 'places insuperable barriers on all sides to a genuinely rational agriculture.'³⁵

WAS MARX 'PROMETHEAN'?

In his *Contemporary Critique of Historical Materialism* Anthony Giddens contends that those passages in Marx's writings which suggest that 'nature is more than a medium through which human history unfolds' are mostly confined to his 'early writings' and that overall a 'Promethean attitude,' in which the technology of production is praised while nature is treated simply in instrumental terms, 'is pre-eminent' in Marx's work. Indeed, for Giddens, Marx is to be sharply criticized because 'his concern with transforming the exploitative human social relations expressed in class systems does not extend to the exploitation of nature.'³⁶ The foregoing discussion, however, has shown that Giddens' condemnation of Marx on the first and third counts (abandoning his ecological insights after his 'early writings,' and failing

to acknowledge the exploitation of the earth) are both contradicted by a mass of evidence. Marx referred again and again to the exploitation of the earth or soil and he did so in his later writings even more than his earlier works. Indeed, as Massimo Quaini noted, Marx 'denounced the spoliation of nature before a modern bourgeois ecological conscience was born.'³⁷

But what of the other charge that Giddens levels at Marx; that of advocating a 'Promethean' (in the sense of productivist or instrumentalist) attitude to nature? This same broad criticism – so broad and all-encompassing that it is usually thought unnecessary to provide any evidence to support it – has been voiced not only by Giddens but by numerous others, including such varied thinkers as Ted Benton, Kate Soper, Robyn Eckersley, John Clark and Victor Ferkiss.³⁸

If what is meant by this charge of 'Prometheanism' is that Marx, in line with the Enlightenment tradition, placed considerable faith in rationality, science, technology, and human progress, and that he often celebrated the growing human mastery over natural forces, there is no denying this to be the case. Here we only have to turn to the Communist Manifesto itself where Marx wrote his panegyric to the bourgeoisie:

The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalization of rivers, whole populations conjured out of the ground. What earlier century had even a presentiment that such productive forces slumbered in the lap of social labour?³⁹

It would be a mistake, however, to conclude from this that Marx and Engels suspended all critical judgment where science, technology and the idea of progress were concerned. Marx and Engels were well aware of the fact that science and technology could be misused and distorted by bourgeois civilization, a form of society which, they note in the Communist *Manifesto*, 'is like the sorcerer, who is no longer able to control the powers of the nether world whom he has called up by his spells.' The whole giant apparatus of modern relations of production, exchange, and property, backed up by science and technology, that constituted the creative power of capitalist society, was, Marx and Engels argued, vulnerable to its own achievements, leading to economic crises and the rise of the modern working class or proletariat as the gravedigger of the system. Moreover, as Marx and Engels were

to emphasize again and again, the same productive forces resulting from the coupling of capitalist market society with modern science and technology resulted in the exploitation not only of human beings but of the earth itself, in the sense of violating the conditions of its sustainability.

Robyn Eckersley in her influential book *Environmentalism and Political Theory* has written that, 'Marx fully endorsed the . . . technical accomplishments of the capitalist forces of production and . . . thoroughly absorbed the Victorian faith in scientific and technological progress as the means by which humans could outsmart and conquer nature.'⁴⁰ Yet in his 'Speech at the Anniversary of The People; Paper,' delivered in April 1856, Marx observed that

In our days, everything seems pregnant with its contrary. Machinery, gifted with the wonderful power of shortening and fructifying human labour, we behold starving and overworking it. The new-fangled sources of wealth, by some strange weird spell, are turned into sources of want. The victories of art seem bought by the loss of character. At the same pace that mankind masters nature, man seems to become enslaved to other men or to his own infamy. Even the pure light of science seems unable to shine but on the dark background of ignorance. All our invention and progress seem to result in endowing material forces with intellectual life, and in stultifying human life into a material force. This antagonism between modern industry and science on the one hand, modern misery and dissolution on the other hand; this antagonism between the productive powers and the social relations of our epoch is a fact, palpable, overwhelming, and not to be controverted."

