

Green Economics: Putting the Planet and Politics Back into Economics

'it is inherent in the methodology of economics to ignore man's dependence on the natural world'.

E. F. Schumacher

Abstract: Green economics is arising from a study of the economy that takes a philosophical position characterized by a deep respect for nature. It is primarily a system of ideas and principles, rather than a rationally argued intellectual position. Its ideas are powerful and influential on developments in policy and politics, but it is presently less well grounded in the academy. Green economists do not dwell overmuch on introspection and their method is implicit rather than explicit, relying on a grounded, embedded and phenomenological approach and rejecting the scientism and spurious objectivity of neoclassical economics. In this paper I outline four key issues central to a green study of the economy: the need to end economic growth; the importance of equality and questions of the just distribution of resources; the requirement to consider appropriate scale in economic decision-making; and the need to include multiple perspectives in the study of economics.

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1. Introduction

Over the past few years the issue of climate change has moved from a peripheral concern of scientists and environmentalists to being a central issue in global policy-making. This is but one of many indications that our economy is in fundamental conflict with our ecological systems; it was these indications that stimulated the development of a green approach to the economy. Greens have also been concerned about the way an economic system based on competition has led to widening inequalities between rich and poor on a global as well as a local scale, and the inevitable tension and conflict this inequality generates. This is, as I explain in Section 4, intrinsically related to the inability of the economy to stay within ecological limits, and hence the two motivations for the development of green economics are intertwined.

The political response to the most obvious evidence of the confrontation between the neoclassical growth model and the environment was to invite a neoclassical economist to consider the economic consequences of climate change. The Stern Review (2007) took its intellectual framework solely from the neoclassical paradigm which may be argued to have led us into this crisis: Stern himself identifies climate change as the greatest ever example of market failure. Climate change is only one, although clearly the most serious one, of the many environmental crises we are facing. In the discourse of orthodoxy each of these is an independent example of 'market failure', the solution being merely to strengthen property rights and extend the reach of the market, as in proposing carbon trading as a solution to climate change. For a green economist, by contrast,

the market ideology itself is the failure, and beneath and behind that failure lies a deeper failing of our society to recognize and celebrate its place within a living, breathing planetary system.

As a result of the marginalization of heterodox approaches within the university, the bulk of the work that I will report in this paper has been produced outside the academy. However, this does not diminish its importance; on the contrary, it accentuates the importance of rapidly changing the curricula in our universities so that the students we send forth into the world are equipped with the knowledge, skills and sensitivities to become ecologically virtuous citizens. In the economics field this underlines the importance of greater pluralism within economics education (Negru, 2009; Reardon, 2009) so that ecological and green approaches are included within standard economics courses rather than being banished to the margins of environmental studies.

This paper is by way of an introduction to the sub-discipline of green economics, offering a preliminary sketch of its central themes, in Section 4: the need to replace economic growth with ecological balance; the importance of sharing the planet's resources wisely and fairly; the key concern with scale; and the importance of re-introducing multiple perspectives into our consideration of economics. Before I reach this question of the What? of green economics I spend some time considering why this new sub-discipline has grown up (Section 2), and how green economists approach their study (Section 3).

2. Why Green Economics?

It is 36 years since Schumacher published *Small is Beautiful* and 20 years since the establishment of the International Society for Ecological Economics. In that time we have seen an acceleration of species loss, rapidly rising carbon emissions, and the depletion of a range of essential resources. If the evidence of ecological damage were sufficient to change how the economy is structured, we would have expected to see a significant response on the part of policy-makers before now. But the political establishment has been resistant to this change, largely because it includes policy prescriptions which are incompatible with capitalism, primarily the call for an end to economic growth and a move towards the steady-state economy (Cato, 2004a). Thus my first contention is that it is not possible to have a green economics without it including a large measure of political economy.

Porritt summarises the motivation for the development of a distinctively 'green' approach to economics in his central question: 'is capitalism sustainable?': 'In the mainstream political and business discussions about sustainable development, the key question (are capitalism and sustainability mutually exclusive?) goes largely unasked. In fact, it seems to be almost unaskable.' His conclusion is that while 'capitalism as we know it today would . . . appear to be incompatible within anything vaguely resembling sustainability', nonetheless, since it is 'the only game in town', greens should work to assist the adaptation of capitalism into an environmentally friendly form (Porritt, 2005: 86-7; emphasis added). Porritt identifies the key inspiration for green economists: that capitalism as an economic system is driving the ecological crisis. While green economists may debate whether or not they are anti-capitalist (Cato, 2004a), the sort of

capitalism that they are envisaging would not be recognizable in terms of capitalism as it exists today. The critique may range from the more shallow (the five capitals framework: Porritt, 2005: 137-47) to the fundamental (the need for a fundamental reform of the money system: Robertson and Huber, 2000), but the system that all the economists cited in this chapter would accept as sustainable would not be one that today's proponents of capitalism would recognize.

