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**From Eco-Degradation
to Sustainability:
The Debate Between
Marxists and Greens**

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the requirements for the degree of Master of Arts in
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Abstract

The advent of a global ecological crisis has made the issue of eco-sustainable politics a central issue in current social debates. Above all, it is the rise of the Green movement that registers the importance of this issue, such that Green theory is now an important paradigm of contemporary social thought. Greens emphasise the failure of pre-existing theories to address eco-degradation. Indeed, they typically argue that pre-existing theories are part of the problem rather than its solution. In this vein, many key ideas advanced by Green theorists are highly critical of Marxist sociology. This thesis examines and evaluates the debate between Marxists and Greens. I situate the debate across four key areas: philosophical issues dealing with humanity's place in nature; theoretical issues concerning the relationship between technology, society and nature; issues arising historically from attempted paths to socialism; and political issues relating to questions of agency. In response to the Green critique, this thesis defends socialist anthropocentrism, an analysis of technological development that emphasises the importance of social relations, and a political strategy that centers on the revolutionary potential of the working classes. Although I acknowledge the importance of the Green critiques, I maintain that a Marxist materialist analysis of society provides the best framework for advancing towards a sustainable future.

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Chapter One: Introduction

Combating environmental degradation is now of crucial importance to the quality of life of the human species. The continuing decline of the environment as we head into the new millennium can only lead to worsening conditions of life for a large number of people, especially those in the poorest regions. The uneasy world economic situation in the wake of the crises in Asia and Latin America will doubtless result in the world's rulers having few answers. Every year, the rate of deforestation increases (Athanasίου,1996). Breathing air in Mexico City is the equivalent of smoking 60 cigarettes a day (Blackie,1990). Industrial accidents at Bhopal and Chernobyl have cost thousands of lives and seriously injured hundreds of thousands more (Peterson, 1993; Pickering and Owen, 1994). These are just a handful of modern society's environmental "highlights".

These events and countless others have chiefly been highlighted by the Green movement that has emerged in the latter half of the twentieth century. The central issues raised by the Green movement relate to ecological sustainability, issues that Greens insist have not been seriously addressed by the mainstream political movements that have thus far existed. Matters such as air pollution, ozone layer destruction, global warming, soil erosion, desertification, loss of biological diversity and deforestation (Toledo, 1993) have been thrust into the public consciousness by the rise of the Greens. True, the predictions of many Green theorists have been unnecessarily catastrophic, such as Sale's (1985) prediction that the world eco-system might collapse completely within a couple of decade. Nevertheless, Greens have successfully raised a number of issues that theorists from many backgrounds now accept are central to the survival of the human species.

In raising these issues, the Green movement has generated a number of core concepts at political, theoretical and philosophical levels. Several recent introductory texts on social theory include a separate section on “Greenism” (eg. Heywood, 1992). There is a growing literature on the Green paradigm by both Greens themselves and those who are less supportive. Courses in environmental sociology, politics and philosophy are increasingly available in universities. Hence in addition to their rise as a political force, the Greens are also carving out a niche for themselves as a distinct school within social and political thought.

Green political theory claims to transcend all previous paradigms of social thought. However, it is socialist thought in particular that possibly has the most to “lose” as a result of the rise of the Greens. The Greens’ emergence might result in socialism being displaced as the source of the theoretical pillars of radical social analysis. Certainly that is what many Greens themselves assert. As a key text provocatively puts it, “the Green movement lays claim to being the most radical and important political and cultural force since the birth of socialism” (Porritt and Winner, 1988, 9).

This thesis is about the debate between Greens and Marxists. It investigates why Greens think Marxism has passed its use-by date, and what Marxists have said in response. More precisely, this thesis is essentially a reconstruction and defence of Marxism against the Green critiques. Each of four key chapters that follow reviews the Green critique and outlines the parameters of a Marxist response. But such a debate is not straightforward. As anyone with so as much as a cursory knowledge of either knows, within each school of thought there is a range of extremely heterogeneous approaches to social theory. As Vaillancourt (1992, 19) comments:

[T]he greatest problem arises from the fact that we find it difficult to define what we mean by “Marxism” and what we mean by “ecology”.

In truth, there are many ways of being a Marxist or of being an ecologist.

Not only are there many types of Greens and many types of Marxists, but there are many Green critiques of Marxism and many Marxist responses. The range of approaches on both sides of the dialogue makes it difficult to arrange this thesis by reference to distinct schools within each pole. This pluralism ensures that there is not always a clear demarcation between approaches, meaning that while some authors may agree on several points they may disagree on others. Accordingly, this thesis is arranged by theme rather than school. The selection of key themes that arise in the Green critique allows for core ideas to be examined and evaluated without becoming too trapped in minute differences of nuance between authors of a similar approach.

It is important to note, however, that I give practically no attention to people such as Al Gore (1992) or other “right-wing” Greens. Marxists and right-wing environmentalists are extremely distant from one another ideologically and it is unlikely that a meaningful dialogue between the two will come to fruition. Instead, I have concentrated my attention on those Green theorists who think there is something fundamentally wrong with capitalist society at the end of the twentieth century but who have nevertheless chosen to reject the Marxist critique. I hope that this thesis can contribute to the dialogue between these two groups.

Arranging this thesis by theme also allows the material to serve the practical purpose of contributing to the debate between the two paradigms. There is sometimes a danger in social theory of being too dogmatic in defending a particular approach rather than assessing the concepts engaged for their

practical utility. As Pepper (1993a,434) has said of Marxist approaches to the Green critique:

Of course it is important to realise that creating a coherent eco-socialism is what matters, rather than “rehabilitating” Marx in the eyes of greens, or teasing out a “correct” reading of the master.

Like Pepper, I am firmly situated within the Marxist tradition, and see the key task at hand to be the construction of concepts that assist in a socialist analysis of ecological problems. While bibliographic analysis of the writings of Marx and Engels themselves, such as those by Parsons (1978), Lee (1980) and Tolman (1981), is an interesting subject area, it is not the main focus of this thesis. The classical works of Marxism will be drawn on to construct the parameters of a socialist approach to environmental problems, but it is the construction of those parameters that is the most important issue, not a defence of the classics in and of themselves.

The debate between Marxists and Green explored in this thesis covers three broad subject areas. First, there are *philosophical* issues that arise in the debate regarding questions such as humanity’s place in nature, the rights of other species and natural limits to development. Second, there are *theoretical* issues revolving around the core concepts to be used to analyse societies and that form the basis of constructing a social theory of ecological problems. There are also theoretical issues to do with the further development of these theories with regard to particular social phenomena. The third key area centres around the question of *agency* with regard to which social groups possess the capacity for shifting society into a genuinely ecologically sustainable mode.

The Greens’ philosophical critique of Marxism is discussed in chapter two. That chapter covers a number of issues centring around the relationship of humanity to its natural environment. Greens maintain that Marxism is part

of Enlightenment thought which fails to acknowledge natural limitations on social development. Greens, on the other hand, insist on all social planning being within the framework of those limitations. They further maintain that Marxism's refusal to grant intrinsic worth to other species fatally affects its ability to safeguard the natural environment, as it results in the separation of humanity from the natural world. Clark (1989,258) summarises the philosophical consequences of Marxist thought as the belief that

“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.

In this sense, Greens maintain that Marxism is ultimately not that different from capitalism, as they share philosophical principles that underlie *all* modernist schools of thought. Greens label these philosophical principles “anthropocentrism”, to which they counterpose their own perspective of “ecocentrism”.

The issues explored in chapter three concern Green criticisms of Marxism at a theoretical level. According to Greens, Marxism places too much emphasis on the relations of production when analysing social problems in general and environmental problems in particular. Dobson (1995,33), for example, claims that “it makes no appreciable difference who owns the means of production ... if the production process itself is based on doing away with the presuppositions of its very existence”. Greens insist that the productive forces and their impact on the natural environment must be examined as a problem in their own right. The problem with Marxism is that it favours the further development of the productive forces, despite the fact that the technology of human society is already causing severe eco-degradation.

According to Greens, their theoretical critiques are validated by a number of important historical examples. Chapter four focuses on examples where Greens believe that the “real world” has falsified the Marxian view of the forces and relations of production. The solutions suggested by the Marxist analysis of society prove to be no solution at all. This chapter considers three critiques covering the three geo-political areas into which the world is conventionally divided. In the First World, the emergence of much state industry after the Second World War and the lack of any noticeable decrease in eco-degradation suggests that state industry can be just as environmentally degrading as private industry, indicating that the Marxist focus on capitalist relations of production is misplaced. Greens maintain that this is also true in the (now largely ex-) Second World, where the existence of entire economies based on central planning has proved to be an ecological disaster. Moreover, in the Third World, mass ecological degradation is occurring as a result of capitalist development. But Greens suggest that, according to Marxism’s broad appreciation of capitalism’s development of the productive forces, such degradation must be considered a “progressive stage” between pre-capitalism and socialism. This judgement, they maintain, is in line with the Marxist stagist schema of history as a progression from slave society to feudalism to capitalism to socialism.

Chapter five explores, on two main fronts, the broad range of Green critiques levelled against a Marxist conception of agency. The first revolves around criticisms of the emphasis on the proletariat. Greens regard the central positioning of the proletariat in the existing system as preventing it from fighting for a new system. Furthermore, many Greens are critical of such a high level of importance being ascribed to any single agent, given the diverse and universal effects of ecological degradation. The second front

considers agencies alternative to the proletariat promoted by Green theorists. These agents are seen as having some social location or strategy that enables them to play important roles in the transition to an ecologically sustainable society. They chiefly include the unemployed, communes, small businesses and New Social Movements (NSMs). The two key strands of the Green NSM consist of direct-action environmental groups and the rise of the Green political parties.

The aim of this thesis is to sketch an eco-friendly Marxist response to these criticisms. In response to the philosophical critiques, I argue that anthropocentrism need not justify an unsustainable or degrading approach to the rest of nature and that ecocentric attempts at constructing a coherent approach towards nature are impractical and contradictory. I also argue that grouping all schools of capitalist and socialist thought into one paradigm simply because of a shared anthropocentrism is not justified. In response to the theoretical critiques, I argue that it is not possible to understand changes in the sphere of technology without analysing the relations of production. Attempts to analyse eco-degradation by reference to super-ideologies of “industrialism” can only mystify the development of industry under capitalism. I further argue for a Marxism that favours a socially and ecologically holistic definition of the “development of the productive forces”, as opposed to the narrow economic variation favoured by capital. I acknowledge that the Green critiques of the three historical examples they cite contain important kernels of truth, as there are Marxisms that do indeed maintain what the Greens criticise. However, I argue that there are alternative traditions of Marxism, important in the construction of an eco-friendly socialism, that have long been critical of state industry in the West, of bureaucratic “actually existing socialism” and of a stagist approach to Third World development. In response to Green criticisms regarding

agency, I acknowledge that trade unions have a general lack of interest in environmental issues and that eco-degradation affects more than just the proletariat. However, I maintain that the proletariat's central position in the capitalist system makes it superior to any proposed Green alternative as an historical agency for ending the short-term, profit-oriented capitalist system.

The issues raised by Greens are important and worthy of serious attention. But the ability of the Green movement to effectively combat eco-degradation and usher in a genuinely sustainable society is fatally flawed by their rejection of a number of core Marxist principles. This makes the debate between Marxists and Greens of crucial importance if an eco-sustainable politics is to come into being. This thesis attempts to productively contribute to the debate by identifying those elements of the Marxist tradition that are of much value in the fight for a sustainable future and, indeed, are superior to some customary features of Green thought and politics. In this regard, this thesis indicates a more satisfactory response to the problem of eco-degradation than that formulated by Greens.

Chapter Two: Philosophy - Humanity and Nature

Nature is man's *inorganic body* - nature, that is, insofar as it is not itself the human body. Man *lives* on nature - means that nature is his *body*, with which he must remain in continuous interchange if he is not to die. That man's physical and spiritual life is linked to nature means simply that nature is linked to itself, for man is a part of nature (Marx, cited in Parsons:1978,133).

Thus at every step 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 creatures of being able to know and correctly apply its laws (Engels:1987a,461).

The criticism that Marxism is an anthropocentric philosophy is one of the key charges made by Greens. They argue that Marxism is a human-centred view of the world, one that therefore places humanity outside the natural environment, that denies any intrinsic worth to other species, and that has no conception of natural limits. Greens insist that Marxism's adherence to Enlightenment ideas of mastering and dominating nature can only contribute to humanity acting in a way that brings society into conflict with the natural environment. Greens counterpose anthropocentrism to their own perspective of "ecocentrism" (sometimes also referred to as "biocentrism"), a philosophical perspective that, they claim, sees humanity as a part of nature, ascribes intrinsic worth to other species, and accepts that there are natural limitations on human society. This chapter outlines the core of the debates between anthropocentrism and ecocentrism, and then discusses the key differences between the various anthropocentric viewpoints.

2.1 The Critique of Marxism as Anthropocentrism

Greens hold that the conceptual underpinnings of modern industrial society, with all its ecological desecration, are essentially the same across all key

“modernist” political ideologies, including Marxism. This criticism was shared by early Green sociologists, who argued that these anthropocentric notions dominated all major schools of sociological thought. In an early, highly influential article, Catton and Dunlap (1978) labelled all previous key western theories of social development, including Marxism, as being subsumed in the “Human Exceptionalist Paradigm” (HEP), to which they counterposed the “New Environmental Paradigm” (NEP). In dividing social thought into two distinct paradigms in this manner, they believed they were spearheading a colossal shift in social theory. Catton and Dunlap (1978,42) summarised the thrust of their proposed paradigm shift in the following terms:

The numerous competing theoretical perspectives in contemporary sociology - eg. functionalism, symbolic interactionism, ethnomethodology, conflict theory, Marxism and so forth - are prone to exaggerate their differences from each other. They purport to be paradigms in their own right, and are often taken as such.... We maintain that their apparent diversity is not as important as the fundamental anthropocentrism underlying *all* of them.

Greens argue that the anthropocentric HEP super-ideology (“super” in that it covers all modernist schools of thought) “excepts” humanity from the rest of nature, and thereby rationalises humanity’s desecration of the natural environment. While each particular “modernist” approach to organising society has its unique characteristics in the way in which it interacts with nature, Greens maintain that the anthropocentric thinking common to all of them discourages people from seeing themselves as part of the natural environment, from valuing other species, and from having any conception of natural limitations on humanity’s social development.

Many Greens trace the root cause of diverse environmental problems - from ozone depletion to unsustainable farming to air pollution - back to what they describe as the selfish and dualistic belief that humanity is separate

from, and therefore free to dominate and exploit, nature. According to Greens, this separation is based in part on the view that other species do not have intrinsic worth. In order for society to become sustainable, humanity must abandon this dualism and replace it with a monistic viewpoint that acknowledges the rights of other species and humanity's part in the natural world. As Porritt (1984,206) has put it:

The belief that we are "apart from" the rest of creation is an intrinsic feature of the dominant world-order, a man-centred or anthropocentric philosophy. Ecologists argue that this ultimately destructive belief must be rooted out and replaced with a life-centred or biocentric philosophy.

While Greens differ over the complexity of the relationship between ecological damage and anthropocentric viewpoints, most will agree that this viewpoint must be transcended before there can be any fundamental change in the way humanity relates to nature. Hence rather than emphasising human distinctiveness and superiority over nature, ecocentrics tend to abide by Commoner's (1971) law of ecology, that "nature knows best".

Furthermore, Greens criticise the "Human Exceptionalist Paradigm" for failing to have any conception of natural limits, which therefore implies that an infinite quantity of resources can be extracted to feed an ever-growing number of people. By contrast, a central thrust of the NEP is that "The world is finite, so there are potent physical and biological limits constraining economic growth, social progress, and other societal phenomena" (Catton and Dunlap:1978,45).

As it is rooted anthropocentric worldview, Greens argue, Marxism is incapable of leading to ecologically sustainable politics. For example, Routley (1981,244) argues:

It would be unfortunate if the attempt to work out an alternative nature ethic ... for a non-capitalist society had to take the form of revamping

Marx and of merely reinterpreting the radically unsatisfactory material he provides ... for Marx's views on nature, and associated central parts of his theory, belong to the past, and are far too close to those which lie at the root of many of our troubles.

In other words, the philosophical premises of Marxism are based on many of the same Enlightenment attitudes towards nature as the capitalist schools of thought that Marx criticised. Balbus (1982) suggests that these aspects of Marxism show its age, and that ecologically oriented theorists need to approach Marxism in the same way in which Marx approached the bourgeois schools of thought in his time: that is, to explain their origins in order to reveal their historical limits. Hence Marxism cannot simply be revamped, or have an ecological dimension added to it, for it is fundamentally based on an exploitative and dominating approach to nature.

2.2 In Defence of Anthropocentrism

An anthropocentric response to the ecocentric critique must begin by noting that valuing other species and safeguarding ecological sustainability need not rely on an ecocentric perspective that invests other species with any intrinsic rights or worth. There are a number of reasons why a human-centred worldview might wish to protect an ecosystem or avoid wiping out a species, none of which rely on ascribing inherent worth.

One key reason that humanity should care for its natural environment is that humanity itself is part of and relies on the surrounding ecosystem for its own continued existence. Desertified and depleted soils, shrinking ozone, air pollution and a vast array of other ecological problems all react on humanity adversely. This is sometimes referred to as the "life support" argument, as human life is based on access to healthy food, clean water and clean air. Degrade those and humanity degrades itself. This flows over into

what is sometimes called the “early warning” argument. Just as humans need certain ecological conditions to maintain themselves biologically, so do other species. Preserving different ecosystems maintains a set of warning signals for changes in the environment that may negatively affect humanity. Fox (1990,158) explains this argument:

The species and areas that fall within the ambit of this early warning system and argument can therefore be thought of as serving a similar function to that of the canaries that coal miners used to take down into the mines.... [I]f the canary stopped singing, it was prudent for miners to proceed with caution, if the canary started to fall off its perch, it was clearly time for the miners to seek a change of environment.

This clearly restates the thrust of the “life support” argument from another angle.

A further argument concerns the scientific use of the ecosystem. Godfrey-Smith (1979) divides this argument into two: the “laboratory” argument and the “silo” argument. The former essentially refers to preserving the environment to help humanity learn about the place it lives in. Using an analogy with the “Spaceship Earth” metaphor, Fox (1990,158) writes that the “laboratory” argument is:

an argument for preserving ... the spaceship for what it might be able to tell us about how we came to be in the spaceship, how long the spaceship has been in orbit, what the nature of our relationship to the other passengers might be ... how we might repair the spaceship and so on.

In short, the more humanity knows about the world it lives in, the more humanity understands how it relates ecologically with the rest of the world. We cannot learn about different parts of the world we live in if we keep trashing them.

The “silo” argument bases itself on the utility of the environment as a stockpile of genetic diversity for agricultural, medical and other purposes.

The more diverse the natural environment, the greater the variety of animal, mineral and plant life that can be used in scientific study. For example, many contemporary medicines are based on properties found in plants, so reducing the bio-diversity of plant life reduces our ability to combat disease. In fact, destruction of plant species has already led to setbacks in medical science. In 1991, for example, a compound based on twigs from a Malaysian gum tree was discovered to block the spread of the HIV virus in human immune cells with a 100 percent success rate. While the scientists responsible acknowledged that it would have been “jumping ahead of the game” to claim this could definitely have led to a cure, it was nevertheless a major breakthrough in AIDS research. Further research was commissioned, but the area of the Sarawak from which the sample was taken had been deforested, and no similar trees could be found in the surrounding areas (Earth First!:1993,28).

Godfrey-Smith (1979) outlines another anthropocentric reason for not trashing the planet that he calls the “gymnasium” argument. This refers to the manner in which nature can be a useful and enjoyable playground for human recreation. The preservation of unblemished nature trails for hiking, diverse marine areas for diving, clean beaches for swimming, and unpolluted rivers for fishing contribute to richer, more diverse and more enjoyable lives for humanity. Humanity loses a great deal if it loses the contributions of the natural environment to its cultural pastimes.

This flows into arguments that favour bio-diversity and wider preservation of ecosystems on the basis that our natural environment often brings us aesthetic pleasure. Just as humans may gain aesthetic enjoyment (or have their “spirits” - in the secular sense of the term - enlivened) from music, painting and other arts created by the human hand, they can also derive such

pleasure from natural phenomena. Fox's (1990) variation on this theme refers to it as the "art gallery" argument. Obviously the lines between this and the "gymnasium" argument are not sharply drawn - embarking on picturesque bush walks and scuba-diving through colourful fish may come under both headings, whereas swimming at the beach may only come under the "gymnasium" argument, and enjoying quality nature documentaries may come under the "art gallery" argument.

Another reason for not trashing the planet given by some anthropocentric authors is that not engaging in human cruelty uplifts the human spirit. If humanity can protect a species from extinction, or treat a farm animal without cruelty, then doing so may simply make for better human beings, or as Grundmann (1991a,112) puts it, "one might believe that humans who protect rather than destroy other living things are less likely to be violent in their dealings with other humans". If cruelty and pain are inflicted on other sentient beings for no real purpose, or for trivial purposes like the production of cosmetics, then arguably humanity is not functioning at its highest possible level of culture.

Each of these anthropocentric arguments against ecological degradation, while valuing other species in many different respects, ultimately locates humanity at the centre of its analysis. This is in contrast to the ecocentric critique, which requires regarding other species as possessing *inherent* worth. Thus the Green claim that anthropocentric philosophy provides no defence against ecological degradation is incorrect. Moreover, Green ecocentrism faces a number of problems in its own account, and it is to the problems that we now turn.

2.3 The Unviability of Ecocentrism

A central critique advanced against ecocentrism is that all human views of nature, or of anything else for that matter, must be anthropocentric, for humans can think only in human terms. As O'Riordan (1981,11) argues:

Man's conscious actions are anthropocentric by definition. Whether he seeks to establish a system of biotic rights or to transform a forest into a residential suburb, the act is conceived by man in the context of his social and political culture.

In this sense, it can be argued that all commentators on the question of humanity's place in nature are anthropocentric, but that ecocentrics are simply not aware of it.

Yet many Greens object to this sort of argument. They say they do not disagree with O'Riordan's comments but suggest that his argument is simply tautological. Just because we are humans, Greens reply, does not mean that we cannot respect other life-forms on this planet. They argue that ecocentric thought is not based on a denial that we are human but rather claims that being human does not make us as distinct as we have traditionally thought. Fox (1990) has suggested that the question is similar to that of whether whites can have a progressive opinion on black oppression or whether males can be anti-sexist. Noske (1989,160) rejects the views of the extreme wing of the radical feminists and black separatists and of those who argue that we can only be anthropocentric by saying:

[although] there is a sense in which we cannot know the Other (whether it be other species, other cultures, the other sex or even each other) ... we must remind ourselves that other meanings exist, even if we may be severely limited in our understanding of them.