Despite the faith that they generally placed in 'the pure light of science', Marx and Engels exhibited a complex view of science, technology and human progress, as can be seen in their analysis of the exploitation of the soil. With the introduction of machinery and large scale industry into agriculture under capitalist conditions, Marx argued, 'a conscious, technological application of science replaces the previous highly irrational and slothfully traditional way of working;' but it is precisely this science and technology in capitalist hands, Marx goes on to observe, that 'disturbs the metabolic interaction between man and the earth' by being turned into a force for the exploitation of both the worker and the soil.⁴¹

Marx has often been accused of devaluing nature and justifying the extreme human exploitation of nature through his economic value analysis, which, since it attributed all value to labour, thereby denied – so the critics have charged – any 'intrinsic value' to nature, which was treated as a 'free gift' to capital.⁴² It is here, some have contended, that his 'Prometheanism' is most evident. Such criticisms, however, are

misplaced. Marx didn't invent the notion that nature was a 'free gift' to capital. This conception was developed by the classical liberal political economists themselves and was emphasized in particular by Malthus and Ricardo in their economic works. Even today neoclassical economic textbooks present the same notion. For example in the 10th edition of the widely used introductory economics text by Campbell R. McConnell we find the following: 'Land refers to all natural resources – all "free gifts of nature" – which are usable in the production process.' And later in the same text we read: 'Land has no production cost; it is a "free and nonreproducible gift of nature."⁴⁴

Marx agreed that under the law of value as developed by capitalism nature was accorded no value. As he put it, 'The earth . . . is active as agent of production in the production of a use-value, a material product, say wheat. But it has nothing to do with producing the *value of the wheat*.'⁴⁵ The value of the wheat or any commodity under capitalism was derived from labour. This, however, expressed the narrow, limited character of capitalism and of its conception of wealth, which was restricted simply to exchange values. For Marx, genuine wealth consisted of use values – the characteristic of production in general. Hence, nature, which contributed to the production of use values, was just as much a source of wealth as human labour – indeed, judged in physical terms, labour, as Marx was wont to observe, could only alter the form of what nature had initially provided. 'Labour,' he wrote at the beginning of *Capital*, 'is not the only source of material wealth, i.e. of the use-values it produces. As William Petty says, labour is the father of material wealth, and the earth is its mother.'⁴⁶ Marx actually railed against socialists of his time who attributed '*supernatural creative power* to labour' by conceiving it as the sole source of wealth and disregarding the role of nature. Wealth under communism, he argued, would need to be conceived in more universal terms, allowing for the full development of human creative powers, expanding the wealth of connections allowed for by nature, and in accord with natural conditions.⁴⁷

REVOLUTIONARY IMPERATIVES

As Joseph Schumpeter emphasized,⁴⁸ one of the most original and profound insights of the *Communist Manifesto* was Marx and Engels' perception of the technological dynamism of capitalism which, to an extent never before seen in world history, demanded the 'constant revolutionizing of production' in order to survive. It was this under-

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standing of the inner dynamism of production under capitalism which led Marx, in fact, to his most comprehensive assessment of the impact of capitalism on nature, and on everything that appeared external to itself. Thus in the *Grundrisse* Marx wrote:

[J]ust as production founded on capital creates universal industriousness on one side . . . so does it create on the other side a system of **general** exploitation of the natural and human qualities, a system of general utility, utilising science itself just as much as all the physical and mental **qualities**, while there appears nothing **higher in itself**: nothing legitimate for itself, outside this circle of social production and exchange. Thus capital creates the bourgeois society, and **the** universal appropriation of nature as well as of the social bond itself by the members of society. Hence the great civilizing influence of capital; its production of a stage of society in comparison to which all earlier ones appear as mere **local developments** of humanity and as **nature-idolatry**. For the first time, nature becomes purely an object for humankind, purely a matter of utility; ceases to be recognized as a power for itself; and the theoretical discovery of its autonomous laws appears merely as a ruse so **as** to subjugate it under human needs, whether as an object of consumption or as a means of production. In accord with this tendency, capital drives beyond national barriers and prejudices as much as beyond nature worship, as well as all traditional, confined, complacent, encrusted satisfactions of present needs, and reproductions of old ways of life. It is destructive towards all of this, and constantly revolutionizes it, tearing down **all** the barriers which hem in the development of the forces of production, the expansion of needs, the dl-sided development of production, and the exploitation and exchange of natural and mental forces. But from the fact that capital posits every such limit as a barrier and hence gets **ideally** beyond it, it does not by any means follow that **it** has **really** overcome it, and since every such barrier contradicts its character its production moves in contradictions which are constantly overcome but just as constantly **posited**.⁸⁹