The more academically grounded green economists might take forward this critique to argue that the strength of globalised capitalism in the face of clear evidence of its destructive consequences 'for people and planet' is partly the result of its ideological support based on the hegemonic position of the neoclassical paradigm within the academy (Henderson, 1978). Far from the pluralism which might generate alternative explanations of the economy-environment relationship and potentially alternative solutions, the debate is narrowly framed in terms of market failures and market solutions, with very little space in most university curricula to question whether the market itself may be the source of the problem.

Rather than engage in ideological battles within the peer-review literature, most of the green economists—and much creative and influential work in alternative economics—is taking place outside of conventional academic discourse. Manfred Max-Neef (1992) has referred to his work as being that of a 'barefoot economist' and this phrase helps to encapsulate how green economists think of their work as being about social and economic change locally first, and theorizing and academic debate second. Table 1 lists a number of leading green economists whose work, although influential on academics and on policy-makers, has been produced in the setting of campaign groups or think-tanks rather than in universities.

Table 1. *Green economics flourishes outside the academy*

As well as this work by individuals and pressure groups, green political parties are also leading the debate, which says much for the limitations of contemporary academic discourse. This origin in the world of practical politics and critical political economy also helps to distinguish green economics from ecological economics, which was born in the academy as an offspring of the marriage between economics and ecology. (For an account of the approaches towards the environment-economy tension from a range of perspectives see Cato, 2010.)

To conclude this section on why green economics has emerged, I would suggest that its motivation was the unresponsiveness of academic economics to the ecological crisis. This also helps to explain its emergence in practical form and outside the academy. The limited progress of ecological economics within mainstream economics departments indicates the rigidity of the economics academy and the hegemony of neoclassical approaches within it. With their focus on markets and property rights, academic economists—even those such as Partha Dasgupta and David Pearce who have dedicated their life's work to the environmental issue—have failed to prevent the ecological crisis from intensifying and diversifying. The response of greens has been to build their own economics,

and latterly to move towards including it as one strand of a more pluralist academic discourse.

3. Method or Madness: Ontology, Epistemology and Method in Green Economics

One of the few characteristics that green economists share with neoclassical economists is a fairly universal disdain for the study of methods. Neoclassicals would rather spend their time on theory, having long since reached an agreement that the positivist approach—usually relying on a regression model—is the most efficient way to allow the real world to make an appearance in their ivory towers. Green economists, by contrast, are so embedded in the natural and political worlds that they are also dismissive of, or perhaps oblivious too, the importance of establishing the grounding of the knowledge they are creating. However, in an academic study it is necessary to clear the ground before building the foundations, and in this section I attempt to establish the sorts of epistemological and ontological claims that green economists are implicitly making, and how these influence the way in which they study the economy and the kinds of policies they propose.

Lawson (2007) alerts green economists' attention to the importance of establishing an ontology, since 'the nature of the material studied will always make a difference to how we can and cannot know it' and also states his view of the importance of 'the elaboration of as complete and encompassing as possible a conception of the nature and structure of phenomena of a relevant domain of reality as appears feasible. The aim is to derive a general conception that seems to include all actual developments or features as special configurations.' (Lawson, 2007: 254-5). While the aim of finding such a tidy system of boundaries and methods is appealing, it may not be consistent with the complexity of life as we find it in nature, nor with the fundamental commitment to holism that greens demonstrate, not only in economics but across the disciplines.

Neoclassical economics is not cursed with such untidy doubt, and confidently uses a positivist approach and a mathematical method that is only possible because of the imposition of a range of simplifying assumptions. This perfectly illustrates the conflict between this methodological approach and that of green economics, which is committed to retaining the commitment to complexity that is inherent in the discipline of ecology and in the natural world (Stock, 2009; Meadows, 2009). In the related field of industrial ecology, Allenby (2006) asserts that theorists are working with 'a set of complex and sometimes mutually exclusive ontologies' and that this presents problems for coherent debates especially in fora such as journals and learned societies. I would argue that a similar position exists in the nascent discipline of green economics and would support Allenby's suggestion that any attempt to impose a unified ontological frame would be misguided since 'any single ontological structure that can be explicated is just too simple to capture the complexity of the reality that industrial ecology explores' (Allenby, 2006: 37).