This implies that if males are capable of being non-sexist and whites of being non-racist, then it is perfectly possible for a human to be ecocentric.

Yet anthropocentrists might retort that, although this argument does apply to attempts at understanding across gender or cultural lines, where there is a common conception of the existence of the “other meanings” that Noske refers to, it is less applicable to attempts at understanding between different species. It is unlikely that a *reciprocal* understanding can be reached between humans and other species. Anthropocentrists note that it seems doubtful whether other species respect the “other”-ness of humanity or any other species. As Pepper (1993b,246) points out, “we have no evidence that non-human species might perceive each other unselfishly”. Nor does any clear picture emerge of what “nature” values. As Pepper again suggests (1993b,222):

... a preference for ... variety, balance, equilibrium and complexity is a matter of *human* economics and aesthetics. We do not know that “nature” prefers these things any more than it recognises the notion of injury to others.

Grundmann (1991a,113) elaborates on this theme, arguing that the intrinsic rights of species cannot simply be “read” out of nature:

Take the example of a river in which, due to pollution, no fish can survive. But instead of fish, other animals and plants (for example, algae) are flourishing. The ecologist ... would probably say that if the river cannot return to the former (“normal”) state under its own powers, its ecosystem would have to be called “unbalanced”. But ... she would only reveal her preferences for higher living organisms. Lower animals such as insects and bacteria are usually outside the concern of ecological reasoning.

If intrinsic value is ascribed to the various components of the world of nature, then how is a decision to be made when comparing the interests of fish and algae? Eckersley (1992,156), a leading Green theorist, herself insists that “ecocentric theorists do not see later, more developed, or more complex life-forms as necessarily ‘higher’ or ‘better’ than earlier, less developed or more simple ones”. But if Eckersley is right that ecocentrism

treats all species as equal, then Grundmann's example suggests that a genuine ecocentrism may pose more problems than it solves as a framework for protecting the environment from what humans judge to be "degradation".

In addition to portraying nature as inherently balanced, many Greens argue that the inherent beauty of nature is another source of intrinsic value. Nature's inherent aesthetic worth strikes awe in the hearts of humans; supposedly, this is not merely a result of human perception but reflects a certain "given"-ness. Rolston (1983,144), for example, writes that "we can be thrilled by a hawk in a windswept sky, by the rings of Saturn, the falls of Yosemite" and that (p.156) "we have sometimes found values so intensely delivered that we have saved them wild, as in the Yellowstones, the Sierras and the Smokies". For Rolston, the aesthetic intensity clearly lies in the delivery, rather than in his perception. For him (1983,144), the beauty he sees in nature possesses "high elements of givenness, of finding something thrown at us, of successful observation".

But it could easily be argued that Rolston is extremely selective about which natural phenomena he chooses in making this variation of the argument for intrinsic worth in nature. As Dobson (1995,50) acidly comments:

while Rolston might persuade us to agree about the value of Nature's "spectaculars", it might not stretch as far as other offerings such as the anopheles mosquito and the tsetse fly.

In other words, Rolston's views seem to have more in common with the anthropocentric conception of the human appreciation of beauty, such as the "art gallery" argument, than the ecocentric conception of other species having intrinsic worth regardless of human appreciation. To the examples used in Dobson's critique, one could equally add the Ebola virus, the rats

that carried the black death throughout Europe, or the African killer bees that have migrated to the Western hemisphere and regularly kill or maim children and the elderly in some of the more remote towns of the southern USA. How does an ecocentric go about weighing up the different “intrinsic” rights of differing life-forms? Grundmann expands Dobson’s critique of Rolston into a general critique of anti-anthropocentrism. He writes (1991a,113): “Albert Schweitzer tried to be consistent and defended the right of the tsetse fly and the tubercle. This position ... makes a consistent course of human action impossible. Consider the case of the AIDS virus!”.

Anthropocentric authors have attacked Commoner’s “nature knows best” law of ecology (1971, 1990) as being similarly incoherent. It is difficult to ascertain exactly what this “law” means: Commoner himself once explained it as meaning that “any major man-made change in a natural system is likely to be detrimental to that system” (cited in Harvey: 1996,195). Such changes, according to Commoner and others, result in long-term negative consequences for the human species, as they are not above or separate from the ecological niche in which they live. Passmore (1974,185) argues that this is of course true in a sense, but asks “so what?”. He continues:

So much is true of every change, man-induced or nature-induced. But it by no means follows ... that every such change, or even most such changes, will be detrimental to human beings.... When men picked seeds off plants and sowed them on cleared ground, they acted in a way that was detrimental to the organic life which was accustomed to feed on the fallen seeds. But only the most unreconstructed primitivist would suggest that the actions of our agricultural forefathers were destructive of human interests. A nature left entirely alone as “knowing best” would support only the dreariest and most monotonous of lives.

Clearly, early humanity’s actions in collecting seeds and clearing ground gave little thought to the intrinsic rights of other species.

Passmore's argument restates, on a different terrain, Grundmann's thesis cited earlier that a consistent course of human action is impossible if we reject anthropocentrism. This is because changes in the natural environment occur all the time, both as a result of the actions of humans or other species. As Lovelock (1989,33) writes, "organisms are adapting in a world whose material state is determined by the activities of their neighbours [and] this means that changing the environment is part of the game". As a result, it is difficult to understand what the practical implications of a "nature knows best" perspective might be.

But Lovelock's point is not completely lost on Green theorists¹. Many acknowledge that inter-species competition, extinction, change and so on are a part of natural cycles. Yet they argue that this should not be a blank cheque for humans to act towards the environment in any manner that they please. Eckersley (1992,156), for example, writes that "from a long term ecological and evolutionary perspective, adaptation, change, innovation, destruction and extinction are recognised as features of natural systems". Yet she insists that an ecocentric perspective on such changes would argue that "rather than being fostered or accelerated, they are allowed to unfold in accordance with natural successional and evolutionary time."

But this reasoning only compounds rather than solves the ecocentric dilemma, for just as there does not seem to be any preference within nature for one form of life or another, there seems to be little more in the way of direction for evolution. Ironically, Eckersley (1992) even approvingly cites Richard Dawkins and Fritjof Capra acknowledging this. She quotes Capra:

evolution is basically open and indeterminate. There is no goal in it....[D]etails [of the future] are unpredictable because of the

1 Indeed, Lovelock's cited 1989 work is regarded by many Greens as an important work.

autonomy living systems possess in their evolution as in other aspects of their organization (Capra:1983,312).

If there is no goal to evolution, then it is difficult to understand from where Eckersley and other ecocentrics will draw their criteria for making decisions that play off the interests of one species against another. What is to be made of Eckersley's promotion of "natural evolutionary and successional time" if there is no "natural" path for evolution to take? As Pepper (1993b,224) remarks, "consequently it is unclear that what humans now do to nature is deviating from natural evolution".

This discussion suggests that there is nothing inherently wrong with humans interfering with the rest of the natural environment and that guidelines about "nature knowing best" do not supply us with a coherent approach for analysing environmental degradation. Harvey (1996,195) has summarised the critiques of Commoner's law that:

"any major man-made change in a natural system is likely to be detrimental to that system". To which I reply "I hope so" leaving open the question as to whether the changes are favourable or detrimental to social or other forms of life and what meaning such changes might have for social relations, life chances of individuals ... and the like.

Vogel (1988,378) expresses similar sentiments, arguing that the most important question for an eco-friendly Marxism is "not whether what we do 'accords with nature' ... The question is whether we like what we have wrought."

A further and related critique advanced by anthropocentrics suggests that ecocentrism is guilty of the very mistakes it attributes to all schools of anthropocentrism, including Marxism. As we have noted, Greens regard the belief that humanity is apart from the rest of nature as central to anthropocentric thinking. For them, a key goal of ecocentrism is to replace

this dualistic viewpoint with one that situates humanity firmly in its natural environment, providing humanity with a monistic (or holistic) understanding of its place in the world. But it is questionable as to how successful Green thought has been in achieving this goal. For example, Eckersley's preference for evolution's "natural" course and Commoner's law of "nature knows best" seem to be guilty of the worst sins of dualism, in that human-induced changes to nature are considered unnatural, or separate and apart from nature. Surely such an approach places humanity outside of nature, precisely the attitude that ecocentrics are trying to rescue humanity from. Either Eckersley's (1992) statement that all creatures should be allowed to develop in their own way does not apply to humans, or there is some unstated reason why it is "unnatural" for humans to transform nature through industry - from the earliest human activity of consciously clearing ground and collecting seeds to the detriment of other life through to the development of modern industry.

Watson (1983,252) has noted that the kind of arguments raised by ecocentrics tend to fall back on the dualism they claim to reject, and that these arguments seem to support a view of:

nature as being natural, undisturbed, and unperturbed only when human beings are *not* present.... [If we hold such a point of view] then we are assuming that human beings are apart from, separate from, different from, removed from or above nature.... To avoid this separation of man from nature, this special treatment of human beings as other than nature, we must stress that man's works (yes, including H-bombs and gas chambers) are as natural as those of bower birds and beavers.

Watson's perspective does appear to be more consistently monistic than that advanced by ecocentrism. If humans are a part of nature, as ecocentrics correctly insist, then surely transforming the surrounding environment through industry, as humans have been doing for thousands of years, is a

perfectly natural process. Freidrich Engels (1987b,34) advances similar perspective from a different angle:

But if the ... question is raised what thought and consciousness really are and where they come from, it becomes apparent that they are products of the human brain and that man himself is a product of nature, which has developed in and along its environment; hence it is self-evident that the products of the human brain [are] in the last analysis also products of nature.

Rather than including humanity as part of the natural world, the ecocentrics' ascribing of intrinsic worth to all species only seems to result in placing humanity outside of nature. If human actions that destroy ecological niches are declared to be "unnatural", then this suggests a dualism rather than a monistic view of humanity as a part of nature.

The discussion in the preceding two sections suggests that an anthropocentric perspective can provide several reasons for not trashing the planet, while an ecocentric perspective in favour of intrinsic rights for other species poses more problems than it solves. Norton (1991,226) has aptly summarised these sentiments:

[I]ntroducing the idea that other species have intrinsic value, that humans should be "fair" to all other species, provides no operationally recognizable constraints on human behaviour that are not already implicit in the generalized, cross-temporal obligations to protect a healthy, complex, and autonomously functioning system for the benefit of future generations of humans.

Hence in opposition to ecocentrism, I support anthropocentrism as a more coherent approach for constructing an ecologically sustainable philosophy.

2.4 Putting Society in its Place: the Society/ Natural Limits Dialectic

The discussion in the last section suggested that, rather than a static, dualistic approach to the relationship between nature and humanity (whether anthropocentric or ecocentric), an eco-friendly perspective needs to champion a dialectical, monistic perspective. This concept is further developed by Pepper (1993b,107), who defines two key characteristics of what he calls a “society/nature dialectic”:

This holds, first, that there is no separation between humans and nature. They are part of each other: contradictory opposites, which means that it is impossible to define one except in relation to the other (try it!).... Second, they constantly interpenetrate and interact, in a circular mutually affecting relationship. Nature, and perceptions of it, affects and changes human society: the latter changes nature: nature, changed, affects society to further change it.

While Pepper’s approach sees humanity as fundamentally a part of nature, it also insists that nature is constantly affected by humanity. This avoids the pitfalls of simply arguing either that humanity should control nature or that natural limits control and constrain human activity (or at least should do). It also suggests that an ecologically benign anthropocentrism could be capable of avoiding a reckless approach to the world’s resources. A central Green criticism of anthropocentrism is that it disregards natural limits to social development; but the viewpoint advanced here, based on a dialectical view of society and nature, argues that there will be no freedom to be found for humanity if natural limitations are so severely transgressed that our ecosystem collapses.

This dialectical conception of natural limits draws on the Marxist elaboration of ideas advanced by Hegel on the relationship of freedom and necessity to the limits and laws imposed by nature. As Engels (1987b,105) noted:

Hegel was the first to state correctly the relation between freedom and necessity. To him, freedom is the appreciation of necessity. "Necessity is blind only insofar as it is not understood." Freedom does not consist in the dream of independence from natural laws, but in the knowledge of these laws, and in the possibility of systematically making them work towards definite ends.

In other words, if humans wish to fly, for example, they cannot do so by just wishing that they can fly. It is necessary first to acknowledge that they cannot, and this acknowledgment allows exploration of the reasons why they cannot, such as the natural laws of gravity and aerodynamics. We can then begin to explore those laws and to engage in industry with an understanding of how they work, such as the construction of aeroplanes, hang-gliders and so on.

A dialectical perspective on natural limits should base itself on such an understanding of freedom and necessity. Studying the natural sciences to understand the way in which various processes function may lead to an acknowledgment of the limits of a particular natural process, such as the existing resources of aluminium or oil, the maximum sustainable output of a particular hectare of soil, or the threshold at which air pollution becomes dangerous. In understanding these limits, insights may be gained into possible alternatives. But the dialectical society/nature perspective outlined here suggests that in discovering these alternatives, we may need to pose questions about the *social system* that governs the extraction of resources and the subsequent impact on nature, rather than just *natural limitations*.

For example, in the case of the massive starvation that occurred in Ethiopia in 1985, the "natural" limits were arguably a result of the social system that existed there. Even discounting explicitly social considerations - such as there being enough food produced annually to nourish the world's population - there is considerable evidence from the Horn of Africa itself

indicating that society's influence on nature through the society/nature dialectic played an important role in contracting the prevailing natural limits. The following two passages describe the Tigray province of Ethiopia. The first is from 1901, before the area was subsumed into the capitalist world market; the second is from 1985, when famine in Ethiopia captured world attention:

The environs of Adowa are most fertile, and in heights of its commercial prosperity the whole of the valleys and the lower slopes of the mountains were one vast grain field, and not only Adowa, but the surrounding villages carried a large, contented and prosperous population. The neighbouring mountains are still well wooded. The numerous springs, brooks and small rivers give an ample support of good water for domestic and irrigation purposes, and the water meadows always produce an inexhaustible supply of good grass the whole year round (Wylde, 1901 in Pepper:1993b,102).

Shortly before I left Ethiopia I flew over large tracts of the desiccated provinces of Tigre and Wollo. For hours the picture below was unchanging: plains which formerly were described as the breadbasket of the north were covered in rolling mist of what was once fertile topsoil; eddies of spiralling dust rose in the whirlwinds hundreds of feet into the air; stony river beds at the bottom of gorges a thousand feet deep showed not a sign of water or new vegetation; and the grazing land at the top of the plateaux which the dried-out rivers dissected were as bald and brown as old felt (Vallely, 1985 in Pepper:1993b,102).

This dramatic change - within a single century - suggests that the "natural" limitations of Tigrayan agriculture may result more from the society side of the society/nature dialectic, principally through changes in social organisation as a result of Tigray being subsumed into the peripheral zones of the capitalist world order. A different form of organisation for African agriculture between 1901 and 1985 may have resulted in nature having significantly different "limits". A further example is the fact that irrigated fields are three times more arable than those that are not (Pearce, 1989), yet only 15 percent of the world's fields are irrigated. But decisions concerning

irrigation are made by human beings in their social activity, suggesting once again that changes in the way society interacts with nature can lead to longer-term changes in overall natural limitations.

A dialectical society/nature approach is critical of perspectives that disregard natural limits entirely, but is also critical of “natural” limits that may have come into existence because of the actions of human society. As Engels (1987a, 511) summarised it:

The naturalistic conception of history, ... as if nature exclusively reacts on man, and natural conditions everywhere exclusively determined his historical development, is therefore one sided and forgets that man also reacts on nature, changing it and creating new conditions of existence for himself. There is devilishly little left of “nature” as it was in Germany at the time when the Germanic peoples immigrated into it. The earth’s surface, climate, vegetation, fauna, and the human beings themselves have infinitely changed, and all this owing to human activity, while the changes of nature in Germany which have occurred in this period of time without human interference are incalculably small.

Given that humans can’t help but interact with nature for the benefit and detriment of themselves and other species, and given that different types of society can regulate the society/nature dialectic differently, then it follows that the human species should organise society in a manner that enables it to exercise conscious control over its interaction with nature to the fullest possible extent. It is to this question that we now turn.

2.5 Distinguishing Between Socialist and Capitalist Anthropocentrism.

Greens argue that all schools of anthropocentric thought deserve to be grouped together in one paradigm, whereas ecocentric thought deserves a paradigm of its own. This claim has been sharply criticised by many socialists. Since the rise of the Green critique, several Marxist-influenced

thinkers have argued that just because differing theories can be labelled anthropocentric, it does not automatically follow that they also must subscribe to one homogenous viewpoint in terms of natural limits, ecological degradation and the relationship between society and nature.

In fact, even among the various capitalist schools of thought, there is no such homogeneity of viewpoints. Capitalism has periods of both optimism and pessimism, and attitudes to issues like the natural limits of resources or humanity's ability to make alterations to the environment for its own benefit swing just as wildly. During boom times, capitalism can be very triumphalist about its capabilities, but during the down times it can be significantly less so. As Harvey (1996,149) wittily puts it:

There is, in short, nothing more ideologically powerful for capitalist interests to have at hand than unconstrained technological optimism and doctrines of progress ineluctably coupled to a doom-saying Malthusianism that can conveniently be blamed when, as they invariably do, things go wrong.

One example of such Malthusianism might be the anti-immigrant campaigns that have been launched by rightist demagogues in recent years. In the USA, there is a race between Democrats and Republicans every election to make the greatest boasts as to who will be the toughest in militarising the US-Mexican border. The two main parties of American capitalism are joined in their opposition to further immigration by radical ecology groups like Earth First! (Bookchin and Foreman,1991). Harvey is correct to point to the conservatism of both central ideologies of capitalism *and* certain strands of the radical ecology movement. If one key premise of anthropocentrism is the view that humans can change nature in an unlimited fashion to produce an ever-growing amount of resources for an ever-growing number of people, then can it be seriously argued that the Democrats and Republicans are anthropocentric?

Many left commentators believe that the broad parameters of an eco-friendly socialist anthropocentrism can be distinguished from capitalist anthropocentrisms. Regardless of Catton and Dunlap's attempts to tar all anthropocentric philosophies with the same brush, an eco-friendly socialism need not share responsibility for the ecological consequences of two centuries of capitalism simply because it shares in some general sense a common anthropocentric philosophical heritage.

The most important distinguishing feature of socialist anthropocentrism is that the humans it puts at its centre is the *collective* of humanity. By contrast, capitalist anthropocentrisms, like capitalism itself, revolve around the needs of the individual firm within the framework of the profitability of the greater system. Based on a collective rather than a private-enterprise approach to nature, a socialist anthropocentrism can forge a relationship between economy and ecology - or society and nature - that is more holistic.

Just as a genuinely socialist economy would be run in the interests of the collective, a socialist anthropocentrism must be based on a far-sighted approach to the way in which our society interacts with nature, and not on the short-term needs of individual firms. Pepper (1993a,434) elaborates on this:

Proper communism, with its commitment to egalitarianism and social justice (which both includes and produces sound and desirable environments), and with common ownership and production for need, inherently makes it obviously and explicitly irrational to overproduce or to "externalise" wastes - indeed there is nowhere to externalise them to.

Whereas an individual firm wants only to get rid of its waste as cheaply as possible, Pepper advances a socialist conception of humanity administering the environment communally, rather than individual firms acting for private

gain. As Harvey (1996,196) puts it, for capitalists “the only connection that matters is the cash nexus, it doesn’t matter where something goes as long as it doesn’t re-enter the circuit of capital”. If humanity conceives of itself and its natural environment as a whole, then there is nowhere genuinely “external” where dangerous or unsustainable dumping can be carried on. Grundmann (1991b,38) usefully summarises the differences between the potential consequences of capitalist and socialist anthropocentrism:

The difference between a society in which the inhabitants of a certain area are the *common* owners of the earth, taking the best care of it, and a society in which land has become a commodity, then, is that the former seems to be more apt to avoid ecological problems than the latter.

In other words, rather than individual “circuits of capital”, under socialism there should be one big social circuit of production.

Grundmann (1991a) further illustrates the superiority of socialism over capitalism by citing the example of King Midas. Midas wished that everything he touched would turn to gold, yet quickly regretted what he had chosen when he got his wish. Midas’s golden touch meant that he was *unable* to dominate or master the world around him, as he has no real control over his actions and their consequences. Grundmann argues that this is analogous to capitalism in that the pursuit of short-term gain is ecologically blind and leads to long-term destruction. Capitalism’s relationship to the natural environment does not represent the mastery or domination of nature, as Greens tend to argue, but rather the absence of any such mastery or domination. Grundmann (1991a,109) says of both capitalism’s and Midas’s “domination”:

Now this is clearly a self-defeating power, which we would hardly include in a reasonable concept of domination.... In this version, the usual meaning is reversed. In the usual meaning, ecological crises are perceived to be a result of this very domination of nature. But here they are seen as its absence.

Hence the anthropocentrism of capitalism is fundamentally limited in its “domination” of nature because it is guided by the short-term profit motive. With its collectivist and consciously planned approach to interacting with nature, socialism is *more* anthropocentric than capitalism, and proudly so. A socialist economy has the potential to “dominate” nature in a more systematic and sustainable fashion. As Grundmann (1991a,114) notes:

My suspicion is that the discourse of ecology has shaped its arguments in a counter-position to economics, and also has taken over a basic flaw of that theory, namely the identification of short-term rationality (as expressed in economic behaviour) with rationality as such. As a result of this identification, it is only logical to refuse an anthropocentric approach as a guide to solving ecological problems: human beings are seen as inherently shortsighted; it follows that their needs should not count as a criteria for ecological politics.

In other words, ecocentrics have given little attention to the fact that the forms of social organisation and ideology that have dominated modern society have been specifically capitalist, and that the criticisms they have advanced linking anthropocentrism to ecological unsustainability have been levelled primarily against that specific system and ideology. In that sense, Greens have equated the ecological consequences of capitalism with adherence to anthropocentric philosophy - in their view, rejecting the former justifies rejecting the latter.