The drive to unlimited accumulation, the incessant revolutionizing of the means of production, the subjugation of all that was external to itself to its own commodity logic – all of this, **Marx** argued, was part of the juggernaut of capital. Capital sees nature purely as an object, as an external barrier to be **overcome**.⁹⁰ Commenting on Bacon's great maxim that 'nature is only overcome by obeying her' – on the basis of which also Bacon proposed to 'subjugate' nature – Marx, as we have seen, replies that for capitalism the discovery of nature's autonomous **laws** 'appears merely as a ruse so **as**' to subjugate it under human **needs**.⁹¹ He thus decried the one-sided, instrumental, exploitative relation to nature associated with contemporary social relations. Despite its clever 'ruse,' capital is never able to transcend the barrier of natural conditions, which continually reassert themselves with the result that 'production moves in contradictions which are constantly

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overcome but just as constantly posited.' No other thinker in **Marx's** time, and perhaps no other thinker up to our own day, has so brilliantly captured the full complexity of the relationship between nature and modern society.

Much of the criticism that has been levelled at Marx and **Engels** in the area of ecology stems, in fact, from a post-materialist or **postmodernist ecology** which is no longer so influential today, displaced by the **growth** of materialist ecology. The social ecology of the **1960s**, '70s and early '80s was often built around the 'post-materialist thesis' that environmental issues arose only in conditions of affluence. Emphasis on the limits of **growth**, which were viewed as positing an absolute conflict between economic growth and the environment, often contributed to a **neglect** of the political economy of environmental degradation. Instead the principal focus was on cultural factors, frequently abstracted from material conditions – such as the question of anthropocentric vs. ecocentric culture. Over the past decade, however, we have witnessed growing concern about the future of the biosphere, with the rise of such problems as global warming, the destruction of the ozone layer and the worldwide extinction of species to the forefront of the ecological discussion. Among analysts of social ecology attention has shifted to issues of sustainable development, environmental injustice (or the intersection of environmental degradation with class, race, **gender** and nation-state divisions), and **coevolution**.³¹

In this changing context it is not surprising that **Marx's** approach to the question of the natural conditions underlying human society – emphasizing as it did **sustainability**, the connection between the exploitation of the earth and other forms of exploitation, and the interdependent, 'metabolic' character of the evolving human-nature interaction – should now be exciting new interest. In all of these respects Marx was well ahead of most contemporary environmental thought.

Nevertheless, **Marx's** approach to environmental issues was inadequate in one very important respect, most evident in the *Communist Manifesto*. The *Manifesto* was first and foremost a revolutionary document, but ecological contradictions, though perceived by Marx and **Engels** even at this early stage in **their analysis**, play little or no role in the anticipated revolution against capitalism. Marx and **Engels** clearly thought that the duration of capitalism would be much shorter than earlier modes of **production**, brought to a relatively rapid end by the intensity of its contradictions and by the actions of the proletariat – the gravedigger of the system. As a result, they tended to view the

ecological problems that they perceived as having more bearing on the future of communist than capitalist society." This is why ecological considerations enter much more explicitly into their programme for communism in the *Manifesto* than into their assessment of the conditions leading to the demise of capitalism.