In place of a simplified and clearly bounded area of knowledge which green economics might make its own, green economists seek their certainty through embedding their understanding in natural processes and systems. While

we would be wise to pay heed to Lawson's warning of the importance of avoiding what he calls 'misplaced universalising', I would suggest that there is a powerful tendency amongst greens in various disciplines to engage in a form of essentialism which foregrounds and exalts the 'natural'. In the field of economic development this might best be demonstrated by permaculture, with its principles derived from close observation of nature and its commitment to work with nature in every field of life (Holmgren, 2002). We might liken this reading off of nature's way to an almost transcendental ontology, where rather than human rationality and morality arising from the absolute goodness of God, the mystically incomprehensible complexity of the web of life is evidence of the power and authority of Nature. In this understanding, the role of the researcher or student is one of humble observation rather than theorising or policy-making.

Midgley (1996: 126) interpreting the finding of research carried out by Arne Naess into people's view about the moral importance of the human vis-à-vis other species suggested that they indicate a prevailing view that:

people are not orthodox individualists. . . they feel that they live within a vast whole—nature—which is in some sense the source of all value, and whose workings are quite generally entitled to respect. They do not see this whole as an extra item, or a set of items which they must appraise and evaluate one by one to make sure whether they need them. They see it as the original context which gives sense to their lives . . . From this angle, the burden of proof is not on someone who wants to preserve mahogany trees from extinction. It is on the person who proposes to destroy them.

This perspective is surely closer to that of the ambiguous ontology that green economists are working with than the tidy but reductionist methods of neoclassical economics.

Due to space constraints I can only begin to indicate the direction of travel that a developing of epistemology for green economics might take. Given what was said in the previous section about the need to understand, explain and co-exist with the world without diminishing its complexity, the question of how we might know is a complex one. I have found the work of Michael Carolan useful in drawing attention to the contribution that the philosophers A. N. Whitehead and Maurice Merleau-Ponty might have to offer. What they share is a tendency to favour embedded knowledge. In the case of Whitehead, Carolan (2008: 53) identifies his critique of the role of Western philosophy in 'erecting erroneous divisions—that now appear self-evident, objective, and real—between the perceiver and the perceived, which, in turn, has helped spawn other dichotomies, such as mind/body, self/other, and society/nature'. The Cartesian dualism, that stands in opposition to the holism that underpins green philosophy, is one example of this distinction between the thinker (*cogito*) and the body within which the thinking brain resides (the subject of the *sum*).

In Merleau-Ponty, Carolan finds a solution to this detachment, an identification of the body itself with consciousness and of the co-production of reality through an ongoing relationship between our embodied selves (what he refers to as the 'incarnate cogito': p. 64) and the world we are a part of. Merleau-

Ponty himself developed his concept of ‘embodied subjectivity’ as a direct response to Cartesian dualism. This understanding is supported by Abram, who suggests that, from an ecological perspective, truth is defined by our relationship with nature:

A human community that lives in a mutually beneficial relation with the surrounding earth is a community, we might say, that lives in truth. . . A civilization that relentlessly destroys the living land it inhabits is not well acquainted with truth regardless of how many supposed facts it has amassed regarding the calculable properties of its world. (Abram, 1996: 264)

Drawing directly on the preceding discussion of epistemology we can ascertain that personal experience of nature has a particular weight in debates amongst green economists, in contrast to the disembodied data of the neoclassical economist. In contrast to Galileo’s view that ‘This grand book the universe . . . is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures without which it is humanly impossible to understand a single word of it; without these, one wanders about in a dark labyrinth’ (quoted in Abram, 1996: 32), green economists would seek their truth rather from a direct observation of nature, by taking the permaculturist’s principle of ‘observe and interact’. The green economist would extend Whitehead’s critique of the conventional scientific method—‘Thus the certainties of Science are a delusion. They are hedged around with unexplored limitations’ (Whitehead 1967: 154; quoted in Carolan, 2008: 61)—to the apparent certainties of the neoclassical economist and his regression results.