2.6 Conclusion

This chapter has evaluated the various philosophical issues involved in the debate between Greens and Marxists, and I have defended the latter against the charges of the former. I have outlined a number of anthropocentric reasons for not trashing the planet and pointed to the difficulties involved with an ecocentric perspective, including the difficulties of constructing a monistic relationship between humanity and nature within an ecocentric

framework. I have argued that a society/nature dialectic is superior to viewpoints that confine themselves to only one side of this dialectic, and I have drawn attention to the way in which different forms of social organisation shape both “natural” limits and the ecological consequences of social action.

If we accept that an understanding of social structure is critical, then attempts to explain ecological degradation purely in terms of the philosophical *ideas* held by humankind must ultimately fail. In a polemic against nineteenth century German idealists, Marx and Engels (1977,59) insisted that their materialist:

conception of history depends on our ability to expound the real process of production, starting out from the material production of life itself ... It has not, like the idealistic view of history, in every period to look for a category, but remains constantly on the real *ground* of history; it does not explain the practice from the idea but explains the formation of ideas from material practice; and accordingly it comes to the conclusion that all forms and products of consciousness cannot be dissolved by mental criticism, by resolution into “self-consciousness” or transformation into “apparitions”, “spectres”, “fancies”, etc., but only by the practical overthrow of the actual social relations which gave rise to this idealistic humbug; that not criticism but revolution is the driving force of history, also of religion, philosophy and other types of theory.

It is therefore to a discussion of the Green critiques of Marx’s materialist analysis - specifically his theorisation of the forces and relations of production - to which I now turn.

Chapter Three: Theory - Forces and Relations of Production

In modern agriculture, as in the urban industries, the increased productiveness and quantity of the labour set in motion are bought at the cost of laying waste and consuming by disease labour-power itself. Moreover, all progress in capitalistic agriculture is a progress in the art, not only of robbing the labourer, but of robbing the soil; all progress in increasing the fertility of the soil for a time, is a progress towards ruining the lasting sources of that fertility... Capitalist production, therefore, develops technology, and the combination together of various processes into a social whole, only by sapping the original sources of all wealth - the soil and the labourer (Marx:1977,638).

In our day, 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 found sources of wealth, by some strange and 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 (Marx , cited in Parsons:1978,186).

A central Green critique focuses on Marxian theories of the productive forces and the relations of production. According to Greens, the Marxian emphasis on the relations of production leads to underprivileging the productive forces themselves as a key cause of eco-degradation. The technology of modern society can have a serious detrimental impact on the ecological balance regardless of which class wields state power, who controls the means of production or how evenly wealth is distributed. Greens argue, moreover, that Marxism's emphasis on the further development of the productive forces is more a problem than a solution. Therefore Marxist theory no longer has much to offer as a radical critique of modern society. This chapter outlines these Green critiques and a Marxist response.

3.1 Technology and the Social Relations of Production

The concept of the mode of production is the central pillar of Marxian thought. The mode of production consists of the productive forces and the relations of production. Harris (1983,178) says the productive forces were:

conceived by Marx as including means of production and labour power. Their development, therefore, encompasses such historical phenomena as the development of machinery, changes in the labour process, the opening up of new sources of energy and the education of the proletariat.

These forces develop within the framework of relations of production. The relations of production are essentially the relations that humans have to each other and to the productive forces. Hence the relationship between the capitalist and the wage-labourer represents one type of production relation, as does the relationship between the lord and the serf and so on. Under capitalism, as Harris (1983,178) notes, “the most fundamental of these relations is the bourgeoisie’s ownership of the means of production while the proletariat owns only its labour power”, which it must sell in order to survive.

For Marx, overthrowing capitalist relations and replacing them with socialised production is the central task for the ending of humanity’s ills. But many Green theorists conclude that this approach is incapable of solving ecological problems. Greens claim that Marxism places too much emphasis on changing the relations of production when discussing social problems in general and environmental problems in particular. Any attempt at understanding the ecological malaise of modern society must start with the productive forces in themselves. Irvine and Ponton (1989,141-2) insist that:

Socialism is blinkered by its theory and practice from seeing the full scale of humanity's predicaments ... [Socialism has] traditionally regarded capitalism as the root of all evil.... It shows no sign of recognizing that our problems start with the quantity and quality of the productive forces themselves.

Dobson (1995,30) has elaborated on this:

Ecologists argue that discussion about the respective merits of communism and capitalism is rather like rearranging the deckchairs on the *Titanic*: they point out that industrialism suffers from the contradiction of undermining the very context in which it is possible, by unsustainably consuming a finite stock of resources in a world that does not have a limitless capacity to absorb the waste produced by the industrial process.

Against Marxism, Greens see much modern technology as a problem in itself, regardless of the type of property relations that support it. If a technology will inevitably degrade the natural environment then it does not really matter who owns the means of production, or at least this is a decidedly secondary question.

Despite the apparent strength of these claims, Greens have given little attention to the relationship between social structure and decisions regarding the control over the development of the productive forces. Admittedly, Greens often suggest that understanding the social context of environmental problems is important. Rainbow (1993,1), for example, writes that:

While many individual activists and voters might come to contemporary green politics through environmental issues, the environment cannot be dealt with in isolation. Environmental outcomes are the product of the whole gamut of social and economic policies.

But throughout the remainder of his text, Rainbow does not critically engage with theories which deal with the control and ownership of technology as a central issue. Instead, Rainbow (1993,21;emphasis in

original) insists that “*ideas and values* are central determinants of the kind of society we live in”. As Dobson (1995,96) indicates, this equivocal approach to technology is far from unique to Rainbow. He writes that:

The most that can be said ... about the Green movement’s attitude to ... technology is that it is ambivalent.... Put differently, although much attention has been focused on Green attitudes to technology, Greens are likely to want the spotlight turned elsewhere: more specifically, towards the moral (and sometimes spiritual) changes that they conceive to be necessary for the practice of sustainable societies.

I argue here that locating the environmental impacts of the productive forces within an idealised and generalised “social context” is insufficient. Rather, a theoretical understanding of eco-degradation in modern society necessitates locating the productive forces in a *specific* social context, namely that of class relations. If such an argument is to be more than mere assertion, it requires a broad outline of a Marxist account of the functioning of technology under capitalism.

The beginnings of an eco-friendly Marxist analysis of environmental damage must centre on the notion that technological development is determined by society’s development in general, and that the impact of technological change on the environment can only be understood within a framework that acknowledges the importance of the way in which society organises the production of its material life. Put another way, humans do not act directly on nature with their productive forces; rather, the relationship between nature and human action is mediated by the *interaction* that humans have with each other through social relations. Production is therefore inherently social. Any attempts to analyse eco-degradation in terms of abstractions such as “modern technology” or “industrialism” are unsatisfactory because they marginalise analysis of the social structures within which technology operates.

Marxism situates technological developments within a social context, principally through the concept of the mode of production. The emphasis on the relations of production means that Marxist social analysis is above all a *class* analysis. Issues of technological development are treated as conditioned by ownership and control of the productive forces. Marxism regards classes as the central actors in society, and issues such as technological development and ecological degradation need to be addressed by being placed in a context of class relations. Within this framework, the issue of technological development in the modern era is largely a problem of analysing the logic of class action in a *capitalist* society (that is, one characterised by private ownership of the means of production), and thus of understanding the interests of the class that owns the means of production as private property, the *capitalist* class.

Capitalists, in their constant efforts to compete with one another, are forced to upgrade technology to gain the competitive edge. As Marx and Engels (1992,6) put it, “The bourgeoisie cannot exist without constantly revolutionizing the instruments of production”. Marx (1977,492) noted that under capitalism technological improvement mainly benefited the capitalist class, as it is primarily utilised to extract greater profits, regardless of the consequences to either workers or the environment:

John Stuart Mill says in his “Principles of Political Economy”: “It is questionable if all the mechanical inventions yet made have lightened the day’s toil of any human being”. That is, however, by no means the aim of the application of machinery under capitalism. Like every other instrument for increasing the productivity of labour, machinery is intended to cheapen commodities and, by shortening the part of the working day in which the worker works for himself, to lengthen the other part, the part which he gives to the capitalist for nothing. The machine is a means for producing surplus value.

Surplus value is the value created by surplus labour - that is, the hours a worker spends working for the capitalist, as opposed to necessary labour, which is the time spent working for personal consumption (Himmelweit, 1983). The increased productivity that results from technological improvements therefore increases surplus value. Less labour is required to produce the commodities necessary to sustain workers at the prevailing rate of personal consumption.

O'Connor (1998,201) argues that "the most important economic function of capitalist technology is to maximise increases in production per unit of labour time". For capitalists, the development of the productive forces essentially means developments that increase profitability. This may take different forms during different phases in economic cycles. As O'Connor has also noted (ibid.):

The design and shape of production technology tends to be different when markets are booming than when market demand is stagnant or contracting. During economic expansions, new technology tends to be output increasing, in periods of stagnation or contraction, cost reducing.

As an economic system, capitalism is based on the pursuit of profit. The main use of technology, therefore, is to further that pursuit, and any concern for environmental or other social issues is secondary¹.

1 Of course, the quantitative productivity of technology is not the only concern of capitalists. Whilst the more productive a technology is the more it can increase profits, sometimes different technologies arranged in a certain way give the capitalist class a better advantage at managing the class struggle from their side. Noble (1984) has outlined a number of examples of a more productive technology being shunted aside with the bourgeoisie favouring the technology which gave them the greatest leverage in the production process. This recalls statements of Marx (1977,507): "But machinery does not just act as a superior competitor to the worker, always on the point of making him superfluous. It is a power inimical to him, and capital proclaims this fact loudly and deliberately, as well as making use of it. It is the most powerful weapon for suppressing strikes, those periodic revolts of the working class against the autocracy of capital."

In a polemic against those who ascribe an independent and autonomous role to technology, Schnaiberg and Gould (1994,86) argue:

First, to *design* any technological change requires a substantial amount of money/capital for research and development. This funding has to come from a major institution, either in the private or public sector, or through some joint activity of theirs. Second, to *implement* a new technology also requires considerable capital and expertise, for some basic scientific/engineering design has to be transformed into a pilot plant or a major workshop.... The capital and expertise must be allocated to transform ideas into physical equipment ... along with procedures to ensure access to the raw materials and often to markets to distribute the product.... Third, to *sustain* a new technology, the application must not only work occasionally, but must also operate steadily and predictably, with low enough costs so as to compete with markets.

In contrast to Irvine and Ponton's suggestion, this section has analysed the shaping and reshaping of the productive forces according to the interests of the capitalist class. I therefore emphasise that the "quantity and quality" of the productive forces can *only* be understood within an analysis of social relations.

3.2 Worshipping the Expansion of the Productive Forces?

Yet many Greens retort that the Marxist emphasis on changing the relations of production tends towards an uncritical favouring of the further expansion of the productive forces. Certainly, it is quite clear that Marx was an admirer of the increased output resulting from capitalist industrialisation. As he and Engels (1992,6) noted of capitalism:

It has been the first to show what man's activity can bring about. It has accomplished wonders far surpassing Egyptian pyramids, Roman aqueducts and Gothic cathedrals. It has conducted expeditions that put in the shade all former Exoduses of nations and crusades.

Marx and Marxists after him, Greens point out, have argued that the capitalist economic system is in fact a fetter on the development of the productive forces. Socialist revolution, according to the traditional Marxian account, would shatter these restraints. And yet, as Clark (1984,106) has written:

we know that the supposed inability of capitalism to further develop the productive forces is entirely illusory, and that it is in fact capable of increasing production to the extent of exhausting many of the resources it extracts.... The idea of a "socialism" that would unshackle such a technology for even greater exploitation of nature now becomes ludicrous, not to mention grotesque and terrifying.

Put another way, Greens observe the extent of ecological degradation in the world today and conclude that if this is the result of productive forces fettered by capitalism, then they would hate to see the consequences of unfettered productive forces.

Soper (1996,83) has summarised this sentiment by expressing her doubts about those "central aspects" of Marx's thought which "accord priority to the 'development of the productive forces' as a criterion and goal of social progress". Porritt (1984,44) argues likewise, writing that capitalism and communism are:

both ... dedicated to industrial growth, to the expansion of the means of production, to a materialist ethic as the best means of meeting people's needs, and to unimpeded technological development.... For an ecologist, the debate between the protagonists of capitalism and communism is about as uplifting as the dialogue between Tweedledum and Tweedledee.

So for many Greens, the Marxist favouring of the further development of technology is preoccupied exclusively with quantitative increases in productivity and is therefore just as anti-ecological as is capitalism.

This seems, at least on the face of it, to be a valid point. As noted in the introduction, there are almost as many Marxisms as there are Marxists and many *have* championed quantitative increases in production as the highest, and sometimes only, social goal. This is especially true of those theories that have been regarded as “actually existing Marxism”, such as those expounded by the heads of various Soviet academies. Soviet propaganda emphasised the USSR’s greater total production output compared with that of the USA. As Fetscher (1983,138) has noted of the popular culture and imagery promoted by Soviet apparatchiks, “Stalin saw the superiority of socialism over capitalism only in the ability of the former to provide the optimal conditions for the growth of the productive forces”.

The one-sided worshipping of the productive forces, however, does not characterise all Marxist theory. A more eco-friendly Marxist analysis of the role of technology in capitalist society can in fact draw on a number of concepts already well-developed by Marx and others from the Marxist tradition. One such concept is “alienation”. Petrovic (1983a,9) sums up alienation as:

an action through which ... a person, a group, an institution, or a society becomes (or remains) alien (1) to the results or products of its own activity (and to the activity itself) and/or (2) to the nature in which it lives, and/or (3) to other human beings, and - in addition and through any or all of (1) to (3) - also (4) to itself (to its own historically created human possibilities).

An eco-friendly Marxism understands the capitalist production process as leading to the alienation of human beings from the technology they use and hence the natural environment in which they live. This contributes to humanity’s alienation from each other and themselves. Furthermore, the proletariat’s alienation assists its inability to understand the social relations that result in technology degrading both themselves and the rest of nature.

Another important concept developed by Marx is commodity fetishism. Marxists use this concept to argue that the “economic forms of capitalism conceal underlying social relations” (Fine:1983a,87), so that the products of human labour appear to be uncontrolled by the people who created them, indeed, that appear to control the people that created them. This fetishism results in the productive forces being perceived as having an independent character and their impacts are not seen as built into the social relations of capitalism. The capitalist use of such technologies for the aim of private profit is thus downplayed.

The alienation and commodity fetishism that characterise private ownership in the means of production contribute to what Lukacs (1971) refers to as “reification”. Petrovic (1983b,411) defines reification as the act of transforming the consequences of human actions into things which “have become independent (and which are imagined as originally independent) of man and govern his life”. As with commodity fetishism, the social relations on which capitalism is based end up being seen as immutable and fixed, or as phenomenon beyond the reaches of human control despite the fact that they are human constructions. This has important consequences for ecological issues, as Parlato and Ricoveri (1996,236) put it:

just as labour power is treated as if it is a commodity, so does “capitalist nature” mean that nature is commodified, hence alienated from us, and ultimately reified into a “thing”. And just as the capital-labour relations should be seen in qualitative terms, that is, as loss of power, alienation, and so on, so should the capital-nature relation be interpreted as powerlessness, and alienation.

Clearly, a Marxism that emphasises alienation, commodity fetishism and reification is not “uncritical” of the application of technology under capitalism. But just as importantly, an eco-friendly Marxism does not locate the reason for the misuses of technology within the reified technology itself.

Instead, it points to the interests of private industry in seeking to minimise costs so as to undercut their rivals and gain a greater share of the market.

This is a key reason why the eco-friendly socialism I advocate is firmly rooted in the historic dispute over the superiority of capitalism or socialism. I do not advise replacing that debate with a new division centring on “industrialism”. Indeed, such an emphasis tends to perpetuate, rather than critique, the reification of technology and industry under capitalism. In this respect, Green claims about the independent role of technology as a cause of eco-degradation, irrespective of any particular social relations, actually fall prey to capitalist ideology and inadvertently reproduce its weaknesses.

Against the narrow, profit-oriented, capitalist view of the development of the productive forces, an eco-friendly socialism favours a development of the productive forces that takes all social, economic and ecological factors into account. It favours a socially and ecologically holistic conception of technological development, and not just the economistic definition that, as Fetscher notes, was promoted by Stalin. O'Connor (1998) distinguishes between these two approaches to socialism by outlining different conceptions of use-value. “Use-value” is a term that refers to the usefulness of particular goods and services². With regard to Stalin-style socialism, O'Connor (1998,337) says that the “use value of machinery [is] defined in terms of raising worker productivity”. But with regard to an eco-friendly socialism he argues that the “use value of machinery [is] defined in terms of workers' safety and health, pollution, etc”. O'Connor's second definition throws the net wider in terms of the issues and concerns that impact on humanity. On these terms, the development of the productive forces strictly

2 In Marx's understanding of capitalism, “use-value” is contrasted with “exchange value”, which is a quantifiable value determined by the amount of socially necessary labour time embodied in the commodity and the value around which prices fluctuate (Fine,1983b).

in terms of increased productivity is not an end in itself, but rather a means towards a greater end of human happiness and fulfilment.

The ultimate goal of an eco-friendly socialism is the liberation of humanity from “every kind of exploitation or oppression” (Steenson:1991,207), and improvements in technology simply assist this enterprise. As Marx himself (1976,487-8) wrote:

Thus the old view, in which the human being appears as the aim of production ... seems to be very lofty when contrasted to the modern world, where production appears as the aim of mankind and wealth as the aim of production.

The development of electricity, telecommunications, computers and countless other technological advances immensely broadens the scope of potential human activity and saves countless hours of human labour time. Taking control of industry would enable workers to apply technological improvement for social benefits and human need in general, and this would include using technology in a sustainable manner.

Such an approach distinguishes between the *potential* of technological innovation and the *actual* use of it under capitalism. It argues that changing the social system from one based on private property to one based on collectivised property gives humanity the opportunity to fully realise this potential. So there is a sense in which Marxism shares with Greens an “ambivalent” view of technology under capitalism, albeit from a radically different angle. This perspective has been accurately captured by Pepper, (1993b,122;emphasis in original) who argues that Marx:

was “caught between” technology as progress ... and as a destroyer of people.... The resolution was to recognise the historical reality of the latter, and that technology has been up to now a determining factor on development. Yet “critically”, i.e. in terms of what *could* and *should* be, Marx optimistically envisaged an unalienated technology under communism.

Thus, rather than seeing eco-problems in modern society as resulting from a humanity enslaved by technology, we should emphasise the fact that decisions as to the use of that technology are based largely on the interests of capital. Such a perspective calls for an analysis based on a dialectical unity of the development of the productive forces and the material interests of the ruling class.

3.3 Reductionism and Eco-Degradation

The dialectical unity of the productive forces and relations of production in the Marxian concept of the mode of production is central to my response to another core Green critique. Many Greens regard Marxist theory as excessively "reductionist". In this, the Green critique is certainly not unique, for this theme has been central to much of the criticism of Marxism since the 1880s and especially since the rise of alternative social movements in the 1960s. The Green variation of this critique focuses on Marxism's alleged neglect of the productive forces as a result of its over-privileging of the relations of production.

According to the Green critique, the Marxist approach is far too simplistic. Pepper (1996,92), for example, is highly critical of any reductionist position that lays blame exclusively with the relations of production. He notes:

Some ... politically left analysts may seek to recognise this issue of the social context of technology by arguing that it is not so much the technology itself as its *ownership* which is crucial. But this would make collectively owned nuclear power stations acceptable, a position which few greens entertain.

I agrees with Pepper that such a position is indeed simplistic, but would add that this crude determinism is not consistent with the perspective outlined in

this thesis. The ecological socialism advanced here suggests replacing private ownership in the means of production with collective, democratic control. This results in the people as a collective regulating the society side of the society-nature dialectic, outlined in the previous chapter, based on what they perceive as best sustaining that dialectic. The introduction of socialism would allow people to decide which means of production were best suited to a particular situation. It does not mean, as Pepper implies, that anything which is collectively owned can really do no harm. Rather, it means that humanity organised as a collective, and making environmental and social decisions as that collective, is better placed to make long-term decisions than the current anarchic framework of competing capitals and nation-states.

For example, capitalist super-exploitation through cash-cropping in Third World countries has resulted in significant run-off of pesticides and chemical fertilisers in some areas, leading to dangerously high levels of contaminants in the water (Bryant and Bailey, 1997). The introduction of socialism would not mean that water with dangerously high levels of contaminants would become safe to drink, but that the economic pressures on such areas would be radically altered so that production with such ecological consequences was no longer necessary. Put more simply, a hypothetical drum of toxic cleaning solvent in a privately owned factory is used for cleaning down machinery. Should the factory be suddenly seized by the workers, such solvent would not suddenly become useful as a toothpaste, shampoo or a refreshing soft-drink solely on the basis that it is collectively owned. A collectivised society regulating the society-nature dialectic would doubtless decide that toxic sludge is not best used as a toothpaste because of its impact on teeth, gums and internal organs. The technical data on nuclear power is far too voluminous to be reviewed here,

nor is it the aim of this thesis to technically evaluate the use of any particular technology. But nevertheless, as with the use of toxic sludge as a toothpaste, a similar conclusion may be reached regarding nuclear fission as a source for generating power if, once again, the ecological and human risks are deemed too high after a review of the scientific data available.

An eco-friendly Marxism based on changing the relations of production does not argue that all productive forces in society become safe as a result of such a change. Rather, it argues that such a change *fundamentally* alters the relationship of humanity to its own technology. Changing the relations of production will revolutionise humanity's ability to decide the extent to which technologies should be used, allowing the long-term rational planning of production and its ecological consequences. As Blackie (1990,7) simply puts it:

Socialism is not about taking over society as it stands now, leaving intact its inequalities and wrong priorities. It is about building a different, better world.

Indeed, gaining control over the productive forces is of the *key reasons* why Marxists favour overturning capitalist property relations - not to leave the productive forces as they are but to radically change society as a whole.

Greens might retort that a change in relations will not automatically lead to a sustainable future. Eckersley (1992), for example, suggests that the transition from capitalism to communism need not have an automatic effect on policies concerning the environment. But this Green criticism presupposes that another question has first been answered: Does *anything* in history happen "automatically"? Thus the response to Eckersley's criticism is a Marxism that emphasises the importance of human agency in social transformation (such as Sayer, 1987 or Callinicos, 1995).