Today it is obvious that this approach is inadequate, in that the ecological contradictions of capitalism have developed to the point that they will inevitably play a large role in the demise of the system – with ecology now constituting a major source of antisystemic resistance to capitalism. Our whole notion of the revolt against capitalism has to be reshaped accordingly. **Marx's** conception of a sustainable society, in which the earth would be bequeathed 'in an improved state to succeeding generations,' in the context of a reconstituted social order organized around the collective realization of human needs, is perhaps the most complete vision of a feasible utopia – judged in social and ecological terms – that has yet been developed. It therefore constitutes the essential starting point for the articulation of a truly revolutionary social ecology. Today we must give a much fuller meaning than originally intended to the famous lines of *The International*:⁴⁴

The earth shall rise on new foundations,
We have been naught, we shall be all.

NOTES

1. For references to this large and rapidly expanding body of literature see John **Bellamy** Foster, 'The Crisis of the Earth: **Marx's** Theory of Ecological Sustainability as a Nature-Imposed Necessity for Human Production,' *Organization & Environment*, vol. 10, no. 3 (September 1997), p. 278.
2. The first of these three positions can be seen in the interpretations of such thinkers as Victor Ferkiss and John Clark; the second in the work of Anthony Giddens, Ted **Benton**, Kate **Soper**, Robyn **Eckersley**, Murray Bookchin, and David **Goldblatt** (the reference to 'illuminating asides' can be found in **Goldblatt's** book *Social Theory and the Environment* [Boulder, CO: **Westview**, 1996], p. 5); the third in the writings of **Elmar Altvater**, Paul Burkett, Michael Perelman, Michael **Lebowitz**, David Harvey, and the present author. For more specific references see the discussion below.
3. Frederick Engels, 'Outlines of a **Critique** of Political Economy,' in Karl Marx, *Economic and Philosophical Manuscripts of 1844* (New York: International Publishers, 1964), p. 210.
4. Marx, *Early Writings* (New York: Vintage, 1974), pp. 328, 359–60.
5. Marx, *Capital*, vol. 1 (New York: Vintage: 1976), p. 638.
6. William **Leiss**, *The Domination of Nature* (Boston: Beacon Press, 1975), pp. 85, 198. Ecologists have often claimed John Stuart Mill as a forerunner of modern

ecological thought, but it is much easier to nail him as anti-nature: '[T]he ways of Nature are to be conquered not obeyed . . . her powers are often towards man in the position of enemies, from whom he must wrest, by force and ingenuity, what little he can for his own use.' John Stuart Mill, *Nature, the Utility of Religion, and Theism* (London: Longman's, Green, Reader, and Dyer, 1924), pp. 20–21.

7. Karl Marx, 'Feelings,' in Karl Marx and Friedrich Engels, *Collected Works*, vol. 1 (New York: International Publishers, 1975), p. 525.
8. John Clark, 'Marx's Inorganic Body,' *Environmental Ethics*, vol. 11, no. 3 (Fall 1989), p. 258.
9. Friedrich Engels, *Anti-Dühring* (New York: International Publishers, 1939), pp. 309–310.
10. Ted Benton, 'Marxism and Natural Limits,' *New Left Review*, no. 178 (November–December 1989); p. 75. For other green criticisms of Marx and Engels in this respect see Robyn Eckersley, *Environmentalism and Political Theory* (Albany: State University of New York Press, 1992), pp. 80–81; and Murray Bookchin, *Toward an Ecological Society* (Montreal: Black Rose Books, 1980), pp. 204–06.
11. Friedrich Engels, *The Dialectics of Nature* (New York: International Publishers, 1940), p. 293 (emphasis added).
12. Marx, *Capital*, vol. 3, p. 959.
13. Paul Burkett, 'Nature in Marx Reconsidered,' *Organization & Environment*, vol. 10, no. 2 (June 1997), p. 172.
14. Friedrich Engels, *The Dialectics of Nature* (New York: International Publishers, 1940), pp. 291–92, and *The Housing Question* (Moscow: Progress Publishers, 1975), p. 92.
15. See René DuBos, *The Wooing of the Earth* (New York: Charles Scribner's Sons, 1980); David Harvey, 'The Nature of Environment,' in Ralph Miliband and Leo Panitch, ed. *The Socialist Register, 1973* (New York: Monthly Review Press, 1993), p. 26; Richard B. Norgaard, *Development Betrayed* (New York: Routledge, 1994). For an example of the dualistic approach to environmental problems focusing on the 'anthropocentric' vs. 'ecocentric' distinction and criticizing Marx and Engels for belonging allegedly to the former rather than the latter camp see Robyn Eckersley, *Environmentalism and Political Theory* (Albany: State University of New York Press, 1992).
16. Victor Ferkiss, *Nature, Technology, and Society* (New York: New York University Press, 1993).
17. Gary Snyder, 'Nature as Seen from Kitkitdizze is No "Social Construction,"' *Wild Earth*, vol. 6, no. 4 (Winter 1996/97), p. 8.
18. Marx and Engels, *The Communist Manifesto* (New York: Monthly Review Press), p. 40.
19. Engels, *The Housing Question*, p. 92.
20. Marx, *Capital*, vol. 1, pp. 636–39.
21. *Ibid.*, pp. 637–38.
22. Karl Marx, *The Eighteenth Brumaire of Louis Bonaparte* (New York: International Publishers, 1963), p. 125; Cévennes, a mountainous region in France, was the site of a large uprising of Protestant peasants at the beginning of the eighteenth century. Teodor Shanin, ed. *Peasants and Peasant Societies* (New York: Blackwell, 1987), pp. 336–37.
23. Engels, *Anti-Dühring*, pp. 195–96.