What guides the green economist is a quest for the production of a shared truth within a community of scholars, while at the same time respecting the wisdom of other species. This is an approach to scholarship that is at once liberating and humble. We cannot aim for total knowledge on the scale of a unified field theory; rather we should find methods that enable the acquisition, analysis and sharing of knowledge. Elsewhere (Cato and Hillier, forthcoming) I have argued that the philosophy of Deleuze may offer a sympathetic framework for the investigation of climate change; his work also seems close to what green economists do in practice. Deleuze explicitly seeks to liberate thought and practice from the oppressive ‘aborescent’ structure of the hierarchy, in much the same way that green economists seek to liberate ourselves from the hegemony of the neoclassical approach to our discipline. His image of the ‘rhizome’ as the pattern for radical change can also match the way in which we work, beneath the surface and out of sight, but with ideas and suggestions for change that then influence policy ,as, for example, the Sustainable Development Commission report *Prosperity without Growth* (Jackson, 2009), which draws on much work produced by green economists during the last few decades.

In contrast to economists who would liken their discipline to a scientific study, green economists embrace the element of affect in their work as an example of Deleuze’s ‘desire’ that makes change possible. Rather than an artificial objectivity, green economics welcomes a diversity of perspectives and is, thus, inherently pluralist. For example Paul Ekins (2000), once the economics speaker

for the UK Green Party, has adopted quantitative methods, while Jonathan Porritt, a former Chair of the Ecology Party, works in a more descriptive vein to share the insights of permaculture and industrial ecology with the business community. Rather than a neutral, politically uncommitted approach to study, green economists are unafraid to nail their political colours to the mast and to make their study one of political economy rather than economic science. Green economics is therefore perhaps more a form of engaged study than a conventional academic discipline. Its ideas are influencing and changing the world, and finding their way into university curricula, but those originating and propagating these ideas are as likely to be found on allotments and as part of community groups as they are in universities.

4. Principles to Guide a Healthy Relationship with Nature

Section 2 explored why green economists feel there is the need for a significant paradigm shift in the way we interact with the planet, as the provider of all resources. In the limited space available I will draw attention to four of the central understandings of this developing sub-discipline, beginning with a principle that it shares with ecological economics: that we must create a balanced relationship with the ecosystem on which we depend. To this first concept of Balance are added, in subsequent sections, those of Equity, Scale and Diversity, as the four central principles of a green approach to economics.

Ecological Balance rather than Economic Growth

The lesson of ecology is that, as species of the planet, we are all connected in a web of life. Ecology is defined as ‘the scientific study of the interrelationships among organisms and between organisms, and between them and all aspects, living and non-living, of their environment’ (Allaby, 1998). Green economics shares with ecological economics the basic principle that we cannot satisfy our own desire for resources without considering the consequences of what we are doing for the rest of our eco-system. Following logically from this, and taking into account what I argued in the earlier section about the primacy of nature in green thinking, a second principle for a green economist is the importance of adapting to the environment we find ourselves in, rather than trying to force the environment to adapt to us. (Ekins, 1992; Porritt, 2005)

The figure illustrates the differing views of the relationship between economy, society and environment taken by neoclassical and green economists. From the perspective of a green economist, the formal economy is embedded within a system of social and economic structures: formal economic activity is only one aspect of economic activity (Robertson, 1989). This contrasts sharply with the neoclassical view of the predominance of markets and their laws as analogous to the physical laws of the universe, far beyond the influence of the human community. For a green economist, the interacting social and economic systems of human society are enclosed within the planet, which is itself a closed system. It is when we fail to recognise these complex interreactions that the natural balance that exists in nature is disrupted and we create problems such as

desertification or pathogenic pollution (Cato, 2009). This is in contrast to mainstream economics, which sees the environment as a possession of the economy, to be exploited at will.

Figure 1. *Contrasting views of the relationship between economy, society and environment: neoclassical economics and green economics*

It is this need to recognize planetary limits that has made the ending of economic growth a key tenet of green economics. The classic green critique of the concept of growth is *The Growth Illusion* (1992), where Douthwaite makes the point that, just as ecology suggests, excessive growth creates feedback systems that undermine the quality of life that we were seeking to enhance and is hence self-defeating. In a later paper he argues that there are different kinds of growth and lists conditions that economic activity should meet for it to be considered 'good growth'. These include economic activity that does not rely on increased use of energy or raw materials and transport, and has a neutral impact on waste production and pollution (Douthwaite, 1999). This discussion initiated by green economists has been taken up by policy-makers as the 'well-being agenda', and continues to have an impact on environmental policy in reports such as one recently recommending 'prosperity without growth' (Jackson, 2009).