This kind of Marxism is necessarily critical of approaches that posit some endpoint towards which history is automatically working, or which maintain that a whole series of consequences must automatically occur as a result of a change in some “ultimate causal nexus” in society. This type of Marxism emphasises the importance of *human agency* in the shaping and reshaping of society, while acknowledging that social structures do place definite limits on what is possible. Such a perspective bases itself on observations like the following from Marx and Engels (1977,59):

... at each stage there is a material result: a sum of productive forces, an historically created relation of individuals to nature and to one another, which is handed down to each generation from its predecessors; a mass of productive forces, capital funds and conditions, which on the one hand, is indeed modified by the new generation, but also on the other prescribes for it its conditions of life and gives it a definite development, a special character. It shown that circumstances make men, just as men make circumstances.

This perspective clearly rejects, on the one hand, any theories based on inherent and simple structural causalities and, on the other, idealist approaches to understanding social change, such as rooting everything in the philosophy held by humanity.

A Marxism which emphasises the importance of human agency in shaping history through both intended activity and unintended consequences would not cease such a method of analysis the moment after capitalism is overthrown. The same insistence on the dialectical relationship between agency and structure should be made regarding socialist society as well, especially in its early formation. As Trotsky (1969,278) notes, “the conquest of power by the proletariat does not complete the revolution; it only opens it.”

The fight for ecological sustainability will not result automatically from collectivisation of the means of production. The technology and industry inherited by a newly socialist society is that of the outgoing capitalism. Production and its ecological consequences, therefore, will bear a definite imprint from the capitalist development of the productive forces.

Transforming an economy - and indeed Marxism ultimately aims to transform the economy on an international scale - is a lengthy and difficult process. For example, replacing crowded freeways with quality public transport systems cannot take place overnight; the growing of timber to be used in place of logging bio-diverse rainforests or rare tree species takes many years; chemical or sewerage treatment plants will need to be built as they will not materialise the day after a revolution.

Furthermore, although pro-sustainability sentiments will need to form an important part of the political consciousness of a proletariat struggling for socialist revolution, a number of workers may still not fully realise the importance of the society-nature dialectic. Some will have spent the best part of their lives in a capitalist system that created an inherent tension between safeguarding the environment and maintaining their job or even so much as a basic a standard of living. The struggle by an emerging eco-socialist movement for an understanding of the dialectical interplay between nature and society will therefore need to continue as one of the key political tasks of a new socialist regime.

3.4 Conclusion

In this chapter, I have argued that developments and changes in technology can only be analysed within the framework of social relations. The inherently social nature of production suggests that understanding the role

of technology requires an analysis of those class structures within which technology operates. I have argued that technology under capitalism does have negative effects on the natural environment and hence on people. However, Green critiques that ignore the inherently social nature of production and that attempt to construct an analysis of eco-degradation by starting with the productive forces themselves can only contribute to the reification of technology.

I have also shown that the primacy of profit under capitalism leads to a very narrow approach to the development of the productive forces. The previous chapter noted that the Green discourse has largely been formed in opposition to capitalism and the short-term anthropocentrism of bourgeois economics. This leads Greens to a flawed rejection of Marxism because of its partial common philosophical heritage with capitalism. This flaw expresses itself at a theoretical level in the disputes regarding the “development of the productive forces”. Green critics of Marxism conflate the way in which capitalism “develops” the productive forces with all possible definitions of development. An eco-friendly Marxist conception of the technological development is not based exclusively on quantitative output but rather incorporates the full range of human concerns, including ecological questions.

Aside from these theoretical considerations, an eco-friendly Marxism stresses the importance of the relations of production in its analysis of eco-degradation because it maintains that only this sort of analysis can adequately identify an agent of social change. This agent, namely the proletariat, is a social grouping positioned at the centre of production under capitalism. It therefore has the social power to combat and ultimately uproot

the way in which technology is used and resources are extracted. Chapter five will outline and evaluate the Green critiques of this assertion.

However, before we move to the discussions on agency it is necessary to discuss historical phenomena which Greens perceive as supporting their critiques regarding the forces and relations of production. References have already made to the USSR as a form of socialism which Greens insist confirms their critique. In the following chapter, I examine more closely the debates between Marxists and Greens over ecological degradation in the USSR and two other key social phenomena Greens regard as falsifying the Marxist view on eco-degradation and the forces and relations of production - state industry in the West and the capitalist industrialisation of the Third World.

Chapter Four: History - Paths to Socialism in the Three Worlds

Sociological problems would certainly be simpler if social phenomena had always a finished character. There is nothing more dangerous, however, than to throw out of reality, for the sake of logical completeness, elements which today violate your scheme and tomorrow may wholly overturn it. In our analysis, we have above all avoided doing violence to dynamic social formations which have had no precedent and have no analogies. The scientific task, as well as the political, is not to give a finished definition to an unfinished process, but to follow all its stages ... expose their mutual relations, foresee possible variants of development, and find in this foresight a basis for action. (Trotsky:1972,255)

The previous chapter outlined the theoretical approach towards the forces and relations of production advanced by an eco-friendly socialism, an approach that sees the development of the productive forces as shaped and re-shaped by the society in which they operate. Such an eco-friendly socialist perspective regards the broad development of the productive forces since the eighteenth century as generally positive; but it favours replacing capitalist relations of production with socialist forms so that technological development can be brought under democratic collective control as opposed to the control of the private pursuit of profit. Greens, however, identify a number of practical inadequacies with such a perspective, pointing to a series of historical examples from the twentieth century.

This chapter focuses on three key Green criticisms. The first two criticisms scrutinise the Marxian focus on the relations of production with regard to non-capitalist industry and its ecological consequences. These criticisms maintain that no fundamental improvement can be detected either in state property in capitalist countries or in the non-capitalist countries of the former Eastern Bloc. Both of these examples suggest that, “although the environmentally destructive character of a market-oriented economy is more or less evident, there is, at hand, a great deal of material that refutes

[hypotheses] about the ecological guilt of capitalism” (Toldeo:1996,223). The third key inadequacy that Greens point to concerns Third World countries and the Marxian notion that capitalism and its development of the productive forces is a progressive stage between pre-capitalist formations and socialism. Greens point to the severe ecological desecration in the Third World today to falsify the conception that capitalism has a fundamentally progressive character in those regions. These three inadequacies will now be discussed in turn.

4.1 State Industry in the West

Greens argue that state industry poses difficulties for a Marxist analysis of eco-degradation. They argue that the Marxist emphasis on capitalist production relations renders Marxism incapable of analysing the negative ecological effects of state property. Greens note that when nationalisations of private property occurred - and they were widespread from 1930s to the early post-war years - there was no noticeable improvement in the ecological sustainability of the relevant industries.

From a Green perspective, these nationalisations meant that dirty polluting industries in private hands became dirty polluting industries in public hands. As Bookchin (1980,195) has said of the Marxist view of the capitalism that predominated in the post-war West:

At its worst, it provides the most subtle apologia for a new historic era that has witnessed the melding of the “free market” with economic planning, private property with nationalised property, competition with oligopolistic manipulation of production and consumption, the economy with the state - in short, the modern epoch of state capitalism.

Benton (1996b,189) outlines similar sentiments from another angle:

[T]he transcendence of capitalist relations would not of itself guarantee ecological harmony.... It can reasonably be argued that state policies may be an autonomous source of major environmental problems that have at most very indirect relationships to capital accumulation.

In other words, nationalisation of industry by the state does not necessarily lead to a decrease in the eco-degradation arising from that industry. As far as Greens are concerned, this confirms in a very real and practical sense that capitalist property relations are not the only cause of ecological degradation and therefore any Marxian analysis of these problems must necessarily be limited. In a number of twentieth-century examples, the transcendence of capitalist property relations did not result in the transcendence of social actions destructive of the environment.

This Green critique of Marxism contains an important kernel of truth. The Social Democratic and Labour parties that arose mostly in the first third of this century have generally been considered to be one key tradition of socialism, particularly in the English-speaking world. State property has formed a core part of the political programmes championed by these parties. Most Labour and Social-Democratic parties claimed, at least at some point in the history, some sort of adherence to Marxism and favoured public ownership of resources in the form of state industry so as to remove parts of the economy from market competition and the relentless drive for profits (Jessop,1990).

But many Marxists would balk at being identified with the projects of Social Democracy. A revolutionary, as opposed to Social Democratic, approach emphasises the capitalist nature of the state, and regards any industry run by the capitalist state as ultimately subordinated to the needs of capital. Even leaving ecological issues aside, there is considerable literature

from a Marxist perspective critiquing the role of state industry under capitalism. It is necessary to outline the broad parameters of such an approach if its usefulness in investigating state property and eco-degradation is to be examined.

A revolutionary approach insists that the state is an organ of class rule and therefore emphasises its specifically *capitalist* nature. The state exists to preserve the interests of the ruling class, which means that under capitalism the state primarily exists to secure the economic interests of the bourgeoisie. As Lenin wrote (1975,242), criticising the reformism of Social Democracy, the state is “an organ of class rule, an organ for the oppression of one class by another, it is the creation of ‘order’, which legalises and perpetuates this oppression by moderating the conflict between classes”. The state is therefore not some autonomous body which stands completely separate from the capitalist society it administers, but instead is a fundamental part of that society; it exists not to reconcile the disputes of different classes, but rather to resolve them in favour of the ruling class.

A revolutionary perspective further notes that although capitalists generally favour private property (it is, after all, what defines them as a class and is their source of income), there can be occasions when the investment risk seems too great. In these conjunctural cases, the capitalist class’s interests favour some form of state ownership. In other words, just because capitalists acquire profit from private investment does not mean that they prefer the state to stay out of industry at all times and places. A modern economy simply cannot operate without a number of core industries such as railways, telecommunications, airways, electricity supply and so on, and when the scale of private capital necessary for such large-scale industry is not forthcoming then the state sometimes steps in. This was particularly the

case in many Western economies after the Second World War, after much capital had taken a hammering during the Great Depression of the 1930s.

For example, in New Zealand there was a massive expansion of state industry under the First Labour Government. Throughout the 1930s and '40s, the government progressively nationalised areas such as coal-mining, the main highways and domestic airlines, as well as the Reserve Bank and the Bank of New Zealand. Coal is a good example: in the 1940s the New Zealand state took over a series of uneconomic mines from their delighted owners - as Sutch (1966,311) wrote, "Thus were losses socialized". This was part of an international pattern whereby Western capitalist governments frequently bailed out unprofitable operations by buying their assets using funds raised mainly from taxes on ordinary working people.

It would be simplistic and one-sided to argue that the economic needs of capital were the sole driving force behind such nationalisations. Militant working-class movements were built in the 1930s profoundly opposed to the massive unemployment and poverty that occurred during the Depression. Among these movements, nationalisation of industry was seen as an important means of stabilising employment and limiting the anarchy of the marketplace. Because of the plurality of influencing factors at the time of state nationalisation, different revolutionary Marxists ascribe different levels of importance to various factors in their analyses of the origins of state industry (For a broad overview of Marxist state theory see Jessop, 1990). But the Green critique does not directly involve debates *between* Marxist state theorists over matters regarding functionalism, reductionism and the origins of state industry. Instead, it focuses on the lack of significant differences between state industry and private industry with respect to eco-degradation. So while there are important differences

between non-Social Democratic Marxists on exactly how a capitalist state functions and the level of importance to give to differing factors present at the time of nationalisation, they are nevertheless broadly agreed that the state under capitalism is a *capitalist state*. Hence for the purpose of this particular discussion, it is legitimate to group together those Marxists who concur with a revolutionary analysis of the state as having a particular class character, regardless of their other differences, against those of a Social Democratic stripe who actively look towards nationalisation by the state as the road to socialism.

Criticism of socialists who equate capitalist nationalisations with socialism goes back to Marx and Engels themselves. As Engels noted (1987b, 206):

[O]f late, since Bismarck went in for state ownership of industrial establishments, a kind of spurious socialism has arisen, degenerating, now and again, into something of flunkeyism, that without more ado declares all state ownership even of the Bismarckian sort, to be socialistic. Certainly, if the taking over by the state of the tobacco industry is socialistic, then Napoleon and Metternich must be numbered amongst the founders of socialism.

So just as in general this revolutionary approach does not look for genuine socialism to emerge from capitalist state nationalisations, so too in particular an eco-friendly Marxism would not expect a genuinely sustainable approach to the environment to emerge from such industry. While the origins of state industry is a complex issue with many dimensions, once up and running capitalist state industry has largely operated as an auxiliary to the private capitalist economy. As such, there is little reason to expect the approach of such industries to matters of ecological concern to be any different from their capitalist counterparts. Capitalism needs to be perceived as a *system* that must be overthrown, whereas a socialist perspective favouring individual nationalisations implies that capitalism is not a unitary system but simply a combination of

individual industries. One of the basic goals of an eco-friendly socialism is to replace the short-term focus of the marketplace with long-term ecologically sustainable planning. State industry that is only an auxiliary to the wider profit-oriented economy is still rooted in the short term needs of capitalism and not the sustainable long-term needs of an eco-friendly socialism.

An eco-friendly socialism needs to be based on a programme for the proletariat to take over the means of production and collectively administer them for the social and ecological good. The state industry in the West that came to represent a significant part of the economy during the latter half of this century (although it has now become significantly less popular) does not represent such a social transformation, despite the efforts of various Social Democratic leaders and trade-union reformists to argue that it did. As a result, the Social Democratic perspective should not be expected to have the social and ecological consequences desired by an eco-friendly Marxism.

Greens are critical of state industry because it is just as capable of ecological damage as private property - but being critical is only a starting point. The crucial questions are why it is just as damaging, and what can be done about it. Green theory tends to emphasise ideologies that allow humanity to treat nature as some sort of "other" that can be trashed and exploited for humanity's own purposes. Yet, as suggested here, a Marxism that insists that the state under capitalism is fundamentally a capitalist state can provide a *materialist* explanation for why capitalist state property ends up functioning in a manner similar to private capitalist property, and this can significantly broaden and deepen an analysis of the eco-destruction caused by state property.

4.2 Behind the Iron Curtain

A further and related critique of Marxism advanced by many Greens concerns the existence of severe ecological degradation in the countries of the former Eastern Bloc. As Grundmann (1991b,77) writes:

It seems plain that Marx underestimated the externalizing potential of public enterprises.... Marxists after him have been mistaken in underestimating the externalizing potential of socialist enterprises.

From the standpoint of many Greens, eco-degradation behind the Iron Curtain, like state property in the West, has been evidence that Marxist theory over-privileges capitalist property relations in its analysis of ecological problems. The ex-USSR and its satellite states were based on a centrally planned economy, yet they still suffered from eco-degradation.

Environmental problems in the Eastern Bloc were (and still are) severe. Soper (1996,82) informs us that "Large parts of Poland and Czechoslovakia are now designated ecological disaster zones, and the situation is not much better in the other former Soviet-bloc countries, including some parts of Russia itself". For example, 3.3 percent of all Russian territory is considered ecologically irreparable within the next century (Peterson,1993). On the whole, eco-degradation is worse in the ex-"Second World" than it is in the "First World" (O'Connor, 1993). As Aleksie Yablokov, Russian State Counsellor for ecology and public health, remarked, "If we compare the planet with a communal apartment, we occupy the dirtiest room" (cited in Peterson: 1993,1).

Once again, it is the super-ideology of industrialism that Greens allege to be the cause of the massive ecological degradation behind the Iron Curtain. As Bahro (1982,131; emphasis in original) has argued:

We have precisely learned that the Russian revolution did not manage to break with the *capitalist horizon of development of productive forces*. We have seen how right around the globe it is the one and the same technology that has triumphed.

In other words, capitalist property forms might have been transcended in the Eastern bloc, but an anti-ecological and productivist attitude towards production and eco-devastation remained.

As with state property in the West, this criticism contains an important kernel of truth. The Soviet bloc championed itself as Marxist, and one Soviet official summed up the “official” point of view when he wrote:

Like other global problems, those of ecology have a social origin, their solutions largely depending on the character of the social system.... The socialist states and the communist parties proceed from the conviction that the socialist system offers the optimal possibilities for resolving these problems (cited in Green:1990,51).

This official line was of course echoed by the various Stalinist cheerleaders in the West who gave uncritical adulation to one particular “socialist” state or another. The various “official” Communist parties in Western European, Australasian and North American countries usually tailed every move of one or another of the “actually existing” socialist countries whether based in Moscow, East Berlin or Tirana, regardless of those states’ ecological desecration.

The political nature of the USSR and similar states in Eastern Europe, Asia and the Caribbean is a contested issue among Marxists, and there are many who would take issue with the regimes in those states and therefore any attempts by Greens to tar all types of Marxism with one brush. There is in fact a considerable literature *from a Marxist perspective* highly critical of the so-called socialist world, a literature which may be useful in providing a materialist analysis of eco-degradation in those countries.

The most famous Marxist critic of USSR-style socialism is Leon Trotsky (1972, 1973a). Trotsky argued that the attempted strangulation of the young Soviet state during the civil war by Britain, France, the US, and so on, the failure of revolutions in the advanced Western countries, and the subsequent economic isolation of the USSR led to the degeneration of the socialist experiment in Russia. Capitalism had been overthrown in Russia, but the rest of the world remained capitalist. The resultant pressure, particularly during the civil war, led to the emergence of a bureaucracy that, by the mid-1920s, was essentially beyond the control of the workers', peasants' and soldiers' councils (or "soviets") that had launched the October revolution. The Bolsheviks themselves were aware of the dangers if the Russian revolution was not emulated in the more advanced European countries. As Trotsky noted (1974,8;emphasis in original):

Let us remember the prognosis of the Bolsheviks, not only on the eve of the October revolution but years before ... that *without a more or less rapid victory of the proletariat in the advanced countries* the workers' government in Russia will not survive. Left to itself the Soviet regime must either fall or degenerate. More exactly; it will first degenerate and then fall.

In other words, the Marxist project centres around the collective control of the productive forces. But in the decade after the October Revolution, democratic collective control of the Soviet economy was usurped by a massive bureaucratic layer, the rise of which was a reflection of the fact that after World War One control of the world's productive forces largely remained in capitalist hands. Humanity's first attempts at genuine collective control were quickly snuffed out as a result.

According to Trotsky, the bureaucracy's material position in society rested on its control of the post-capitalist property forms created by the October revolution. This meant that the bureaucracy saw threats coming from two

directions - the wider Russian populace and the foreign capitalist powers. The Russian masses were a threat in that any attempt at democratising the planned economy would necessarily result in diminishing the bureaucracy's control and therefore also the privileges it had secured for itself. The foreign capitalist powers of course detested the Soviet Union because it was a collectivised economy based in part on the expropriation without compensation of many of their own holdings and was more generally a beacon for workers' struggles around the world. Furthermore, the existence of a state based on socialised property could still potentially be a threat with the right correlation of conjunctural factors on the world political stage¹, despite the Stalinist policy of forsaking world revolution for a limited "socialism in one country".

The threat of the wider Russian populace against Stalinist bureaucratic power was met by terror and suppression. The Soviet working class had no effective means of communication and organisation, most opposition movements were reduced to operating underground. The abolition of real socialist democracy, coupled with massive state propaganda and repression, confused, terrorised and demoralised the Russian populace. The Stalinist regime kept tight control over all political matters at all levels of government, and any dissent to its rule was quickly suppressed (Hahn, 1988). But the foreign capitalist powers were a more difficult opponent: against them the bureaucracy's approach was usually to placate rather than coerce, and this often involved actively derailing workers' attempts to overthrow capitalism in other countries as a way of the Stalinists persuading

1 Cuba and Vietnam could be considered examples of mass movements which were built along national liberation lines, but ended up collectivising their economies. The task of constructing an independent capitalist economy outside of the framework of an antagonistic imperialism proved infeasible as the domestic bourgeoisie proved unsupportive of such a project. But had it not been for the existence of the large, powerful and supportive USSR, such movements may well have been compelled to follow the dictates of imperialism.

foreign bourgeoisies that the Soviet Union was no threat to world capitalism².

Trotsky (1973b) argued that events in Spain in the 1930s demonstrated the Soviet bureaucracy's true nature. Franco's seizure of power in large portions of the country provoked a massive revolutionary uprising among Spain's workers and peasants. This posed a threat not just to Spanish Fascism and the reactionary right, but also to the existence of Spanish capitalism in general. Soviet foreign policy was primarily concerned with consolidating its bloc with Britain, France and other European capitalist states, and so the Moscow-aligned Spanish Communist Party did all it could to undermine support for a collectivised economy and a real workers' government in Spain, claiming that such attacks on private property would antagonise the "democratic capitalist" powers. The Spanish Stalinists advocated the strategy of "anti-fascist" unity in the form of the "Popular Front" coalition government, which meant unity with Spain's liberal bourgeoisie and the preservation of the power of the capitalist state (Morrow, 1974). As part of undermining independent workers' struggles, the Spanish Communist Party took a leading role in imprisoning or assassinating many important leftist agitators, particularly those from the POUM (a vaguely Trotskyoid organisation) and the anarchist groupings. The Stalinist policy did indeed prevent workers' revolution in Spain and appease foreign capitalism. Moreover, rather than strengthening the anti-Fascist forces, as the Stalinists claimed, this policy in fact *weakened* the movement against Franco and ensured the Fascists' eventual victory in the Civil War (Trotsky, 1973b).

2 In fact, Stalin ordered the dissolution of the Communist International (or Comintern) shortly after the second world war as an indication to the West of the increasing abandonment of the original Bolshevik perspective of world socialist revolution (Mcdermott and Agnew, 1996).

The absence of socialist democracy within the USSR and the example of Spain and others suggest that the bureaucracy's commitment to Marxist communism was a rather shallow gloss. Ardent ideologists of Marxist communism do not actively disable potential communist revolutions abroad or work overtime to prevent democratic, collective planning at home. Instead, the policies of the Soviet officialdom appear to have been determined by whatever was in the self-interest of the bureaucracy at the particular time. The Soviet Union did not represent collective administration of economy and politics by the general populace, but rather the administration of the people and the economy by a narrow bureaucratic caste.

The above outline sketches the parameters of a Marxist analysis and critique of the degeneration of the USSR, locating the origins of the bureaucracy with the encirclement of the socialist experiment by the wider capitalist world order, which thereby ended any opportunity for socialist democracy. Such an analysis can be useful when analysing matters of ecological concern in the USSR. The previous two chapters outlined an eco-friendly Marxism that sees progressive ecological benefits resulting from the replacement of the pursuit of short-term, individual profit with long-term, collective planning. Away from the private needs of corporations, a collectively organised population will be in a far better position to engage in long-range planning. The eco-friendly socialism championed by this thesis does not see democratic control as some sort of preferable option, but more a matter of absolute necessity. When the people genuinely control the means of production there is an impetus to use them wisely.