24. Williams, *The Country and the City* (London: Hogarth Press, 1973), p. 37.
25. Karl Marx, *Capital*, vol. 1 (New York: Vintage, 1976), pp. 892–93; Karl Mant, *Capital*, vol. 2 (New York: Vintage, 1978), p. 322. In *Anti-Duhring Engels* too complained of how large landowners in Scotland 'robbed' the peasants of their common land and turned 'arable land into sheep-runs and eventually even into mere tracts for deer hunting.' Engels, *Anti-Duhring*, p. 196. Marx's approach to nature tended to emphasize the fact that much of what we call nature has been socially constructed. As he and Engels wrote in *The German Ideology* in response to the abstract, ahistorical notion of nature propounded by Feurbach: '[N]ature, the nature that preceded human history, is not by any means the nature in which Feurbach lives, it is nature which today no longer exists anywhere (except perhaps on a few Australian coral islands of recent origin), and which, therefore, does not exist for Feurbach either.' Mant and Engels, *Collected Works*, vol. 5, pp. 39–40.
26. Marx and Engels, *The Communist Manifesto*, p. 40.
27. The meaning given in Marx and Engels' day to the notion of the 'improvement' of the soil was well expressed in their time by the U.S. agriculturist (and later sanitary engineer) George Waring in his *Elements of Agriculture* in which he states 'From what has now been said of the character of the soil, it must be evident that, as we know the causes of fertility and barrenness, we may by the proper means improve the character of all soils which are not now in the highest state of fertility.' Waring, *Elements of Agriculture* (New York: D. Appleton and Co., 1854), p. 88.
28. Karl Marx, 'The Chartists,' in Marx and Engels, *Collected Works*, vol. 11 (New York: International Publishers, 1979), p. 333.
29. Justus von Liebig, *Lectures on Modern Industry* (London: Walton and Mabery, 1859), pp. 171–83, 220.
30. Marx, *Capital*, vol. 3, p. 950.
31. World Commission on Environment and Development, *Our Common Future* (New York: Oxford University Press, 1987), p. 43.
32. Marx, *Capital*, vol. 3, p. 754.
33. Marx, *Capital*, vol. 3, p. 948–49. The continuing relevance of the ecological analysis of the soil nutrient cycle and its relation to the development of capitalist industry can be seen today in the work of the following: Kozo Mayumi, 'Temporary Emancipation from Land,' *Ecological Economics*, vol. 4, no. 1 (October 1991), pp. 35–56; Fred Magdoff, Les Lanyon and Bill Liebhart, 'Nutrient Cycling, Transformations and Flows: Implications for a More Sustainable Agriculture,' *Advances in Agronomy*, vol. 60 (1997), pp. 1–73.
34. Marx, *Capital*, vol. 3, p. 911.
35. *Ibid.*, pp. 754, 963.
36. Anthony Giddens, *A Contemporary Critique of Historical Materialism* (Berkeley: University of California Press, 1981), p. 59–60.
37. Massimo Quaini, *Marxism and Geography* (Totowa, New Jersey: Barnes and Noble Books, 1982), p. 136.
38. See, for example, Kate Soper, 'Greening Prometheus,' in Ted Benton, ed., *Greening Marxism* (New York: Guilford, 1996), pp. 81–99.
39. Marx and Engels, *The Communist Manifesto*, p. 10.
40. Eckersley, *Environmentalism and Political Theory*, p. 80.
41. Karl Marx, 'Speech at the Anniversary of *The People's Paper*,' in Karl Marx and Friedrich Engels, *Collected Works*, vol. 14 (New York: International Publishers,