Ekins (2000) contextualises such concerns and distinguishes between four types of economic growth, as summarised in Table 2. We can see clearly from the figure that, historically, the economy has relied heavily on Type-1 growth, demanding more from the planet to generate higher levels of consumption and return on investment. In the debate over climate change the emphasis has shifted to Type 2 growth, relying on ingenuity to overcome the negative consequences of increased production and consumption, which is sometimes referred to as 'decoupling'. Ekins is keen to point out the sceptical response from many to this suggestion that technology can guarantee business as usual, emphasising again the difficulty of circumventing the second law of thermodynamics. Type 3 growth, in human welfare, is often more apparent than real, since many of the hidden consequences of such well-being only emerge distantly in time or space, and the category also takes no account of possible rebound effects.¹ Type 4 growth is the type that green economists have no argument with since it represents the natural ability of the planet to regenerate itself. Again, remembering the importance of living in balance with nature, such growth can be beneficial, for example the use of biomass to generate fuels, when the carbon dioxide produced in burning can be reabsorbed by the next round of tree growth.

Table 2. *Ekins's typology of economic growth and consequent environmental problems*

Sharing Rather than Exploiting Resources

Economics is often defined as the study of how scarce resources are or should be allocated (Black, 1997). The recognition of the limitations of the earth's resources

necessarily accentuates the issue of how those limited resources are shared, so one would expect concerns with equity to feature prominently in green economics. Neoclassical economists are as clear as green economists about this relationship:

‘Henry Wallich, a former governor of the Federal Reserve and professor of economics at Yale, said: “Growth is a substitute for equality of income. So long as there is growth there is hope, and that makes large income differentials tolerable.” But this relation holds both ways round. It is not simply that growth is a substitute for equality, it is that greater equality makes growth much less necessary. It is a precondition for a steady-state economy.’ (Wilkinson and Pickett, 2009: 221-2).

However, their Promethean confidence in the ability of economic systems to expand, relying on human ingenuity and as yet undiscovered sources of resources and waste sinks means that this relationship is unproblematic within their perspective.

At the level of policy, concern has also been expressed by both green and environmental economists about the possible regressive consequences of a range of green taxes (see Turner *et al.*, 1996; Brannlund, and Gren, 1999); and regimes devised and tested before the introduction of such taxes to ensure that they would be fiscally advantageous to those in the lowest income groups (Dresner and Ekins, 2004). One study found that ‘poor households already pay substantially more per unit of energy than rich households’ and proposed a scheme that ‘would effectively abolish fuel poverty, could achieve carbon savings of four million tonnes of carbon (mtC) over ten years and save households nearly £20 billion net present value’ (Dresner and Ekins, 2004). Other green policies, particularly the introduction of a Citizens’ Income, would clearly operate to support the incomes of the poorest in society (Lord, 2003; Gamble and Prabhakar, 2005).

It is clear that green economics exists in opposition to neoliberal economics and finds itself comfortably at home in the setting of a heterodox economics special issue. It has more trouble in defining its position in relation to capitalism. In spite of its implicit rejection of the central tenets of a capitalist economy—namely the exploitation of people and resources to maximize profit and the extraction of surplus value—many greens feel uncomfortable with identifying with an explicitly anti-capitalist position, preferring slogans such as that of Die Grüne: ‘Not right, not left, but ahead’ (for more detail on this uncomfortable relationship see Cato, 2004a).

However, the work of ecofeminists such as Mellor (1997) and Plumwood has accentuated the importance of a complete rethinking of economic structures as necessary to the protection of the planet from economic exploitation, and has had a strong impact on the theoretical development of green economics. Plumwood writes that ‘a real deep ecology must rethink private property’ (2002: 217), and that ‘Inequality, whether inside the nation or out of it, is a major sponsor of ecological irrationality and remoteness’. The situation is complicated by the fact that a green lifestyle, including such items as hybrid vehicles and organic food,

is significantly more expensive than a conventional lifestyle. For many greens their practical response to the environmental crisis that they recognize around them has been to buy a green lifestyle off the shelf, what Plumwood (2002) refers to as 'deep pocket ecology' because it is only available to those with the income to support this choice. Those with larger bank balances can also insulate themselves from the worst effects 'a range of environmental ills': 'some considerable degree of redistribution and remoteness from consequences is possible along lines of social privilege' (Plumwood, 2002: 85).