But the demise of any attempts at socialist democracy and the usurpation of political power by a narrow bureaucratic caste ended the possibility of such

a long-term, collective interest being recognised in the USSR. The exclusion of the greater populace from the decision-making process in the Eastern Bloc and other Stalinist-controlled states robbed those countries of the one agent capable of running a socialist economy in both a humane and ecologically sustainable manner: a politically and technically educated populace. As Callinicos (1991,18) has noted:

It is just a matter of fact that there is a demonstrable difference between Marx's ... conception of socialism and the theory and practice of the Stalinist regimes. It is an entirely appropriate response to ... insist on that difference.

Instead of long-term planning grounded in ecological sustainability, differing apparatchiks were not held accountable for the ecological consequences of Soviet industry. In these circumstances, it was very easy for ecological concerns to be sidelined.

The Green's use of the example of the USSR in criticising Marxism tends to follow idealist approaches, such as identifying the problem as being a continued adherence to "productivist ideology". But it misses the point to suggest that economic activity in the USSR was guided by "productivist ideology", by the subordination of ecological sustainability to the increasing production of useful goods for humans. Rather, it was driven by bureaucratic Soviet plant managers who, in the careerist pursuit of their own self-interest, would subordinate the use-value of their products to meeting numerical production targets and thus increase their chances of promotion through the Soviet bureaucratic apparatus. Thus plate-glass produced in the USSR was notoriously weak, as its quality was sacrificed to meeting and exceeding the prescribed numbers for area of glass produced (Hodgman, 1954). Or as a joke that circulated in the USSR has it: An aspiring bureaucrat proudly announces to his workers that he has finally been able to breed a two-headed cow. The workers look at him slightly

bemused and question the social utility of such a beast, as it would not increase the amount of meat available. “That’s OK”, replies the bureaucrat, “Cattle production is measured by the head”!

The analysis outlined in this section points to a *materialist* explanation for why ecological degradation may occur under Stalinist regimes. Rather than locating eco-degradation under those states with “productivist ideology”, I suggest that such states *lacked* the foundations of socialist democracy necessary for genuinely collective, long-term sustainable planning. The necessary task in such states, therefore, is for the wider populace to struggle to replace the bureaucratic apparatus with forms of socialist democracy.

4.3 Stagist Social Development and Permanent Revolution

The previous two sections of this chapter have considered the ecological significance of state industry in the First and Second Worlds for Green critiques of Marxism. Another key Green critique focuses on the Third World and relates to the perceived stagism in Marxist theory. Greens have difficulty with the way in which Marxism acknowledges the progressive historical role of capitalism. Some Greens perceive Marxist theory as including the notion that a fully developed capitalist stage is necessary before socialism can be achieved, and that one of the key tasks in the underdeveloped world is breaking down all barriers that stand in the way of the development of capitalism. As Bookchin (1980,201) says:

To Marx, humanity is socialized only to the degree that “men” acquire the technical equipment and institutional structures to achieve the “conquest” of nature, a “conquest” that involves [a perception of] the “revolutionary” role of capitalism as a social era.

The necessity of the capitalist stage in the Marxist schema is usually cited as yet further evidence that Marxism is based on outdated social evolutionary notions that simply have no currency when held up to the actual ecological mess capitalism is making in the Third World.

It is clear that ecological dislocation is severe in the Third World and is worsening (Gupta and Asher, 1998). Further capitalist industrialisation can only intensify the problem. Environmental protection laws are a good deal less restrictive in much of the Third World and the consequent relocation of much heavy industry from the West is leading to severe environmental harm, with South-East Asia especially bedevilled by ecological problems (MacAndrews and Sien, 1979). O'Connor (1998, 196) informs us that:

Dangerous chemicals banned in the North find their way into industrial and agricultural production in the South. Older and more exploitative styles of labor relations are used; occupational health and safety are neglected; and urban-industrial zones grow out of control, creating housing, waste disposal, traffic, and other problems.... Air pollution levels in Southern cities (such as Ankara, Bangkok, Bombay, Buenos Aires, Cairo, Calcutta, Caracas, Manila, Mexico City, Rio, Sao Paulo, Seoul, and Teheran) are much worse than those of large cities in the developed world.

Ecological problems in the Third World are already more severe than they are in the First. Greens thus argue that for Marxists to regard any further advancement of capitalism in the Third World as a "progressive stage" between feudalism and socialism completely ignores even the most elementary ecological concerns.

Once again, there is an important kernel of truth to this criticism. Indeed Marx himself wrote that "The industrially more developed country shows the less developed the image of its own future" (cited in Trotsky: 1934, 1219), and this was paralleled by much of Marxist theory and practice in

the twentieth century. Mao Tse-Tung (1967,231), for example, wrote of his proposed Chinese Revolution:

Some people suspect that the Chinese communists are opposed to the development of individual initiative, the growth of private capital and the protection of private property, but they are mistaken. It is foreign oppression and feudal oppression that cruelly fetter the development of the individual initiative of the Chinese people, hamper the growth of private capital and destroy the property of the people.

He reiterated this in the following terms:

Why do we call the present stage of the revolution a 'bourgeois democratic revolution'? Because the target of the revolution is not the bourgeoisie in general, but imperialist and feudal oppression; the program of the revolution is not to abolish private property in general; the results of this revolution will clear the way for the development of capitalism (Mao Tse-Tung:1967,240).

Furthermore, within development sociology, the ideas of Bill Warren have generated an entire school of thought that regards the current capitalist industrialisation process of the Third World as fundamentally progressive and necessary. Warren's (1980) key work fails to discuss ecological considerations in any serious way.

But not all Marxists share such a view of capitalism's functioning in the less developed world. Some would dismiss such stagism as simple teleology. Abercrombie, Hill and Turner (1988,252) have defined teleology in the following terms:

Sociological explanations are teleological when they try to explain social processes, particularly processes of social change, by reference to an end-state to which they are all allegedly working, or to an ultimate function which they are said to serve.

In contrast to stagist theorists, adherents of a non-teleological Marxism do not take the feudalism-capitalism-socialism schema as a predictive model or a statement of what must happen in every society in every country of the

globe. Rather, they see it as an explanatory history of the social systems that existed in Europe.

Marxists who reject the “necessity of the capitalist stage” thesis are more inclined to base their perspectives on what they see as the core of Marxist methodology rather than individual citations scattered throughout Marx’s work. They argue that if the core concepts of Marx’s political economy are applied to the development of capitalism since his time, the logical conclusions reached are not the same as those suggested by Marx. When contemporary Third World societies are examined using Marxist class analysis different histories emerge, and so therefore do different possible futures.

As with the USSR, Trotsky has been an important theorist of the less developed world, principally through his development of the concept of “permanent revolution”. According to the theory of permanent revolution, the forces shaping the class structures of countries of “belated capitalist development” are fundamentally different from the forces that shaped the structures of the advanced Western countries in their early phases of capitalist development. Therefore the functioning and future of capitalism in these two groups of countries will be different. The rise of European capitalism (that is, the period that Marx studied), beginning in the sixteenth and seventeenth centuries, had been about the *consolidation* of nation-state boundaries under the leadership of each national bourgeoisie. But by the start of the twentieth century, capitalism had expanded globally and had developed an international character. As Trotsky (1934,1219) noted:

“The industrially more developed country shows the less developed the image of its own future”. This statement of Marx, which takes its departure methodologically not from world economy as a whole but from the single capitalist country as a type, has become less applicable

in proportion as capitalist evolution has embraced all countries regardless of their previous fate and industrial level.

As a result of this economic expansion, world economic history since the end of the nineteenth century has been about the *disintegration* of national boundaries, in that they begin to mean less and less in real economic life. The more powerful national capitalist classes begin to look abroad for new markets, new materials and new labour. This development means that a lot of First World capital has found its way into the Third World, just as much European capital had found its way into Russia in Trotsky's time.

The theory of permanent revolution is inextricably linked to theories of uneven and combined development. Combined development refers to a combination of sophisticated contemporary technology and industrial organisation in certain areas of the economy alongside nineteenth-century labour conditions and political forms. Trotsky (cited in Lowy:1981,88) defined this as "a drawing together of different stages of the journey, a combining of separate steps, an amalgam of archaic with more ordinary forms". Uneven development, according to O'Connor (1998,187), is defined as "the historically produced uneven spatial distribution of industry, agriculture, mining, banking, commerce, consumption, wealth, labour relations, political configurations and so on".

In Russia, these economic developments created an integrated ruling bloc of foreign capital, national capital, the monarchy and the land-owning nobility, which were woven together by a number of economic and social bonds, including their common hostility towards any significant revolutionary stirrings in the working class and peasantry (Lowy, 1981). Throughout the wider Third World today, a similar process has taken place. The national bourgeoisies of these areas are economically subservient to the imperialist

powers, and in many ways the Third World areas function as the First World's economic backyard.

Theories of permanent revolution and combined and uneven development do not see Third World states as being in some transitory phase on the road to fully fledged capitalism, but as tightly regimented societies that operate with poor labour and environmental standards for the benefit of capitalist profitability. Such theorists do not look to the emerging national bourgeoisie to lead a nationalist revolution against foreign capital, especially when it is foreign banks and investment that prop up the national bourgeoisie. As Lowy (1981,90) puts it:

The democratic revolutionary victory over imperialism and the landowners could only come about through a mass upheaval, immense popular mobilization and violent explosions - all of which would soon seem menacing to the national bourgeoisie. Confronted with such a threat to its privileges, the indigenous bourgeoisie would tend to opt for a more moderate and conciliatory policy towards foreign capital and domestic reaction. Rather than a popular revolution, the bourgeoisie would always prefer ... a non-revolutionary path for satisfying its class aspirations.

Just as the Tsar's police were instrumental in smashing industrial unrest on behalf of both domestic and foreign capital, the equally repressive states that rule much of the Third World today enforce labour, social and environmental legislation that maximises investment opportunities for the national and overseas bourgeoisies.

Rather than looking to the Third World's bourgeoisie to create capitalism, theories of permanent revolution and uneven development regard the Third World proletariat and poorer peasantry as the central force in fighting for demands traditionally consigned to a "national-bourgeois" revolution such as land reform and universal democracy. But these tasks are regarded as part of an "uninterrupted transition from the democratic to socialist

revolution, as so-called bourgeois-democratic tasks ... are undertaken by workers' power in ineluctable combination with specifically socialist tasks" (Lowy:1981, 1). That is, the economic structure of the imperialist world order merges together the tasks of the national and socialist revolutions. Additionally, and of no less importance, the massively uneven nature of global capitalist development requires that such socialist revolutions need to be expanded internationally, especially into the metropolitan countries where research, development and scientific knowledge of the most advanced forms of technology lie. There is little long-term future in "the capitalist stage" for socialists in countries of belated capitalist development, as the political tasks have become "permanent"; that is, they have become international and socialist in character. Rather than a strategy that tries to further advance capitalism, the theory of permanent revolution poses an alternative to both the capitalist and the stagist-Marxist viewpoints on the options for the future of the Third World.

Theories of permanent revolution and uneven development have important implications for debates over ecological degradation in the less developed world. They point to a tradition within Marxism that suggests that capitalism has reached a dead-end in the Third World today and does not operate in a progressive or transitory manner. O'Connor (1998,197) summarised the nature of the "rut" that capitalist expansion has put many Third World countries in. He writes:

[C]ombined development means the export of pollution and the export of dangerous products.... What is transferred from the North to the South is not just capital and technology but also a cluster of social and environmental costs. [L]ow-wage, unorganized labor in the South [is] unable to resist environmental destruction and harm to the health of workers and communities.... [T]he combination of high technology with cheap labor increases "social costs" and externalities and the rate of exploitation globally ... hence the speed at which resources are used

and destroyed and also the rate of pollution in all its forms. The result is a self-perpetuating spiral of ecological and human destruction.

This means that the severe ecological degradation in the Third World occurs as a result of the uneven and combined capitalism that operates there. The economic mechanisms at work in these areas of the world are popularly referred to by Marxist economists as “super-exploitation”, from which the imperialist bourgeoisie derives “super-profits”. O’Connor (1998) adds super-pollution and super-destruction of land and resources to this list of gifts handed out to the workers of the Third World by the imperialist and comprador bourgeoisies that dominate them.

The extension of a socialist economy across both the Third and the First Worlds would mean that less developed countries would no longer be competing with one another to attract foreign investment through lowering their environmental standards and labour costs. The race to the bottom between different states in the area of environmental laws would be at an end. Expropriating the domestic ruling bourgeoisies and spreading the revolutions to the West would allow the world system to slowly reverse the unevenness of the past few centuries of global capitalist development. It was shown in the previous chapter that capitalism only develops the productive forces in accordance with a search for profits. Hence in the superprofit zones of the Third World, the use of twenty-first century technology is very selective. While high-productivity technology may be used to increase profitability, even much simpler twentieth-century technologies that reduce eco-degradation (such as pollution filters or waste treatment facilities) are not used at all. Although this feature is not exclusive to the Third World, the pattern there is more extreme giving combined development an ecological dimension. Collective control of the productive forces and their development in a multi-dimensional manner, as outlined in

the previous chapter, would allow the super-exploited people of the Third World to end the ecological consequences of combined and uneven development in their homelands.

Such a social transformation would not only pose the possibility of preventing pollution and the unsustainable depletion of resources at the point of production, it could also potentially be used to prevent similar outcomes resulting from environmentally degrading practices at a more basic infrastructural level. It has been noted that combined development means the selective use of twenty-first century technology in some aspects of production, while much of the remainder of the country in question operates on a nineteenth-century basis. Contrary to the popular imagery of modern technology adversely affecting the ecological balance, it is often the older technologies that are more degrading. Referring to air pollution, O'Connor (1998,197) says "the use of wood, dung and charcoal for cooking and heating intensifies the problem". In other words, every time a large percentage of families in many over-crowded Third World cities want to cook food or warm themselves they are obliged to burn something, and this can have severe consequences for the general air quality above the city. Making electricity and electric stoves and heaters available to the Third World poor could *drastically* reduce air pollution in such cities. O'Connor (1998,197) refers to Seoul as a key example: "with eight million people, [Seoul] suffers because of the high sulphur exhausts produced by cars; from briquette gas from household smokestacks; and from the use of bunker-C oil as heating fuel in many high-rise buildings and factories". Once again, it is burning materials that produce noxious fumes and gases that significantly contributes to air pollution - materials that are still used even when the technology exists to replace them with clean, electrical alternatives. Additionally, it is the automobile engines and fuels of older technologies

that are key culprits in much air pollution; the technology for much cleaner burning engines already exists. Furthermore, the low incomes of many people in Third World cities means that there is little incentive for a private company to start up public transport, and Third World states are too cash-strapped to do so either.

The discussion in this section has indicated that Marxism does not necessarily need to endorse a stagist approach to history. As Lowy (1981,87) puts it:

[T]his more complex perspective [enables Marxists] to transcend the evolutionist conception of history as a succession of rigidly pre-determined stages, and to develop a dialectical view of historical development through sudden leaps and contradictory fusions.

An analysis of the development of the forces and relations of production in the twentieth century points to a materialist understanding of the interaction between modern technology, the imperialist social order and much of the severe eco-degradation occurring in the less developed world. As such, it identifies definite material structures that need to be overthrown if the Third World is to look forward to an eco-sustainable future.

4.4 Conclusion

This chapter has surveyed three key historical criticisms identified by Greens regarding the Marxist concepts of the forces and relations of production. These concern state property under capitalism, “actually existing socialism” and the necessity of the capitalist stage in Third World development. I have argued that Marxism can and has been developed to meet these three criticisms. A survey of Marxist literature suggests that a considerable amount of Marxian thought already exists to deal with the three social phenomena identified by Greens. Green critiques are focused

on particular traditions of Marxism and have ignored other traditions that are not as susceptible to these criticisms. Hence the point made in chapter one concerning difficulties resulting from there being many types of Marxism is especially salient to this discussion.

The emphasis in this chapter has been on applying Marxism to changing historical circumstances and new phenomena. As Trotsky (1972,255) argues:

Sociological problems would certainly be simpler if social phenomena had always a finished character. There is nothing more dangerous, however, than to throw out of reality, for the sake of logical completeness, elements which today violate your scheme and tomorrow may wholly overturn it. In our analysis, we have above all avoided doing violence to dynamic social formations which have had no precedent and have no analogies. The scientific task, as well as the political, is not to give a finished definition to an unfinished process, but to follow all its stages ... expose their mutual relations, foresee possible variants of development, and find in this foresight a basis for action.

Marxism is thus not a set of finished concepts but a method of analysis that must be applied fluidly to new social situations. Applying Marx's concept of the mode of production to state industry in the West, the ex-Eastern Bloc and the economic underdevelopment of the Third World provides a *materialist* analysis of eco-degradation, thus identifying material structures that need to be overthrown in the struggle for a sustainable future.

Chapter Five: Politics - The Problem of Agency

The existence of revolutionary ideas in a particular period presupposes the existence of a revolutionary class. (Marx and Engels, cited in Tucker:1978,173)

It is clear that the arm of criticism cannot replace the criticism of arms. Material force can only be overthrown by material force. (Marx and Engels, cited in Tucker:1978,60)

A central and common criticism that Greens make of Marxist theory concerns the latter's emphasis on the proletariat as the primary agent of social change. As Greens and Marxists both present themselves as critics of modern capitalism, there is a limited overlap in their identification of the current capitalist order as environmentally degrading. As Eckersley (1992,120) concludes, "Green political aspirations can indeed be fairly described as 'more left than right'." Yet the question of strategies for making the world a more egalitarian and eco-sustainable place is an area in which Greens are highly critical of Marxism. They consider the Marxist focus on the working class as the primary agent for progressive change as problematic, and additionally outline a number of alternative approaches to agency that they consider superior. It is the outline of these Green critiques and the parameters of a Marxist response that forms the focus of this chapter.

5.1 The Critiques of the Marxist Theory of Agency

Some Green theorists argue that the logic of capitalism results in the working class being dependent on the system. This means that workers can only struggle within capitalism for a greater share of the pie. Industrial action only pushes capitalists to increase the total size of the pie by speeding up their system and thus retaining their profit share. This dynamic leads not to a struggle between bosses and workers but to what Morrison

(1973) calls a cleavage of “growthists” (which includes capitalists and workers) versus “non-growthists” (the environmental movement). Catton and Dunlap (1978,47) further this line of thought by arguing that:

The staunch labor union support for growth, and the successful efforts of industry to win the support of labor and the poor in battles against environmentalists, both suggest the emergence of this [growthist] coalition. Somewhat ironically, therefore, support for continued economic growth has united capitalists and “the left”.

Greens thus argue that traditional trade-union struggle over wages and conditions tends to strengthen industrial capitalism. Rather than undermining the system, it encourages existing capitalism to increase its quantitative output. These sentiments have been most radically stated by Bahro (1986,13), who insists that:

We still regard the ecological crisis as the overriding and broader challenge.... But it would simply be a further victory for the existing order if we let ourselves be pushed into giving priority to the fight against unemployment and social decline in the wake of the old trade union and left-socialist defence strategies. We are not here to defend or create jobs in the industrial system.

Workers in the western world are dependent on industrial capitalism, and hence their struggles will centre around changes within that system.

Greens also criticise Marxism for granting such importance to one particular social grouping, the proletariat. This criticism often draws on post-modernism: Green critics reject the idea that one particular group represents the interests of all of humanity and that that group’s emancipation will open the way for an emancipated (and hence ecologically sustainable) society.

Dobson (1995,152), for example, says:

For Marx, of course, this class with a universal historical mission was the proletariat. It is not novel to point out that the proletariat has not proved to be the class that Marx thought it was: its claims were not so radical that it questioned the assumptions of the political system, and

its emancipation (while anyway only partial and material) has not led to the emancipation of humanity.

But Dobson is firmly against replacing the proletariat with any other grouping. He continues (1995,153):

Whoever [Greens] think most likely to promote fundamental changes in society cannot be seen as paving the way for the salvation of humanity.... In this sense it is claimed that it would be useful for the [Green] movement to take seriously the identification of an agent for green change, but class theorists of such change ought to go no further than that.

In other words, while Greens may therefore identify groupings in society that may be able to play a more effective role than others in the struggle for Green change, no one group should be seen as central.

Benton (1996c,194) summarises the core presuppositions of Dobson's arguments:

[T]he ways in which capital destroys and/or seeks to restructure ... are very complex, diverse, contingent, and often highly mediated. They impact on the lives of differently socially situated individuals - men and women; ethnically segregated populations; occupational categories; infants, children, youths and the elderly; urban, suburban, and rural dwellers - in profoundly different ways. All of these will be shaped by class divisions but cannot be *reduced* to a class-specific measure of environmental vulnerability.

This has been more succinctly stated by Parlato and Ricoveri (1996,237-8):

No one group, class, or fraction can possibly gather the strength and will to confront global capital on the nature, labor, gender, place and anti-racist fronts simultaneously.

This implies that simply trying to mobilise the proletariat along class lines is a fundamentally limited approach. Instead, people should be called on to act on issues or ideas. We must accept that a multiplicity of paradigms is an on-going strategic reality in the fight for a sustainable future. Dobson

(1995,185) has summarised these critiques by saying that, “The idea that ‘issues’ might generate more political momentum than ‘class’ has been central to green strategy from the outset and some ecosocialists seem prone to agree.”

Closely linked to the critiques of Benton, Dobson and others is an insistence on the species-wide consequences of ecological collapse should it occur. From this, Greens deduce that the environmental challenge therefore has a universal, rather than a narrow class-based, character. As Bahro (1982,115) has argued, “the organising factors which can bring the alternative forces together ... will in the future not be based on any particular class interest, but rather a long-term human interest”. He elaborates on this:

[W]e must go beyond Marx’s own concept and direct ourselves to a more general subject than the western working-class of today. Like the utopian socialists and communists who Marx sought to dispense with, we must once again take the species interest as our fundamental point of reference (Bahro:1982, 65).

In other words, a Marxist approach to fighting ecological degradation that calls for mobilising only the proletariat would fail to include all those willing to fight it. Eco-degradation impacts on more than just the proletariat. According to Bahro, this suggests that campaigning against eco-degradation should be organised on just as broad a basis.

Greens have often further developed their critique of Marxist agency by pointing to various social groups whom they perceive as having more to contribute than others as a result of their social positioning. Given that the move to a Green society apparently necessitates debilitating rather than cementing the existing system, many Greens look to groupings in society who are not as dependent on the industrial-capitalist system.