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- 1980), pp. 655–56.
42. Marx, *Capital*, vol. 1, p. 637.
 43. For examples of this common but mistaken criticism of Marx see Ward Churchill, *From a Native Son* (Boston: South End Press, 1996), pp. 467–68; J. Deléage, 'Eco-Marxist Critique of Political Economy,' in Martin O'Connor, ed. *Is Capitalism Sustainable?* (New York: Guilford, 1994), p. 48; Michael Barratt Brown, *Models in Political Economy* (Harmondsworth, Middlesex, U.K.: Penguin, 1995), pp. 171–73; and Nicholas Georgescu-Roegen, *The Entropy Law in the Economic Process* (Cambridge, Mass.: Harvard University Press, 1971), p. 2. For a useful discussion see Paul Burkett, 'On some Misconceptions about Nature and Marx's Critique of Political Economy,' *Capitalism, Nature, Socialism*, vol. 7 (September 1996), pp. 64–66.
 44. Campbell R. McConnell, *Economics: Principles, Problems and Policies*, 10th edition (New York: McGraw Hill, 1987), pp 20, 672.
 45. Marx, *Capital*, vol. 3, p. 955.
 46. Marx, *Capital*, vol. 1, p. 134.
 47. Karl Marx, *Critique of the Gotha Programme* (Moscow: Progress Publishers, 1971), p. 11.
 48. Joseph A. Schumpeter, *Essays* (Cambridge, Massachusetts: Addison-Wesley Press, 1951), pp. 293–4.
 49. Karl Marx, *Grundrisse* (New York: Vintage, 1973), pp. 409–410.
 50. The reference to 'general barriers' to capital is taken from Michael Lebowitz, who has demonstrated that Marx pointed to two kinds of barriers to capital, leading to contradictions in capital, accumulation and crises: general barriers common to production in general, and thus having to do with natural conditions, and more specific historical barriers immanent to capital itself. See Lebowitz, 'The General and Specific in Marx's Theory of Crisis,' *Studies in Political Economy*, no. 7 (Winter 1982), pp. 5–25.
 51. Francis Bacon, *Novum Organum* (Chicago: Open Court, 1994), pp. 43, 29.
 52. On the shift from post-materialist to materialist ecology see Juan Martinez-Alier, 'Political Ecology, Distributional Conflicts and Incommensurability,' *New Left Review*, no. 211 (May–June 1995), pp. 70–88.
 53. The relation of sustainability to communism, as conceived in the work of Marx and Engels, can be seen in the young Engels' response to the Malthusian issue of overpopulation. 'For even if Malthus were completely right, this transformation [i.e. social revolution] would have to be undertaken on the spot, for only this transformation and the education of the masses which it alone provides makes possible the moral restraint of the propagative instinct which Malthus himself presents as the most effective and easiest remedy for over-population.' Engels, 'Outlines of a Critique of Political Economy,' in Marx, *Economic and Philosophic Manuscripts*, p. 221.
 54. Eugene Pottier, 'The International,' in John Bowditch and Clement Ramsland, ed. *Voices of the Industrial Revolution* (Ann Arbor: University of Michigan Press, 1961), p. 187.