As a corollary to this argument about the ability to use money to remove oneself from the consequences of environmental crisis other green economists draw attention to the fact that a good lifestyle is itself a concept that can be unpacked. Cato (2004b) links the definition of relative poverty and the harmful cycle of economic growth, suggesting that advertising is used to create a range of new 'needs' which the economy must then expand to fulfill, thus depriving us of the ability to set our own standard as to what our requirements are. Although this may increase our material wherewithal, it adds to the extent of our unmet needs, both individually and as a society, and increases dissatisfaction. We are more dissatisfied than our primitive ancestors, whose societies have been described as the original affluent societies and whose approach to production and exchange is described by Sahlins (1972:2) in terms of 'stone age economics' and a 'Zen road to affluence' according to which 'human material wants are finite and few, and technical means unchanging but on the whole adequate. Adopting the Zen strategy, a people can enjoy an unparalleled material plenty—with a low standard of living.' These ideas have recently been taken into the policy agenda through the consideration of finding a way towards 'prosperity without growth' and learning the art of 'flourishing within limits' (Jackson, 2009).

Size Matters

The concern with scale is evident in green economics, whose most famous adage is probably 'small is beautiful' (Schumacher, 1973). However, this can be somewhat misleading, implying that green economists have a slavish adherence to smaller units, when really the preference is for appropriate scale, i.e. organizing economic activity at the level which is best suited to serve the needs of producers, consumers and the environment. According to Schumacher, 'For every activity there is a certain appropriate scale, and the more active and intimate the activity, the smaller the number of people that can take part' (Schumacher, 1973: 64). Green economists have taken the ideas of Schumacher forward to argue that, while a market economy may generate higher levels of output it will not operate at the appropriate scale to exist in balance with its environment. This understanding is diametrically opposed to the neoclassical concept of 'economies of scale', which according to green political economists must be subordinated to considerations of environmental impact: 'Economies of scale may increase the scale of the economy beyond that which the environment can sustainably support' (Barry, 1999).

The concern with scale has developed into a call for localization of the economy, as in the work of Colin Hines (2000). Within the green paradigm the

priority for economic policy is the strengthening of the local economy for purposes of improving security of supply, to reduce the environmental impact of trade-related transport, and to reinforce the communities for which economic life provides a foundation. Woodin and Lucas (2004: 68-9) sum this up as follows:

Economic localization is the antithesis to economic globalization. This involves a better-your-neighbour supportive internationalism where the flow of ideas, technologies, information, culture, money and goods has, as its end goal, the rebuilding of truly sustainable national and local economies worldwide. Its emphasis is not on competition for the cheapest, but on cooperation for the best.

Building on the work of Hines (2000), Woodin and Lucas (2004) propose four building blocks of economic localization: localizing money and constraining the power of global financial capital; controlling the TNCs through policies such as 'site here to sell here' and import and export duties; replacing the WTO with a General Agreement on Sustainable Trade; and backing this up with a system of environmental taxation to reinternalise the externalities caused by global trade. More radical ideas along similar lines include the concept of 'trade subsidiarity' (Cato, 2009), meaning that goods are produced and supplied from as close to the consumer as reasonably possible, and bioregionalism, where resources are drawn from a local eco-system defined by the geographical environment (Sale, 2000). Curtis describes such a system of interrelated but independent local economies as 'eco-localism' and argues that it includes: 'local currency systems, food co-ops, micro-enterprise, farmers' markets, permaculture, community supported agriculture (CSA) farms, car sharing schemes, barter systems, co-housing and eco-villages, mutual aid, home-based production, community corporations and banks, and localist business alliances' (2003: 83).

Widening the Circle

'Economics for people and planet' is a catch-phrase which green economists frequently use to describe how what they propose for the world's economy is different. It is really shorthand for expressing a need to move beyond the narrow neoclassical view in which many perspectives are never considered by a system of economics that privileges white, wealthy, western men (see the photograph of the Bretton Woods decision-makers). The way the global economy is organised can be theorised as a neo-colonial system whereby the resources and people of most of the planet are harnessed to improve the living standards of the minority who live in the privileged West. Mies has extended the notion of colonialism to include all those whose labour is exploited, including homeworkers, peasants, women, and the planet itself (Mies, 1999; see also her iceberg model of unsustainable economics, reproduced as Figure 2).

Photo 1. The Bretton Woods negotiations: a narrow range of perspectives

Green economics encourages the contribution of women to a study which has in the past been dominated by men, and the proportion of women

contributing to the study of green economics is noticeably higher than that of other schools of economic thought. Ecofeminists have assigned to women a particular role in achieving a new understanding of the economy that can ensure sustainability (Salleh, 2009). According to this view, their particular insight is due to the nature of their work, meaning that they are naturally more embedded in the environment and less able to suffer what Plumwood (2002) calls 'remoteness' and which she considers the conceptual failing underpinning the destructive economy.