Following Gorz (1985), Dobson (1995,158) argues that it is “the distance from the process of consumption and the degree of permanence of this isolation that currently determine the capacity of any given group in society for radical green social change”. As opposed to a proletariat engaged in class struggle, authors like Dobson and Gorz regard the unemployed as the social grouping that most fits this definition. Greens point to the emergence of vegetable-growing co-operatives and the like that have developed alongside unemployed workers’ rights centres and associated organisations as providing the kernel form of a new, ecologically enlightened, egalitarian society. Dobson (1995,158) describes what he considers to be the key positive traits of the unemployed:

The demands of this class are potentially radical: It will not seek higher wages, for it has no employment; it will not seek better working conditions for it has none to begin with; it will not ask for longer holidays, because it is permanently on holiday...; and it will not strike because it has no labour to withdraw.

This implies that opting out is superior to fighting within, as fighting within the system only strengthens it.

An “opting out” perspective leads many Greens to dismiss the traditional Marxist strategy of planning a socialist economy after a proletarian revolution. Instead, they suggest that the economic structures of a new society can be partially built now. There are two key social phenomena that correspond to such an approach: communes and small businesses. The formation of communes has long been a hallmark of Green political ideas. Like the vegetable co-operatives that often spring up alongside unemployed movements, communes are supposed to be a beacon of light for a new society within the old. As Bahro (1986,29) suggests:

To bring it down to the basic concept, we must build up areas liberated from the industrial system. That means, liberated from nuclear weapons and from supermarkets. What we are talking about is

a new social formation and a different civilisation.

It is argued that bringing small-scale egalitarian communes into existence is essential as these will form an important part of a Green economy. Many Greens also see small business as having an important role in any new society. Porritt (1984,139) says "In the kind of long-term economy that we envisage, small businesses would not just be a useful adjunct to the world of corporate big business; they would be the mainstay of all economic activity". Against the purely commercial interests of multinationals and big corporations, small businesses are seen as more oriented to the community and the environment.

Another core agent championed by many Green theorists are the New Social Movements (NSMs). NSMs span many different issues but most notably include the peace, women, gay and environmental issues (Boggs,1986). Indeed in some variations of NSM theory the unemployed or counter-cultural people, such as "communards", are regarded as being one of the many components of the NSMs (Bookchin,1986)¹. The rise of the Green NSM has been focused on two main approaches: the launching of a Green political party and direct action. Green parties have now been launched in virtually all countries in the West and in a number of other countries as well. In some cases Green parties have even been elected, although usually only as junior partners in a coalition. Direct-action approaches are associated with groups ranging from those as mild as the "respectable" Greenpeace through to more radical groups like Earth First!,

1 As Bookchin (1986,152) puts it, "[NSMs are] united more by cultural ties than economic ones: ethnics, women, counter-cultural people, environmentalists, the aged, the declassé, unemployables or unemployed, the 'ghetto' people."

who engage in a broad range of direct action against activities they see as environmentally degrading.

5.2 Green Alternatives Getting Left Out

From a Marxist point of view, Greens only answer the “who is to do it” dimension and avoid the “what is to be done” questions of alternative agencies. What exactly are these legions of unemployed, communards and NSMers expected to do to push through large-scale social change other than promote the egalitarian values of vegetable co-operatives and other Green ideas? While Dobson, Gorz, Bahro and others are adamant that the greater the distance from the process of production and consumption, the greater the potential for eco-sustainable and egalitarian social change, they are less clear on what specific actions these alternative agencies can engage in that will lead to a genuinely sustainable society.

The Marxist conception of agency is based upon the working class, or the “proletariat” as Marx referred to it. The working class is that which sells its labour-power to the property-owning class, or the bourgeoisie, in return for a wage. The capital-labour relationship is the primary relation of production under capitalism. The proletariat’s ability to strike enables it to challenge the bourgeoisie at the point of production. Marx argued that the proletariat should take control of the means of production and administer them for the social good. Hence the Marxist focus on the working class is not based on the heroism of having a blue collar and greasy hands, but on the enormous potential for change that exists in industrial activity. It is this immense potential social power that has led Marxists to regard the proletariat as the key agent for socialist transformation. Given its structural location, the working class can bring industrial and agricultural technology and other

means of production under mass democratic control, instead of the control of a minority engaged in the pursuit of private profit.

So long as it relied on agents at the margins of capitalist society rather than at its centre, any radical Green movement (whether based on the unemployed, communes, small businesses or NSMs) that attempted to challenge the capitalist status quo would end up being easily out-manoeuvred by the state. As Frankel (1987,25) writes, in a face-off between a group with radical aims but no connection to the organised proletariat and the capitalist status quo, “given the domination of state apparatuses and the material means of production by the capitalist classes and their political allies, this would, most likely, be no contest”. The Black Panther Party, active among Afro-Americans, particularly the unemployed, in the 1960s and 70s, may be considered an example of an NSM that did not have a clear strategy for dealing with a class-structured society. Lacking an orientation towards the wider proletariat, they took an extreme and confrontational approach which met intense state repression that effectively destroyed the party (Churchill and Wall, 1988).

This has a good deal of relevance to the “direct action” strand of the Green NSM, as obviously such action can only be taken so far given the protection of private property enshrined in capitalist law. If this kind of action develops any real militancy then it may well suffer severe repression. Whereas general strikes by the proletariat necessarily involve large numbers, most direct-action type approaches (such as vandalism of bulldozers felling native forests) often need to be organised secretly by small numbers of people so as to avoid detection by the state, and as a result are unable to mobilise large numbers of people.

A further difficulty for direct action is that it tends not to be centred around longer-term concrete strategies for building a mass political movement. Instead, direct action concentrates on the simpler issue of raising awareness of the environmental problems in the world today. This effectively means that direct action does not challenge the structural causes of environmental neglect, but simply highlights their consequences. Hence a militant occupation of a factory causing particularly high levels of pollution, for example, might be useful in alerting the rest of the local community to its presence and could assist greatly in launching a campaign against the factory's production method. But it does not directly raise the wider question of why production is organised along eco-degrading lines in the first place. Twilly Cannon, former director of Greenpeace USA's Action Resources, has been forced to acknowledge that:

We now know the world is burning. The question is how to put out the fire. It won't be easy, for direct action, which works as a fire alarm, doesn't always work so well to put the fire out (Cited by Athanasiou:1996,3).

In other words, while direct action can be useful in challenging the consequences of eco-degradation it is less useful in challenging its cause.

Another manner in which the lack of structural power of Green alternative agencies blunts their ability to challenge capitalism relates specifically to the unemployed. The existence of unemployment can actually *weaken* people's desire to fight. In contrast to the viewpoints advanced by Gorz and his co-thinkers, the unemployed are often the layer of society that are easiest to cajole into poorly paid or environmentally degrading jobs. Indeed, it is often the threat of unemployment or the possibility of escaping it that leads to working people accepting jobs that are environmentally degrading when they would rather act otherwise if there were other viable options.

This was specifically the case with regards to one of the most famous involvements of labour organisations in environmental issues: the Green Bans movement headed by the Builders' Labourers Federation (BLF) in New South Wales in the 1970s. The BLF sought to halt environmentally degrading work by striking or imposing bans on work at particular sites. However, the Green Bans movement had a limited lifespan, as Watson (1990,120) recalls:

What made this stand possible at the time was the favourable economic climate. In the early 1970s Sydney was undergoing a rapid building boom and the demand for labour was very high. It was feasible to place bans on particular sites because the workers could easily find work on other sites. By the mid-1970s, circumstances had changed and unemployment in the industry had begun to rise substantially.... Under these changed economic conditions ... rank and file support for the continuation of the Green bans declined.

This example suggests that unemployment is not quite the incentive for engaging in radical social change that several Green theorists think it might be. In fact, in many Western countries² the life of the unemployed has become even more difficult as since the mid-1980s they have significantly restructured their social-welfare systems in response to a worsening global economy. This has involved measures ranging from slashing the amount spent on benefits, through to "dob-in-your-neighbour" phonelines and various "work for the dole" or "welfare to work" schemes. This makes life for the unemployed even more miserable and increases the pressure to accept any sort of job, environmentally degrading or not.

The lack of structural power by Green alternative agencies and their consequent marginalisation has been noted by many active in the Green

2 The countries of the advanced West are the only capitalist countries to really offer any real financial support to those "between jobs".

movement themselves. Pepper's (1991) detailed and valuable ethnography of communes in Britain, for example, notes that even many communards have become resigned to the fact that communes have a small role to play, if any at all, in the establishment of an eco-sustainable and egalitarian social order. Pepper (1991,183) cites one communard as saying "Isolated communities won't have influence. It's important to change the system from within", and another who elaborates on this point:

I don't see us having a commune-ist society. In communes we have control over our own lives, but what's the point if we don't control society? Communes don't confront the power structure of society (Pepper:1991,183).

While such sentiments do not explicitly endorse a Marxist class analysis, they do reveal the frustrations of those trying to change the structures of capitalist society by way of egalitarian example.

The strength and power of the capitalist class and its state has often led commune-dwellers to pessimism regarding the prospects for radical change. Some communes, for example, end up being marginalised by the society they are trying to marginalise. They give up their attempts to alter society, their residents contenting themselves with what they perceive to be personally or spiritually more fulfilling lives. In other words, the project of structural change is abandoned in favour of a perspective of personal enlightenment and salvation. Pepper (1991,219) cites one commune-dweller as saying:

To move to the left is difficult - you have to push everyone else. To move to the right is easy - all you have to do is opt out of the collective struggle. And in the end you think: "Fuck it, it's easier to opt out".

Faced with little possibility of changing society, alternative experiments can become increasingly esoteric and insular, like some of the New Age

communes. They are unlikely to contribute to widespread social change for, as they admit, they have given up fighting for it. Instead of mobilising around issues that are relevant to the broader populace, communes often develop an introverted approach to the outside world. This has been summarised by an ex-trade unionist living on the CAT commune in Britain:

[Communards are] out of touch with the nature of the political forces they are up against. The solutions of people living here are too simplistic. They don't face up to reality, and lack class consciousness. Talking to 30,000 black kids in inner city Birmingham about compost loos is not addressing the issue. My coming here is a form of resting without doing much harm. CAT is marginal to social change and we shouldn't overrate its importance (Pepper:1991,162).

In other words, the broad appeal necessary to mobilise large numbers of people to effect egalitarian social change cannot be engineered through campaigns that in reality have very little to do with changing the central features of people's lives. For these reasons, communes can only have a small role to play as agents for ecologically sustainable, egalitarian social change, contrary to the hopes of Bahro and others.

That is not to say that Marxists should be completely dismissive of attempts at creating alternatives within the existing order. As Dobson (1995,151) notes:

Marx, of course, made clear his recognition of the political value of the Utopian socialists enterprises for calling into question the accepted truths of early-nineteenth century European society, and any critique of green Utopianism must do the same.

But Marx also argued that despite this positive side to communes any "strategy of change through 'small experiments' and 'force of example' was an unfounded attempt to change *people* without changing the *conditions* in which they lived and worked" (Dobson:1995,151). The organised proletariat, through industrial-political activity culminating in socialist

revolution, does have the power to change those conditions, so that the eco-degradation, poverty, injustice, hierarchical structure and other characteristics of capitalism that communards and other Greens despise will be abolished and the real history of humanity can begin.

5.3 Green Alternatives Getting Sucked In

In some cases, the Green agencies' lack of structural power leads not to being left out of the system but being sucked right into it. Attempts to create beacons for a new egalitarian society, such as communes or small businesses, within the existing framework of capitalism pose the difficulty of surviving economically. Small alternatives are extremely limited in what they can hope to accomplish. The sheer size and scope of large-scale capitalist enterprises makes forming any small and experimental alternative to the status quo extremely difficult. As Frankel (1987,31) has noted:

All enterprises governed by market mechanisms (whether cooperatives, or publicly or privately owned) are pressured into competition and constant growth in order to sustain income, market share and hence survival.

In other words, small alternatives to large-scale capitalism are structurally disadvantaged when competing with the world's multinationals. Any serious attempt to demonstrate the values of an eco-sustainable society through small businesses, communes or other co-operative movements may well result in these movements being pressured into adopting the principles of the capitalist society they are trying to change. Big companies have the benefit of being able to move their capital around, can be more flexible with the demands they place on their labour, and can invest more into research and development of labour-saving technology which cheapens the production costs of their goods. Such options are barely available to small alternatives.

This results in the “level” playing field of production actually being heavily tilted, and small alternative attempts at egalitarianism and eco-sustainability are forced to sacrifice many of their aims in order to remain viable when faced with competition from bigger enterprises. One example of such an impact on a commune has been outlined by Pepper (1993a,242):

Another of the left’s “sacred cows” ... is the Mondragon complex of cooperatives in Spain. This involves a federation of over 100 worker-cooperatives, employing about 20,000 people. They produce many goods, most notably domestic appliances, which compete successfully in capitalist markets. Inspired by utopian socialist experiments, they originally embraced many socialist principles.

But the pressures of trying to run an egalitarian commune within capitalist society began to effect the project. Pepper (ibid.) continues:

However, Mondragon, like so many similar, if less ambitious schemes, has experienced the phenomenon of “goal displacement”. From an attempt to rehabilitate the devastated Basque community after the Spanish civil war has now come a set of businesses dedicated to survival on the basis of capitalist economic premises. The wage differentials have eroded from 1:3 to 1:6-7, for example. There is insufficient reinvestment of profits in the social structure, while the further education institution now just teaches technical skills and not the value of cooperation.

These trends in the Mondragon experiment have also been noted by Encel (1990), who suggests that instead of the commune operating as a beacon for change in wider society, it is in fact wider society that is gradually triumphing over the commune. Any little island of socialism in the big sea of capitalism is likely to get trashed by a hurricane sooner or later.

The inherent tendency of capitalism to make communes bend to the dictates of capital has similar implications for small businesses. The fact that a business is small, and therefore does quantitatively less damage to the environment or exploits a smaller amount of labour, does not mean that the

economic mechanisms by which it operates are different from its larger competitors. Indeed, the smaller the business, the harder it feels the pinch of any recession in the economy, and hence small enterprises are just as prone to cutting costs to stay afloat, including additional costs that may help offset eco-degradation. McLaughlin (1990,76) has noted an example:

A relatively small timber company in northern California held large tracts of forest, slowly and selectively cutting timber from those forests. The timbering was managed relatively soundly with concern for the long-term health of the forest and the surrounding communities.

But it did not last forever. The small timber company sold its produce on the same market as every other lumber company, most of whom did not take such concerns into account and hence were able to sell at cheaper prices, and the smaller company got into difficulty. McLaughlin (1990,76-7) continues:

They were thus compelled to attempt an ecologically unsound program of rapid cutting of timber to pay their debts. Thus, within capitalism, avoiding the pressure to discount the future requires sufficient wealth to ignore economic "rationality".

In other words, if a firm wants to invest in a long-term sustainable future over short-term profits, then it needs to have the funds to do that. The smaller the business, however, the poorer the social positioning to engage in such long-term planning. As O'Connor (1998, 10) has noted: "Companies not oriented to growth are severely disciplined by bankers, the stock market and competitors".

Ultimately governed by the same mechanisms as big businesses, small businesses are therefore at least as likely, if not more, to consider trade unions an inconvenience, to hire temporary labour with little or no security, to provide poor working conditions or to reject eco-sustainability if the

profit margins don't allow it. In fact, the economic position of small business is closely dependent on the wider capitalist economy functioning successfully. This economic vulnerability frequently places the petty-bourgeoisie in volatile social situations. In times of recession, when small businesses tend to get marginalised much more quickly than larger ones, people from the petty-bourgeoisie have often taken leading roles in reactionary social movements like, for example, anti-Semitic and white supremacist groupings (Spoonley, 1987) - not exactly the kind of egalitarian and eco-sustainable social movements that Porritt hopes they will play an important role in!

Another key way in which Green alternative agencies get sucked into the system is through electoralism, a strategy insisted on by some elements of the Green NSM. The difficulties of trying to implement wide-ranging progressive change through parliament, within the framework of capitalism, has been the undoing of many left-leaning political parties throughout twentieth-century political history, and Green parties are no exception. An important reason for this is the over-arching constraints of the capitalist economy. Capitalism needs a profitable environment within which to operate; without one, capitalist investment begins to contract as smaller capital begins to find circumstances difficult, and larger capital decides to find somewhere else with a more "compliant" labour force, softer eco-laws and cheaper operating costs. Even if a Green party did come to power and was in a position to implement significant environment-protection legislation - for example, fundamentally altering the way in which pollution is controlled and resources are used - *even* then we should expect a "sell-out" from such a party. Skirbekk (1996,132) notes that any radical restrictions on the profitability of capitalists will usually:

mean the inability of some companies to withstand competition, and

hence bankruptcies, dismissals, and an unemployment crisis. The market economy displays its limits.

Faced with the contraction of the local economy as a result of capital pulling out in response to increased taxes and/or tougher eco-laws, any such Green government would have little option but to capitulate to the preferences of capital. As O'Connor (1998,10) says, "New tax revenues come from capital accumulation, so few politicians dare to oppose the self-expansion of capital".

A notable example of Greens retreating once in power is the electoral success of Die Grunen, the German Green party. Faced with economic difficulties, in the various state and national assemblies Die Grunen has presided (in coalition with a larger party) over teacher lay-offs, tougher laws against "guest workers" (immigrants) and cuts to unemployment benefits. In the state parliament of Hesse they even acquiesced to the expansion of a nuclear re-processing plant that they had campaigned against (Kolinsky, 1984; Simons, 1988)! Clearly, presiding over a capitalist economy means operating within its economic limits. This is not to say that the election of a Green party or other parliamentary lobbying can make no environmental gains whatsoever. What is argued, however, is that any such gains will only be within the framework of capitalist profitability and subject to rollback when the next of capitalism's regular recessions sets in.

5.4 Eco-Degradation: A Matter of Class or Species?

Bahro (1982) was cited earlier in the chapter insisting that any movement for ecological sustainability must mobilise around human interests generally and not just class interests. Given that an eco-crisis will affect everybody, any campaign against eco-degradation that seeks only to mobilise people

along class lines will, some Greens maintain, necessarily exclude people who may wish to join the fight. An eco-friendly Marxist response to this argument notes that just because there are social problems that reverberate on all groupings in society in one way or another, this does not mean that all groups affected have the same interest in forging a coherent strategy for dealing with it. For example, mass unemployment is clearly bad for workers and the unemployed. While unemployment is useful for capitalism in keeping wages down, it is one of the contradictions of capitalism that the mass unemployment that occurs during serious recession is a social burden for the bourgeoisie - its effects range from lower consumer purchasing power through to social unrest. However, the fact that mass unemployment affects many groups in society adversely does not mean that it affects all in precisely the same way nor that any common strategy will therefore emerge as a result. For example, a militant leftist demand in response to mass unemployment might include the demand for "Thirty hours' work for forty hours' pay", whereas the capitalist response to mass unemployment is usually to cut social spending and to force down wages and business costs through labour-market reform thereby increasing investment and job-creation. Different social classes facing a common problem do not always reach a common solution.

The dialectic outlined in chapter two demonstrated how society and nature cannot be separated from another. They are two moments in a dialectical unity which constantly affect and modify one another. Harvey (1993,25) has outlined the *political* consequences of this dialectic as meaning that:

all ecological projects (and arguments) are simultaneously political-economic projects (and arguments) and vice versa. Ecological arguments are never socially neutral any more than socio-political arguments are ecologically neutral. Looking more closely at the way ecology and politics interrelate then becomes imperative if we are to get a better handle on how to approach environmental/ ecological

questions.

The interrelationship of society and nature means that we should no more expect a unified species-wide response to eco-degradation than we should for any other social problem. We should instead expect the same plurality of responses for both. The fact that the world might be moving towards an eco-crisis does not mean that either a common set of solutions or a common strategy can be found. For example, a petroleum shortage might lead to ecological incentives such as hiking petrol taxes or imposing car-less days, which affect people with low incomes or one-car families adversely. Or it could lead to a publicly funded transport system, which may affect those who pay taxes on higher income adversely. As Feenberg (1979,357) has noted:

The environmental crisis, in short, brings not peace but a sword. And precisely for that reason it is not a unifying messianic force through which the human race could join in an ennobling struggle beyond the conflicts of history. Rather, it is a new terrain on which the old, old issues will be fought out, perhaps this time to a conclusion.

Some Marxist critics like Enzensberger (1974) add to this criticism by pointing out that several issues raised by Greens, such as air pollution, have always been faced by working-class people in factories and the like. It was only in the 1960s, when such problems started manifesting themselves throughout wider Western society that modern environmentalism was born. Texts such as Engels (1969) "The Condition of the Working Class in England" are therefore useful in alerting Greens to the terrible social *and* ecological conditions that many working-class people were forced to live in long before the rise of the Green movement in the 1960s.

In fact, the rise of environmental issues has led to a very fractured and diverse Green movement: from free-marketeers to radical deep ecologists to

the growing literature on “Red-Greens”. The fact that the Green movement itself is incapable of a unified response surely falsifies any attempt to paint ecological difficulties as a unifying force for humanity. If eco-issues are insufficient to rally Greens into a single force then there is even less possibility that such issues will be able to gather all of humanity into a species-wide coalition.

However, it must be acknowledged that eco-degradation does impact on a wide diversity of people in a multiplicity of ways, as Benton and others suggest. As a result, an eco-friendly Marxist movement should be prepared to make tactical alliances with a variety of Green groupings, if it finds itself in agreement with them on specific concrete issues, as part of its struggle for a socialist future. This issue, however, shall be explored further in the following section.

5.5 A Revolutionary Critique of Trade-Union Reformism

The eco-friendly Marxist response sketched so far does not answer the Green criticism that struggles by labour may only further entrench the existing use of capitalist technology. Successful class struggle - winning significant wage increases, say - might lead to capitalists trying to speed up the whole polluting and resource-depleting capitalist economic machine, resulting in a common growth consensus among capitalists and unions. The more environmentally destructive the capitalist economic machine is, goes this Green argument, the better it is for both capitalists and workers. On one level, Greens certainly have a valid point. It cannot be denied that trade unions do not often raise any criticism of the current economic order other than on issues they see as directly relating to the unions, such as wages, conditions and labour legislation. When they do raise wider social

criticisms it is usually in the form of media releases or policy documents and is rarely linked to any industrial action.

But many Marxists would object to being lumped together with the existing trade-union leadership with regards to strategies for social and ecological change. In fact many would reject outright a strategy that focused only on the immediate economic issues facing workers. This particular Green critique is more a critique of trade-union reformism than of Marxism. The kind of labour struggle envisaged in the Green critique is based on workers struggling merely for higher wages within the framework of capitalist control of technology and the attendant social and ecological order. An eco-friendly Marxism instead focuses on matters such as control of the means of production and attempts to build links between workers fighting at the point of production and the wider community; in particular this kind of Marxism would give attention to the interaction of specific industries with their natural environment.

The differences between these two differing perspectives for labour - narrow trade-union reformism and a genuinely liberating Marxism - revolve around the distinction made in Marxist theory between a "class in itself" and a "class for itself". As Trotsky (1971,163; emphasis in original) put it, "The proletariat assumes an independent role only at that moment when from a social class *in itself* it becomes a political class *for itself*". Trotsky's distinction between a social class and a political class is based on the proletariat making the transition from a limited trade-union consciousness to being fully aware of the pivotal role it can play in reconstituting the material basis of society. Trade-union struggle is based around notions of a class in itself - that is, the class "in the raw", so to speak, unconscious of its potential significance in changing the power structures around it and

engaging only in the struggles around the most immediate issues. By contrast, the class for itself envisioned in Trotsky's conception of agency is a class that has come to a political consciousness preparing it for the struggle for socialism.

An eco-friendly Marxist organisation based on an explicitly socialist political programme should attempt to agitate around a much broader range of issues than the economic demands of reformist trade-unionism. Just because some demands made by workers' organisations might compel capitalists to speed up the capitalist treadmill, such as demands for higher wages, does not mean that workers are precluded from fighting around other demands that cut against ecologically degrading practices. Such a dynamic workers' movement can raise demands covering the full range of issues that face the proletariat, including ecological concerns, and that challenge rather than strengthen the capitalist order. These might range from demanding a joint worker-community board to carry out its own research into the emissions released by a certain plant, through to national campaigns and initiatives over the transport infrastructure of an entire country as part of a broader programme to bring industry under democratic control.

A purely economic approach also limits the range of options available to the proletariat. For example, faced with the choice between unemployment and logging rare and native forests, most timber workers with families and mortgages realistically have, as previously noted, only one option. That is why it is necessary to refuse the limited options offered by the capitalist elite, and instead to combine environmental action with an aggressive programme to eliminate unemployment through a campaign for "Thirty hours' work for forty hours' pay". Capitalism is unlikely, however, to be able to absorb the costs of providing this last demand. This points to the

necessity to transcend the private-enterprise system and institute a society in which humanity as a collective can regulate its relationship with nature, in contrast to the anarchy of individual capitals and the atomised trade-union struggles confined wages, the current primary form of labour resistance.

It was the narrow focus of much trade-union struggle that contributed to many losing interest in unions as a vehicle for any radical social change. Failing to find support from the narrowly focused trade unions or from the official Stalinist parties (who evaluated which causes to champion on the basis of what would impress their patrons in Moscow, Beijing and elsewhere), many people disaffected with society initiated new “single-issue” political movements in areas such as race, gender, sexuality and protection of the environment. Alternative Green agencies therefore arose partly as a result of the lack of attention paid to ecological questions by the mainstream socialist movements in the form of Stalinism and Social Democracy.

Indeed, the failure of the established labour movement to raise any concerns other than those relating to wages sometimes means that Greens are more openly critical of the capitalist production process than is the labour movement. For example, the 1983 programme of the German Green party called for “production of durable and repairable consumer goods” (Die Grunen, 1983), as an attack on the shoddy crap produced under capitalist policies of “planned obsolescence”. This is a thoroughly supportable environmental demand and is indispensable for an eco-friendly socialism. It clearly targets the production processes of capitalism in a way that most trade-union reformism does not. The “class in itself” reformism of unions is *distributive* in essence, whereas concerns over the durability and reparability of goods focuses on *production* and tends more towards a “class

for itself” perspective, even if many in the Green movement do not think in class terms. As O’Connor (1998,324) has noted:

Following Marx’s lead, socialists have said for a long time that capitalism subordinates use value to exchange value ... hence that capitalist production is for profit, not according to need.... Ironically, socialist *practice* more often than not has consisted of struggles for higher wages, shorter hours of work, full employment ... and so on, or what can be called “distributive justice”. Socialists have had a qualitative theoretical critique of capitalism and (too often) a quantitative political practice. Logically, the traditional socialist critique of capitalism should lead to “productive justice”. In fact, it has led to demands for distributive justice. Socialists have critiqued the capitalist relations of production and then sought to reform capitalist relations of exchange.

O’Connor (1998,324) further argues that “Socialism has thus negated its own first principle”. Rather than challenging capitalism as a system, most ostensibly socialist struggle has focused merely on the *effects* of capitalism. An eco-friendly Marxism must be prepared to challenge their *cause*.

While an eco-friendly Marxist movement needs to work among the proletariat for the overthrow of capitalism and its replacement with democratic planning, this does not mean that such a movement must avoid initiatives and tactical alliances with other social groupings. For example, an eco-friendly Marxist movement may wish to decrease the emissions of a particular factory by demanding that pollution filters be installed in the chimneys. The local Greenpeace branch and a campus environmental group may also share this goal. But the incumbent union bureaucracy may not want to get involved. In such an instance, an eco-Marxist movement should have no hesitation in building a joint rally or running a joint petition with these groups (or anybody else who wants to get involved) against the company.

The fact is that Green issues affect a wide range of people in a diversity of ways. Environmental protection is not in the interests of capitalists, because it's too expensive - but it is in just about everyone else's interests. While it is the pivotal structural power of the proletariat that enables it to challenge and overturn capitalist society and thereby provide for genuine, long-term sustainable planning, any serious eco-friendly Marxist organisation must be prepared to make tactical alliances with those from the left wing (or even the right wing) of the Green movement who agree with it on certain concrete demands. So while an eco-friendly Marxism needs to have a "strong" conception of agency in that the proletariat is seen as the key agent for a socialist transformation, it should not be so "strong" that it considers only workers and their organisations as useful in fighting for progressive ecological change.

5.6 Conclusion

There is a sense in which discussion earlier in this thesis on anthropocentrism does not sit comfortably with some of the arguments made in this chapter. In chapter two, I argued that the ecological sustainability needed to preserve the long-term interests of the human species is best secured by a society organised on a socialist basis. While such an approach is correct on a philosophical level, references to the human species as a central social category do not translate into a viable anti-capitalist politics. Human society is divided by patterns of ownership, so it is along class lines that the battle for ecological sustainability must ultimately be fought.

The class structure of capitalist society means that the bourgeoisie, because of the profits it derives from its ownership of the means of production, has a vested interest in the unsustainable status quo. The proletariat is the only

social grouping that can fundamentally uproot the bourgeois order because of its central positioning in the capitalist relations of production. I have shown that attempts by Greens to generate agencies alternative to the proletariat are seriously flawed. They are either unable to challenge the structural power of the bourgeoisie, such as movements of the unemployed or direct-action strategies, or end being sucked right into the capitalist system itself, such as Green parties or small businesses.

While the Green critique of most trade union bureaucracies as sycophantic components of the ecologically degrading capitalist order contains many important kernels of truth, the reformism predominant among most unions is not the only approach that need be taken. A revolutionary labour movement is capable of unifying demands for both genuine social justice and ecological sustainability through a program of socialist revolution which has no regard for the profitability of the capitalist system. Such a movement can lead to the creation of a new type of society, a society wherein decisions over production are made according to human need - including the human need for ecological sustainability - rather than the private pursuit of profit.

Chapter Six: Conclusion - Toward an Eco-Friendly Marxism

The increasing degradation of the environment is now considered by many (including me) to be a serious issue for the quality of life, and possibly even the survival, of the human species. The rise to political prominence of environmental issues has been accompanied by the advent of a Green movement that has not only drawn attention to increasing environmental dislocation but has also generated a number of concepts and theories that attempt to analyse its origins. In many cases, these concepts and theories have been highly critical of Marxism. I consider the Green movement and its criticisms of Marxism to be central to contemporary radical politics. Both Marxism and Greenism are widely considered to be important critiques of modern society. This thesis has examined the debate between Marxists and Greens, focusing on what each has to offer as a solution to the problems of eco-crisis and the pressing demand for an eco-sustainable politics.

My position in this debate is broadly Marxist. I have constructed and upheld the principles of an eco-friendly Marxism by responding to the core critiques formulated by adherents of Green politics. I have acknowledged that Greens have often raised criticisms that Marxism has largely not addressed. However, I have also argued that Marxism is an internally complex and diverse tradition, a tradition that includes strands that are not only immune to the Green critique but that also offer significant advances over the substance of Green theory itself. On these terms, I have argued that an eco-friendly Marxism can be constructed out of theories developed by Marx and later Marxists. A summary of this eco-friendly Marxism and its dialogue with Green thought forms the basis of this final chapter.

6.1 Chapter Review

In response to the call for a new paradigm based on ecocentric philosophy, the Marxism championed in this thesis pleads guilty to anthropocentrism, and proudly so. Against the Green critiques, I maintained in chapter two that anthropocentrism does not necessarily lead to the separation of humanity from nature, to a wanton attitude towards eco-degradation, nor to a denial of natural limits on social development. There are a number of anthropocentric reasons for valuing nature that do not rely on ascribing inherent worth to the natural world. Moreover, attempts to create a philosophical approach to humanity's interaction with nature based on ecocentrism have created more difficulties and contradictions than they have solved. There is no practical course of human action available if we invest other species with intrinsic worth and ecocentric notions result in the very separation of humans from nature that Greens wish to avoid. I maintain that the ecological consequences of capitalist and socialist anthropocentrisms are not so similar that they can be squeezed into one paradigm. Capitalism is premised on an individualist anthropocentrism and is fundamentally limited by its short-term quest for profits, whereas the collectivist anthropocentrism of an eco-friendly socialism plans production on a long-term, sustainable basis.

Green critiques of the Marxist focus on the forces and relations of production is another central element of this debate. Greens maintain that the Marxian emphasis on changing the relations of production underprivileges an analysis of the productive forces as a cause of ecological degradation in their own right. As I argued in chapter three, my response is based on the importance of analysing the development of the productive forces within the framework of the relations that form the basis of economic activity in capitalist societies. I have argued that, since technological

development is a subset of human development, technological changes can only be analysed within the framework of the society in which they occur. Marxist theory thus rightly emphasises the importance of patterns of technology ownership, specifically class relations, when analysing eco-degradation. Greens also argue that the Marxist emphasis on class relations leads Marxists to uncritically extol technological expansion. However, I have argued that an analysis of class relations can lead to a critical approach to the functioning of technology: the concepts of *alienation*, *reification* and *commodity fetishism* help explain the anti-ecological (and anti-human) functioning of much technology under the rule of capital.

While chapter two argued for the distinction between capitalist and socialist anthropocentrism, a key theme that emerged in chapter three is the importance of distinguishing between the different traditions within socialism. This pluralism is of particular relevance when examining three key historical phenomena cited by Greens as falsifying the Marxist view of the forces and relations of production and their relationship to eco-degradation. Greens consider state property in the West and the former Eastern Bloc to be examples proving that collective property relations can nonetheless result in eco-degradation. Moreover, Greens consider the Marxist historical schema of “slave society to feudalism to capitalism to socialism” as meaning that the current capitalist industrialisation of the Third World is a progressive stage that must be completed, despite the massive ecological dislocation that is occurring as a result. In chapter four, I acknowledged that the Green critique certainly holds true of some strands of Marxism. However, there is a considerable literature from a Marxist perspective, even before the rise to political prominence of ecological issues, that is *highly critical* of the functioning of state property in Western countries, of the regimes of the former Eastern Bloc and of the process of

capitalist industrialisation in the Third World. I have argued that neither state property in the West nor “actually existing socialism” correspond with an eco-friendly socialist vision in which central economic processes are administered collectively by the wider populace for the common good. I have further argued that Marxist theorists who regard the current capitalist industrialisation of the Third World as a distinct, progressive phase base themselves more on a philosophical teleology than an understanding of the current economic processes in the international economy.

As I noted in chapter five, the debate over which groupings are best positioned to fight for progressive ecological and social change has also been a key aspect of the Green critique. Greens identify a number of difficulties with the Marxist emphasis on the proletariat as the central agent of progressive social change and suggest a range of alternative agencies such as the unemployed, alternative communes, small businesses, and the Green wing of the New Social Movements (NSMs; which include direct-action type groupings and Green political parties). Greens believe that these alternative groupings are better positioned to fight for change than is the proletariat. I have argued that Greens have not been able to forge any sort of strategy that could enable them to overthrow the material foundations of capitalist society and thus enable ecological decisions to be made on the basis of rational and collective long-term planning. This is because the alternative agencies posed have been based around changing people’s ideas, rather than challenging capitalist relations of production. Admittedly, much existing labour struggle does have a reformist character that operates within the limits of capitalist profitability, and in cases may even involve openly demanding that the current use of capitalist technology be sped up. A revolutionary approach, however, has no qualms about raising demands that conflict with the profitability of capitalism. If capitalism is unable to afford

such demands then this points to the need to transcend the entire capitalist system.

A core theme that emerges from the discussion in chapters two to five is the diversity of traditions within Marxism. Green critiques tend to operate at such a high level of abstraction that they fail to distinguish between these very different strands. Certainly there are Marxisms that, for example, tend to praise technological expansion as a good in its own right. But there are other contributions to Marxism that do not regard expansion as an end in itself. The Green critiques thus tend to focus on the *weakest* elements of the Marxist tradition with regard to eco-degradation, weaknesses are then generalised to the tradition as a whole. In this way the Green approach fails to engage in an effective dialogue with Marxism and is unable to recognise many of its *strengths*. The Green critique thus ultimately fails to advance the debate about the sources of ecological degradation.

6.2 In Defence of a Materialist Sociology

The central strength of the eco-friendly socialism identified by this thesis is its analysis of the material conditions of environmental problems - that is, it approaches these problems in terms of the *class relations* that dominate the societies in question. Fry (1975,332), in a much cited ecological critique, has suggested that, "It is not necessary to be a [Marxist] in order to believe in human brotherhood and co-operation", meaning that being anti-Marxist does not necessarily mean being pro-capitalist. But I argue that the key strength of Marxism is that it moves *beyond* the idealistic conception of equality and "human brotherhood" that characterised the older traditions of utopian socialism.

The turn away from Marx's concept of the mode of production has led Greens to largely *descriptive* critiques of ecological problems. They have failed to generate any wider *explanatory* critiques that surpass the eco-friendly Marxism I have championed here. Many prominent Green authors have noticed this phenomenon as well. Porritt (1984,9), for example, has said that:

Having written the last two general election manifestos for the Ecology party, I would be hard put even now to say what our ideology is.

In line with Porritt's observation, Eckersley (1988,54), another leading Green, notes that Green politics are still very much a practice in search of a theory. She writes:

Despite the success of the various Green parties in Europe and elsewhere and the growing momentum towards building a wider Green movement, the domain of Green politics - its contours, vision and priorities - remains fluid, awaiting theoretical elaboration and consolidation.

These sorts of sentiments have led Ely (1986,27) to conclude that "there is a theoretical vacuum in the alternative [Green] movements".

The idealist and empirically descriptive Green critiques of Marxism represent a minimalist and atomised viewpoint - a retreat from the goal of explanatory understanding. The superficiality of many Green criticisms flows from the absence of a materialist approach to the relationship between society and eco-degradation. Of course, it might be argued that the structure of this thesis itself - organised by theme rather than by school - unfairly emphasises the lack of a coherent Green theory. Certainly my focus on the broad features of the debate prevents a more concrete analysis of one or another approach by specific Greens. Nevertheless, the fact that such central Green authors as Porritt and Eckersley identify a lack of explanatory

analysis indicates that my criticism has a real validity. The absence of an explanatory sociology of the relationship between society and nature contributes to the descriptive quality of the Green critique of Marxism.

On appearance, modern society suffers from ecological degradation and generally has an anthropocentric approach to dealing with the rest of the natural world. It therefore follows, according to Greens, that this degradation is closely related to the anthropocentrism. On appearance, a smelly polluting factory is a smelly polluting factory regardless of who owns it. It therefore follows that the productive forces are an environmental hazard regardless of the property relations that support them. On appearance, state industry in East and West has caused ecological degradation, and capitalist industrialisation is laying waste to the environment in the Third World. It therefore follows that Marxism's claim to any ecological credentials has been seriously undercut by real history. On appearance, trade unions have taken few initiatives over environmental concerns and have a vested interest in the maintenance of the current system, while a number of alternative possible agents have been more vocal. It therefore follows that we should not look to the labour movement to fight for sustainability but should instead look elsewhere.

As I have repeatedly noted, I do not dispute any of these claims on terms of their "appearance". What I do dispute is the Greens' rejection of Marxism based on these largely *descriptive* critiques. This thesis has argued that it is necessary to go beyond description to develop a coherent analysis of humanity's relationship to ecological problems. My perspective thus emphasises the differences between descriptive and explanatory concepts. Callinicos (1987,175) notes that:

it is a typical property of ... explanatory concepts that their content does not coincide with that of descriptive concepts, which seek

primarily to summarize the findings of observation. Theoretical concepts could not fulfil their role unless this were so, since explanation typically proceeds by identifying underlying relationships not directly accessible to observation. As Marx noted, "All science would be superfluous if the outward appearance and the essence of things co-incided".

What I hope I have demonstrated in this thesis is the importance of such an explanatory approach being grounded in *materialist* analysis. Understanding the production relations that constitute the basis of society provides a guide for how they should be transformed.

It is this materialist analysis that links the four core chapters of this thesis together. The absence of a materialist analysis leads many Greens to place a great deal of emphasis on ideas. Many argue that the root cause of ecological degradation is to be found in various "nature-dominating" philosophies held by humankind. But a materialist analysis insists that this emphasis on philosophy is seriously flawed. The value of an eco-friendly Marxism is precisely its insistence on understanding the pivotal role of production relations in determining the relationship between a society and its natural environment. This is clearly counterposed to "new paradigm" notions which conflate capitalist and socialist theories into one school of thought on the basis of some common philosophical principles.

The idealist conflation of socialism and capitalism into a single paradigm contributes to the Greens' identification of the productive forces as a source of ecological degradation in their own right. The Marxist materialist critique rightly emphasises the relations of production as mediating between technology and the environment. The inherently *social* nature of production means that humans do not act directly on nature, but only through interaction with each other. Under capitalism, the role of technology is to

increase the rate of *exploitation* for the bourgeoisie. Ensuring the long-term sustainability of a resource or decreasing pollution are secondary concerns. Hence a number of Marxists have developed several concepts highly *critical* of the role of technology under capitalism. But these criticisms point to the relations of production, specifically the capitalist pursuit of short-term profit, as the central social structure that needs to be overthrown rather than locating blame with a reified conception of technology. Such a materialist analysis does not lend weight to any new paradigm centred on the negativity of “industrialism”, but rather re-emphasises the Marxian focus on production relations. I noted that both Marx and Greens have a certain “ambivalence” towards technology under capitalism. However, Marx resolves this ambivalence through his materialist analysis of the mode of production. As Callinicos (1989,172) notes:

Marx’s greater optimism about the scope for human emancipation rested on his deeper historical understanding of the transitory nature of the social structures that have shaped our existence for the past few millennia.

Replacing capitalism with socialism creates the possibility for the further development of the productive forces along ecologically sustainable lines, rather than according to the narrow capitalist focus on profitability.

Understanding the “social structures that have shaped our existence” is central to an analysis of eco-degradation resulting from state property in the West, “actually existing socialism” in the Eastern Bloc and capitalist industrialisation in the Third World. A materialist analysis not only supplies Marxists with a “defence” against the Green critiques but also enables a “counter-attack”. I claim that an eco-friendly Marxist account of such degradation actually represents an *advance* over the Green critique. Greens are certainly correct to point out the environmentally degrading character of

the three historical phenomena. But simply pointing them out does not tell us much about why such degradation occurs or what can be done about it. Green attempts at explaining these processes are usually grounded in the concepts critiqued in chapters two and three - that is, they usually emphasise “industrialist ideology” and so on. The Marxist criticisms I have advanced of state property in the East and West and the capitalist industrialisation of the Third World, however, outline a *materialist* explanation of why such phenomena are environmentally degrading. Hence they indicate solutions that will contribute to the construction of a society that allows for long-term, sustainable planning.

The most important consequence of the rejection of Marx’s materialist focus on the relations of production is that it leads to a disregard of the proletariat as an agent that can bring about an ecologically sustainable society. Instead, Greens substitute movements like the unemployed, communes or Green political parties. These movements cannot really challenge the central power structures of capitalist society, and sometimes even get sucked right into those structures. Commitment to the *idea* of an egalitarian and sustainable society falls far short of the necessary strategy for overthrowing the anti-ecological and oppressive structures of capitalist society. The organised proletariat does have that power because it constitutes one half of the central relation of production under capitalism.

An eco-friendly Marxism therefore needs to be based on a “strong” conception of agency, as opposed to the “weak” pluralist conception championed by many Greens. By advancing a strong conception of agency, I do not insist that only one social grouping suffers from the consequences of ecological degradation. But I do maintain that only one grouping is really positioned to challenge and overthrow the capitalist economic system.

Communists organised among the proletariat should suggest tactical alliances over concrete issues with all manner of organisations, including those alternative agencies discussed in chapter five. But that does not negate labour playing the *central* transformative role in the struggle for a society in which key decisions are made according to long-term ecological sustainability rather than the short-term demands of capitalist economics.

6.3 Some Outstanding Issues

Although I have defended the broad parameters of an eco-friendly Marxist response to a number of core Green critiques, that does not mean I claim to have all the answers to the debate “in my back pocket”. A number of problems inevitably remain unresolved. Before concluding, then, it is necessary to indicate some of the key questions which require further elaboration in the struggle for an eco-friendly socialism.

In the philosophy chapter I critiqued Commoner’s law of “nature knows best”, maintaining that “any man-made change to an ecosystem will be detrimental to that ecosystem”. Although I acknowledged that this “law” is true on one level, I argued that it fails to provide any practical and coherent basis for human interaction with nature. I maintain that the thrust of my response is correct, but it does leave a number of specific questions still wide open for discussion. My *broad* response does not give any indication as to where we should draw limits in deciding exactly how to answer particular *concrete* questions. For example, consider the case of applying anthropocentric ethical concerns in terms of the issue of unnecessary cruelty to animals. Deciding exactly what we think about animal ethics in farming or scientific research is a concrete question and my broad defence of anthropocentrism leaves many such concrete questions unanswered. While

the diversity of human interactions with nature makes it impossible to construct any strict manifesto regarding what is and is not allowed - as ecocentrics are inclined to do - a socialist anthropocentrism would benefit by the formulation of some broad principles in this area even if they are only to be used as guidelines. The anthropocentric reasons I advanced for not engaging in eco-degradation are clearly a start but more work in this area would be useful.