Figure 2. *Maria Mies's iceberg model of the global economy*

According to Mellor (2006):

What is important about women's work and relevant to green economics is that it is embodied and embedded. Women's work is embodied because it is concerned with the human body and its basic needs. Broadly it is the maintenance and sustenance of the human body through the cycle of the day and the cycle of life (birth to death), in sickness and in health. It is mainly caring work: child care, sick care, aged care, animal care, community care (volunteering, relationship building), family care (listening, cuddling, sexual nurturing, esteem building). Women's work is embedded because it is, of necessity, local and communal, centred around the home. In subsistence economies it is embedded in the local ecosystem. (Mellor, 2006)

It is clear that the vast majority of the world's people who live in what is often termed the 'Third World' or the 'developing world' are also neglected by heterodox economics and their perspective should be brought into the discussion of economics. Neoclassical economics has claimed to provide a route out of poverty through export-led growth, but green economists challenge the effectiveness of this strategy, as well as the planet's ability to sustain the destructive levels of pollution it entails. One majority-world analyst offers an explanation for the failing confidence in this model:

the lack of tangible benefits to most developing countries from opening their economies . . . the economic losses and social dislocation that are being caused to many developing countries by rapid financial and trade liberalization; the growing inequalities of wealth and opportunities arising from globalization; and the perception that environmental, social and cultural problems have been made worse by the workings of the global free-market economy. (Khor, 2001: 1)

On the one hand, the rights of people living in the global South to an equal share in the planet's resources should be respected, but in addition their approach to economics, especially that from indigenous societies which have managed to flourish in balance with their environments for thousands of years, has much to recommend it and much we may learn from (Thekaekara, 2004). A native American of the Xikano Xiximeka tribe from Arizona wrote the following about indigenous people's understanding of land:

All land is sacred. It is their bible. Indigenous people do not see the land as a commodity which be sold or bought. They do not see themselves as possessors but as guardians of the land. A fundamental difference between the indigenous concept of land and the western idea is that indigenous peoples belong to the land rather than the land belonging to them. (Zapata and Schielman, 1999: 236).

This sort of perspective on land, resources, and other species guarantees them a better protection than the 'exploitation of resources' that neoclassical economists theorise without a pang of responsibility, or worse still their commodification via an extension of property rights that comes with the label 'eco-system services' (Sullivan, 2008).

We can also learn from the subsistence perspective that still informs the way of life of most of the world's people. Mies and Shiva (1993) argue that the liberalization of markets is a deliberate policy to reduce subsistence and force the poor of the world into the capitalist labour-market, 'The displacement of small farmers is a deliberate policy of GATT'. The policy has had a serious and negative impact on levels of hunger: 'A conservative estimate of the impact of so-called liberalization on food consumption indicates that in India, by the year 2000, there will be 5.6 per cent more hungry people than would have been the case if free trade in agriculture was not introduced. Free trade will lead to a 26.2 per cent reduction in human consumption of agricultural products.'

Beyond human concerns, green economics calls for widening the circle further, to include future generations of human beings, and the other species that also inhabit the earth. Much as women have been liberated and allowed to enjoy full rights, many now argue that the same should be true of animals. (Singer, 1981). It was the Brundtland Commission (UNWCED, 1989) that first brought the issue of intergenerational equity to public attention with its definition of sustainability that recognised the need to balance our needs with those of future generations. This has been argued for strongly by environmental (see Pearce *et al.* 1989) as well as green economists, and is clearly inherent in green economics.

5. Conclusion

Any attempt to capture the breadth of a new sub-discipline in the space of an academic paper is sure to miss its mark. It is also inevitable that an attempt to characterize any sub-field of economics will create an artificial narrative of unity when in fact the inhabitants of the field can be discussed in terms of their differences as well as their similarities. With a field as new as 'green economics' its first claim must be one to existence. In this paper I have made the case for the independent existence of green economics. Although it shares its motivation and many basic ideas (especially that of planetary limits and the importance of the entropy law) with its cousin ecological economics, as I hope has become clear, it has an inherent commitment to political economy that is frequently missing from ecological economics. It is also quite distinct in terms of its ontology, epistemology and methods, and perhaps most importantly, it is a practical, hands-on response to economic problems, rather than a theoretical or academic study.