Another area in which I have concerns involves issues dealing with the natural limitations on social development. In the history chapter, I argued that the international overthrow of capitalism would end the combined and uneven development of the Third World. The extension of a socialist economy from the metropolitan centers to these super-exploited regions would facilitate improvements in the quality of life for those in the Third World in a way that imperialist capitalism simply cannot. However, in the philosophy chapter I argued in favour of a society/nature dialectic and criticised those perspectives which dismiss any natural limitations on social development. I think these two arguments come together to pose important questions regarding global economic development under socialism and its potential conflict with natural limitations. Namely, does the planet have the natural resources to bring standards of living in the Third World up to the level of the First World, and then go on to make further improvements for both?

My limited knowledge of the hard science behind many ecological issues contributes to doubts I have regarding the possibilities of a sustainable socialist industrialisation of the Third World leading to standards of living reaching those in the First World. My own tentative position is that substantially improving the quality of life in the Third World is possible

with the current population of five or six billion. But this is further complicated by the total human population increasing rapidly every year. The longer we wait for a transition to socialism, the harder the task will become. However, rather than trying to merely assert whether or not sustainable socialist industrialisation is possible, I hold that scientific research is needed on the *potential* natural limits of the planet - rather than the socially imposed limits of capitalism - before any firm conclusions can be reached.

A further difficulty arises with chapter three's argument regarding eco-degradation, reductionism and the transition to socialism. I noted that transforming the productive forces utilised by capitalism into an ecologically sustainable basis for socialism would be a lengthy and difficult process. But implementing a more eco-friendly approach to production is *only one* task to be faced by a new socialist society. Other issues, such as military defence against potential imperialist attack, also need to be taken into consideration. The multiplicity of issues to be dealt with by a newly socialist society makes the transition to ecological sustainability *even* more difficult than chapter three suggests.

This qualification is relevant to the chapter four's discussion of the rise of Stalinist bureaucracy. Much of the Soviet Union's severely ecologically degrading industry was first built under conditions of encirclement by hostile capitalist powers. Rapid industrialisation was implemented by the Soviet authorities, without any thought for ecological concerns, to increase their defence capabilities against potential attack from the West. This suggests, however, that even if the Soviet Union had been democratically controlled by an eco-friendly populace then matters of ecological sustainability may still have received a low priority. Difficult decisions

about the choice between ecological sustainability and an industrialisation so rapid that it results in ecological degradation will need to be made by any new socialist society, whether it operates along lines of Stalinist commandism, Trotskyism, council communism, anarchism, syndicalism or any other socialist variant. Preserving pristine lakes and sustainable forestry, for example, will seem a low priority to *any* form of socialist government if the failure to industrialise rapidly will result in imperialist armies reconquering the country. It would therefore be wrong to simplistically assert that if the USSR had not been bureaucratised then much of the eco-degradation would not have occurred. Problems regarding the limits to sustainability in transitional socialist societies is clearly another area in which more work is needed.

The discussion on agency also leaves an important question requiring further elaboration. In chapter five, I noted that the established union movement's lack of concern regarding environmental issues led Greens to conclude that it is a redundant force in fighting for progressive ecological change. This in turn led Greens to search for alternative agencies to fight for a sustainable future, none of which possess the social power to genuinely do so. I argued that the labour movement needs to incorporate demands for a sustainable future as a part of a revolutionary political program directed at overthrowing the capitalist system as a whole. But integrating ecological demands into the broader program of the union movement will not be an easy task. Any eco-friendly Marxist organisation will necessarily start out small and as such will have little influence over the broader labour movement. This will doubtless result in situations wherein it will be forced to choose between ecological concerns and labour issues.

In "normal" labour struggle, that is, struggle between workers and bosses,

the struggle is between two camps. There will come a time in most reformist strike action when the workers are worn out and are ready to go back to work or the bosses are worn out and are prepared to give in. Usually it is a combination of the two. A small revolutionary caucus thus has to acknowledge that some sort of settlement needs to be reached between the two opposing camps and that the workers will need to figure out exactly what it is they are prepared to give up. A revolutionary caucus could agree to a settlement provided a majority of workers did so and hope to gather its forces so that at a later date the struggle can be taken further.

But in the case of many struggles with an environmental dimension there will be *three* opposing camps - capital, labour and environmentalists. Unlike struggles between two camps, a struggle between three camps would precariously place an eco-friendly Marxist organisation. For example, there may be a company which wants to log species-diverse native forests at poor rates of labour, a union that wants better pay and more jobs and an environmental movement that wants the logging stopped. In chapter five I gave some indication as to how an eco-friendly Marxist caucus might attempt to deal with this situation. It could insist that the deforestation of native trees ceases and demand thirty hours work for forty hours pay to soak up unemployment. This would mean that timber workers can find work elsewhere and not be compelled to fell native timbers and could be a springboard to turn the struggle into a struggle against capitalism itself.

However, when a revolutionary movement is small it cannot expect its ideas to win the support of the mass of workers and environmentalists on the first day of struggle. Coming to a settlement in this type of situation will have many difficulties. If a revolutionary caucus draws too close to one of the two sides fighting the company, it risks losing the support of the other.

Hence it must be acknowledged that building eco-friendly communist groupings in the unions will be an arduous task and that in the struggle for a sustainable socialist future there will often be no easy answers.

My chapter on agency also did not take up the issue of the precise form that an eco-friendly socialist movement will take. A number of movements have emerged in opposition to reformist social democracy's approach to capitalism. There are groupings who call themselves Trotskyist, council communist, syndicalist, democratic socialist, anarcho-communist and a variety of others. I have not attempted to engage in a study of these various currents and indicate which, if any, are most capable of formulating a proletarian approach to eco-degradation based on the principles I advance in chapter five. Such a survey would make for interesting future study.

6.4 Conclusion

The issue of ecological degradation is now widely recognised as an important issue. The Green movement that has emerged over the past three decades deserves most of the credit for this development. But the Greens have done more than just draw our attention to environmental issues, they have also tried to formulate a broader theoretical understanding of the relationship of those issues to society at large. In doing so, most have openly rejected a Marxist approach to eco-degradation. What I have tried to demonstrate in this thesis is that there are a number of serious flaws in many core concepts developed by Greens. I have further argued that it is possible to construct an eco-friendly Marxism that can radically combat the degradation of our planet by the irrational system of capitalism and that such an approach represents an advance over many core concepts developed by Greens.

This thesis advances three tenets which are central to the construction of theory that enable us to properly combat eco-degradation. The first is an adherence to a socialist anthropocentric philosophy rooted in an understanding of the dialectical relationship between society and nature. The second is a socio-analysis of eco-degradation based on the mode of production concept and a preparedness to further develop that concept in response to new and changing historical circumstances. The third is the understanding that the mode of production concept “is inextricably bound up with the practical objective of proletarian revolution, serving to specify the material conditions of such a revolution” (Callinicos:1983,47). An analysis of modes of production is therefore central in identifying an *agent* that can effect a fundamental re-arrangement of the productive forces used by society. This re-arrangement can only be achieved by a transformation of the social relationships that govern production under capitalist society. Changing these property relations is thus far more important than “rearranging the deckchairs on the Titanic”, to cite the Green analogy given by Dobson (1995) in chapter three. A revolutionary labour movement is the force that can mend the gaping hole in the hull before the ship takes us to the bottom for good.

Bibliography

Abercrombie, N. et al, 1988, *The Penguin Dictionary of Sociology*, Penguin Books, London

Athanasiou, T., 1996, *Divided Planet: the Ecology of Rich and Poor*, Little, Brown and Company, Boston

Bahro, R., 1982, *Socialism and Survival*, Heretic Books, London

Bahro, R., 1986, *Building the Green Movement*, Heretic Books, London

Balbus, I., 1982, *Marxism and Domination: a Neo-Hegelian, Feminist, Psycho-analytical Theory of Sexual, Political, and Technological Liberation*, Princeton University Press, New Jersey

Benton, T. (Ed.), 1996a, *The Greening of Marxism*, Guilford Press, New York

Benton, T., 1996b, "Introduction to Part Three", in Benton, T. (Ed.), *The Greening of Marxism*, Guilford Press, New York

Benton, T., 1996c, "Introduction to Part Four", in Benton, T. (Ed.), *The Greening of Marxism*, Guilford Press, New York

Blackie, D., 1990, *Environment in Crisis: The Socialist Answer*, Socialist Workers Party, London

Boggs, C., 1986, *Social Movements and Political Power: Emerging Forms of Radicalism in the West*, Temple University Press, Philadelphia

Bookchin, M., 1980, *Towards an Ecological Society*, Black Rose Books, Montreal

Bookchin, M., 1986, *The Modern Crisis*, New Society, Philadelphia

Bookchin, M., and D. Foreman, 1991, *Defending the Earth: A Dialogue Between Murray Bookchin and Dave Foreman*, South End Press, Boston

Bottomore, T. (Ed.), 1983, *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts

- Bryant, R., and Bailey, S., 1997, *Third World Political Ecology*, Routledge, London
- Callinicos, A., 1983, *Marxism and Philosophy*, Clarendon Press, Oxford
- Callinicos, A., 1987, *Making History*, Polity Press, Cambridge
- Callinicos, A., 1989, *Against Post-Modernism*, Polity Press, Cambridge
- Callinicos, A., 1991, *The Revenge of History*, Polity Press, Cambridge
- Callinicos, A., 1995, *Theories and Narratives*, Polity Press, Cambridge
- Capra, F., 1983, *The Turning Point: Science, Society and Rising Culture*, Fontana, London
- Catton, W. and Dunlap, R., 1978, "Environmental Sociology: A New Paradigm", *The American Sociologist*, Vol. 13, pp.41-9
- Churchill, W., and J. Wall, 1988, *Agents of Repression: The FBI's secret Wars Against the Black Panther Party and the American Indian Movement*, South End Press, Boston
- Clark, J., 1984, *The Anarchist Moment: Reflections on Culture, Nature and Power*, Black Rose, Montreal
- Clark, J., 1989, "Marx's Inorganic Body", *Environmental Ethics*, No.11, pp.243-258
- Commoner, B., 1972, *The Closing Circle*, Bantam, New York
- Commoner, B., 1990, *Making Peace with the Planet*, Pantheon, New York
- Die Grunen, 1983, *The Programme of the German Green Party*, Heretic Books, London
- Dobson, A., 1995, *Green Political Thought*, Routledge, London
- Earth First!, 1993, "Has the Deforestation of Sarawak Destroyed a Cure for AIDS?" *Earth First!*, June 21, p.28
- Eckersley, R., 1988, "Green Politics: A Practice in Search of a Theory", *Alternatives*, No.15, pp.52-61

- Eckersley, R., 1992, *Environmentalism and Political Theory: Toward an Ecocentric Approach*, UCL Press, London
- Ely, J., 1986, "Marxism and Green Politics in West Germany", *Thesis Eleven*, No.13, pp.22-38
- Encel, S., 1990, "Reflections on a Visit to Mondragon", *Bulletin of the International Communal Studies Association*, No.8, pp.4-6
- Engels, F., 1969, *The Condition of the Working Class in England*, Granada, London
- Engels, F., 1987a, "Dialectics of Nature" in Karl Marx and Frederick Engels, *Collected works Vol.25*, Lawrence and Wishart, London
- Engels, F., 1987b, "Anti-Duhring" in Karl Marx and Frederick Engels, *Collected Works Vol.25*, Lawrence and Wishart, London
- Ensensberger, H., 1974, "A Critique of Political Ecology", in *New Left Review*, No.84, pp.3-32
- Feenberg, A., 1979, "Beyond the Politics of Survival", in *Theory and Society*, No.7, pp.319-361
- Feenberg, A., 1990, "The Critical Theory of Technology". *Capitalism, Nature, Socialism*, No.5, pp. 17-45
- Fetscher, I., 1983, "Ecology" in Bottomore, T. (Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Fine, B., 1983a, "Commodity Fetishism" in Bottomore, T. (Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Fine, B., 1983b, "Exchange" in Bottomore, T. (Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Fox, W., 1990, *Towards a Transpersonal Ecology: Developing New Foundations for Environmentalism*, Shambala Press, Boston
- Frankel, B., 1987, *The Post-Industrial Utopians*, Polity Press, Oxford
- Fry, C., 1975, "Marxism and Ecology", *Ecologist*, Vol.6, No.9, 328-32

- Godfrey-Smith, W., 1979, "The Value of Wilderness", *Environmental Ethics*, Vol.1, pp.309-319
- Gore, A., 1992, *Earth in the Balance: Ecology and the Human Spirit*, Houghton Mifflin, Boston
- Gorz, A., 1985, *Paths to Paradise/On the Liberation from Work*, Pluto, London
- Green, E., 1990, *Ecology and Perestroika*, American Committee on U.S.-Soviet Relations, Washington
- Grundmann, R., 1991a, "The Ecological Challenge to Marxism", in *New Left Review*, No.187, pp.103-120
- Grundmann, R., 1991b, *Marxism and Ecology*, Clarendon Press, Oxford
- Gupta, A., and M. Asher, 1998, *Environment and the Developing World*, John Wiley and Sons, Chichester
- Hahn, J., 1988, *Soviet Grassroots: Citizen Participation in Local Soviet Government*, Princeton University Press, Princeton
- Harris, L., 1983, "Forces and Relations of Production" in Bottomore, T. (Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Harvey, D., 1993, "The Nature of Environment: The Dialectics of Social and Environmental Change", in Miliband, R., and L.Panitch (Eds.), *Real Problems, False Solutions: Socialist Register*, Merlin Press, London
- Harvey, D., 1996, *Justice, Nature and the Geography of Difference*, Blackwell Publishers, Oxford
- Heywood, A., 1992, *Political Ideologies: An Introduction*, Macmillan, London
- Himmelweit, S., 1983, "Surplus Value" in Bottomore, T. (Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Hodgman, D., 1954, *Soviet Industrial Production*, Harvard University Press, Massachusetts

- Irvine, S. & Ponton, A., 1988, *A Green Manifesto: Policies for a Green Future*, Macdonald Optima, London
- Jessop, B., 1990, *State Theory: Putting Capitalist States in their Place*, Pennsylvania State University Press, Pennsylvania
- Kolinsky, E., 1984, *Parties and Opposition in West Germany*, Croom Helm, London
- Lee, D., 1980, "On the Marxian View of the Relationship Between Man and Nature", *Environmental Ethic*, No.2, pp.3-16
- Lovelock, J., 1979, *Gaia*, University Press, Oxford
- Lowy, M., 1981, *The Politics of Combined and Uneven Development: The Theory of Permanent Revolution*, Verso, London
- Lenin, V., 1975, "State and Revolution" in V. Lenin, *Selected Works in Three Volumes: Volume 2*, Progress Publishers, Moscow
- MacAndrew, C., and C. Sien, 1979, *Developing Countries and the Environment: The South-East Asian Experience*, McGraw-Hill, New York
- McDermott, K., and J. Agnew, 1996, *The Comintern: A History of International Communism from Lenin to Stalin*, Macmillan, London
- McLaughlin, A., 1990, "Ecology, Capitalism and Socialism", in *Socialism and Democracy*, No.10, pp. 69-102
- Mao Tse-Tung, 1967, "On Coalition Government", in *Selected Works of Mao Tse-Tung: Volume Three*, Foreign Languages Press, Peking
- Marx, K., 1973, *Grundrisse*, Penguin Books, Middlesex
- Marx, K., 1977, *Capital: Volume One*, Vintage Books, New York
- Marx, K., and F. Engels, 1977, *The German Ideology (Part One)*, Lawrence and Wishart, London
- Marx, K., and F. Engels, 1992, *The Communist Manifesto*, Oxford University Press, Oxford
- Mill, J.S., 1979, *Principles of Political Economy*, Edited by Donald Winch, Penguin, Harmondsworth

- Morrison, D., 1973, "The Environmental Movement: Conflict Dynamics", *Journal of Voluntary Action Research*, Vol.2, pp74-85
- Morrow, F., 1974, *Revolution and Counter-Revolution in Spain*, Pathfinder Press, New York
- Noble, D., 1984, *Forces of Production: A Social History of Industrial Automation*, Knopf, New York
- Norton, B., 1991, *Towards Unity Among Environmentalists*, Oxford University Press, Oxford
- Noske, B., 1989, *Humans and Other Animals*, Pluto, London
- O'Connor, J., 1993, "Political Economy of Ecology of Capitalism and Socialism", *Capitalism, Nature, Socialism*, No.3, pp.93-106
- O'Connor, J., 1998, *Natural Causes: Essays in Ecological Marxism*, Guilford Press, New York
- O'Riordan, T., 1981, *Environmentalism*, Pion, London
- Parlato, V., and G. Ricoveri, 1996, "The Second Contradiction in the Italian Experience" in Benton, T., *The Greening of Marxism*, Guilford Press, New York
- Parsons, H., 1978, *Marx and Engels on Ecology*, Greenwood, Westport
- Passmore, J., 1974, *Man's Responsibility for Nature*, Duckworth, London
- Pearce, F., 1989, *Turning Up the Heat*, Bodley Head, London
- Pepper, D., 1991, *Communes and the Green Vision: Counterculture, Lifestyle and the New Age*, Green Print, London
- Pepper, D., 1993a, "Anthropocentrism, Humanism and Eco-Socialism: A Blueprint for the Survival of Ecological Politics" in *Environmental Politics*, Vol.2, No.3, pp. 429-452
- Pepper, D., 1993b, *Eco-Socialism: From Deep Ecology to Social Justice*, Routledge, London

- Pepper, D., 1996, *Modern Environmentalism: An Introduction*, Routledge, London
- Petrovic, G., 1983a, "Alienation" in Bottomore, T.(Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Petrovic, G., 1983b, "Reification" in Bottomore, T.(Ed.), *A Dictionary of Marxist Thought*, Harvard University Press, Massachusetts
- Peterson, D., 1993, *Troubled Lands: The Legacy of Soviet Environmental Destruction*, Westview Press, Boulder
- Pickering, K., and L. Owen, 1994, *An Introduction to Global Environmental Issues*, Routledge, London
- Porritt, J., 1984, *Seeing Green*, Blackwell, Oxford
- Porritt, J. & Winner, D., 1988, *The Coming of the Greens*, Fontana, London
- Rainbow, S., 1993, *Green Politics*, Oxford University Press, Auckland
- Rolston, H., 1983, "Are Values in Nature Subjective or Objective", in Elliot, R., and A. Gare, *Environmental Philosophy*, Open University Press, Milton Keynes
- Rostow, W., 1960, *The Stages of Economic Growth: A Non-Communist Manifesto*, Cambridge University Press, Cambridge
- Routley, V., 1981, "On Karl Marx as an Environmental Hero", in *Environmental Ethics*, No.3, pp237-244
- Sale, K., 1985, *Dwellers in the Land: The Bioregional Vision*, Sierra Club Books, San Francisco
- Sayer, D., 1987, *The Violence of Abstraction*, Basil Blackwell, Oxford
- Schnaiberg, A., and K. Gould, 1994, *Environment and Society: The Enduring Conflict*, St. Martins Press, New York
- Simons, M., 1988, "The Red and the Green: Socialists and the Ecology Movement" in *International Socialism*, Vol.2, No.37, pp.3-13
- Skirbekk, G., 1996, "Marxism and Ecology", in Benton, T., (ed), *The Greening of Marxism*, Guilford Press, New York

Soper, K., 1996, "Greening Prometheus: Marxism and Ecology" in Benton, T., *The Greening of Marxism*, Guilford Press, New York

Stenson, G., *Karl Kautsky 1854-1938: Marxism in the Classical Years*, University of Pittsburgh Press, Pittsburgh

Spoonley, P., 1987, *The Politics of Nostalgia: Racism and the Extreme Right in New Zealand*, Dunmore Press, Palmerston North

Sutch, W., 1966, *The Quest for Security in New Zealand*, Oxford University Press, Wellington

Toledo, V., 1993, "Modernity and Ecology: The New Planetary Crisis", *Capitalism, Nature, Socialism*, Vol.4, No.4, pp. 31-48

Toledo, V., 1996, "The Ecological Crisis: A Second Contradiction of Capitalism" in Benton, T., *The Greening of Marxism*, Guilford Press, New York

Tolman, C., 1981, "Karl Marx, Alienation, and the Mastery of Nature", *Environmental Ethic*, No.3, pp.63-74

Trotsky, L., 1934, *The History of the Russian Revolution*, Victor Gollancz Ltd, London

Trotsky, L., 1969, "The Permanent Revolution" in *The Permanent Revolution; and Results and Prospects*, Pathfinder Press, New York

Trotsky, L., 1971, "What Next? Vital Questions for the German Proletariat" in G.Breitman (ed.) *The Struggle Against Fascism in Germany*, Pathfinder Press, New York

Trotsky, L., 1972, *The Revolution Betrayed: What is the Soviet Union and Where is it Going?*, Pathfinder Press, New York

Trotsky, L., 1973a, *In Defense of Marxism*, Pathfinder Press, New York

Trotsky, L., 1973b, *The Spanish Revolution, 1931-9*, Pathfinder Press, New York

Trotsky, L., 1974, *Stalinism and Bolshevism: Concerning the Historical and Theoretical Roots of The Fourth International*, New Park Publications, London

- Tucker, M., 1978, *The Marx-Engels Reader*, W.W. Norton and Company, New York
- Vaillancourt, J.G., 1992, "Marxism and Ecology: More Benedictine the Franciscan" in *Capitalism, Nature, Socialism*, Vol.3, No.1, pp.19-35
- Vallely, P., 1985, "How Mengistu Hammered the Peasants", *The Times*, 1 March
- Vogel, S., 1988, "Marx and Alienation from Nature", *Social Theory and Practice*, Vol.14, No.3, 367-88
- Warren, B., 1980, *Imperialism, Pioneer of Capitalism*, New Left Books, London
- Watson, I., 1990, *Fighting Over the Forests*, Sydney, Allen and Unwin
- Watson, R., 1983, "A Critique of Non-Anthropocentric Biocentrism", *Environmental Ethics*, No.3, pp.245-256
- Wylde, A., 1901, *Modern Abyssinia*, Methuen, London