I have identified four central issues that characterize a green approach to the economy. Its pluralism is inherent, and is evidenced by the repeated call for a wider range of perspectives on economic problems than those that currently dominate academic and policy discussions. This leads naturally to a commitment to global equity and to giving equal importance to the needs of the majority world to decisions about the allocation of global resources. Equity is also a concern at the domestic level, a concern that arises necessarily from the closing of the planetary frontier. Schumacher's catchphrase 'small is beautiful' is influential, but has been developed into a call for strengthened local economies and an opposition to the globalization and displacement that have typified economic 'progress' during the past century. And finally, the call for a steady-state economy and the replacement of the growth dynamic that is central to the capitalist economy is a fundamental tenet of green economics.

More than forty years ago, Kenneth Boulding (1966:1) wrote that 'We are now in the middle of a long process of transition in the nature of the image which man has of himself and his environment.' Green economists seek to map that transition in the sphere of provisioning using landmarks such as the absolute requirement to live in harmony with our ecosystem and achieve a balance between the needs of rich people in the West and those who live in the South, who have yet to be born, and who are members of different species.

Notes

1. Rebound effects occur when an environmentally-friendly technological improvement reduces prices and thereby increases consumption, as in the example of low-energy washing-machines being used more frequently than less efficient models (see Herring and Sorrell, 2009).

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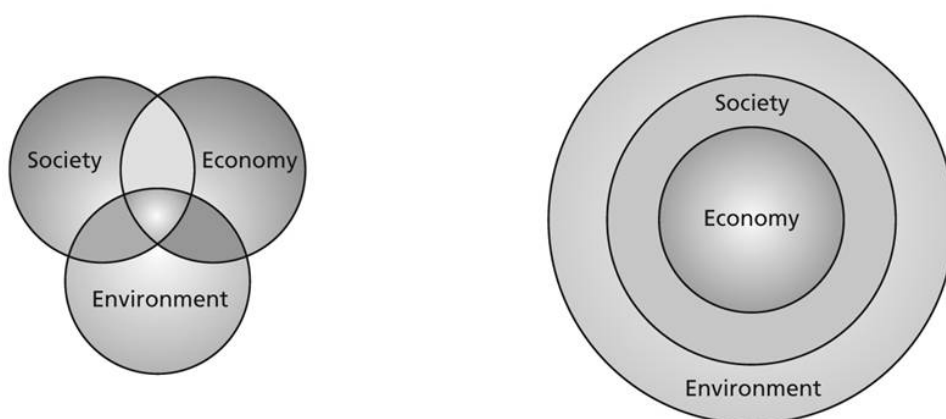
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Table 1. *Green economics flourishes outside the academy*

Economist	Subject area	Setting
James Robertson	Land Value Tax, ecotaxes, monetary reform	Independent author, founder of New Economics Foundation; The Other Economic Summit
Richard Douthwaite	Challenging of economic growth; economics of climate change; energy and economics	FEASTA, Dublin
Frances Hutchinson	Social credit, citizens income, land tax	Social Crediter; independent author
Colin Hines	Trade, localization, climate change	Ex-Greenpeace, now independent author
Jonathan Porritt	Environmentally-friendly capitalism	Forum for the Future; Sustainable Development Commission
Nicholas Hildyard and Larry Lohman	Financial derivatives and carbon trading	The Corner House
Hazel Henderson	Localisation, 'the love economy'	Ethical Markets; independent author
David Fleming	Convivial economy; tradable emissions quotas (TEQs)	Lean Economy Connection

Figure 1. *Contrasting views of the relationship between economy, society and environment: neoclassical economics and green economics*



The conventional economic view of the interaction between economy, society and environment

The green economics paradigm: economy operates within social relationships and the whole of society is embedded within the natural world

Table 2. *Ekins's typology of economic growth and consequent environmental problems*

Type of growth	Environmental problem	Green economists' verdict
Growth of the economy's biophysical throughput (Type 1)	Increases entropy manifest as growth in waste and pollution	Detrimental
Growth of production (Type 2)	Tends to rely on type I growth or technological advance	Suspicion
Growth of economic welfare (Type 3)	Can be limited by negative environmental externalities and unequal distribution	Approval in theory; scepticism in practice
Environmental growth through increase in ecological capital (regeneration) (Type 4)	None, because nature manages to circumvent the second law of thermodynamics and decrease biospheric entropy	Approval, subject to genuine respect for natural cycles and biodiversity

Photo 1. The Bretton Woods negotiations: a narrow range of perspectives



Figure 2. Maria Mies's iceberg model of the global economy

