

## Where Did it All Start?

Get Greek melodies from a piano? As well get beauty from economics!

Ivan Illich

Greens are practical people, focused on creating change and haunted by the sense of urgency that the environmental crisis brings. As an academic who is also involved in the green movement I share a prevalent impatience with theorising about what we are doing, rather than just doing it. However, it is crucially important that we know where we are coming from, that we understand our intellectual heritage, that—in the words of the Transition Towns movement—we respect the ancestors. This chapter is a distressingly brief attempt to provide a preliminary grounding in the lore and learning that informs green economics. It is one of the distinguishing features of this new way of approaching economics that space must be found in a book like this to include this perspective. However, that space is limited and in this chapter, more than any other, I am aware of my inability to do justice to the vast territory that could be included. I hope readers can approach the chapter as a series of pointers towards further reading for those who are inclined to delve more deeply into the historical underpinning of green economics.

The chapter ranges widely, finding possible sources of inspiration in spiritual teachings and the wisdom of ancient Greece as well as in the writing of pioneering green economists. I make no claim that today's green economists are aware of the intellectual traditions included, and very few make explicit reference to them. However, ours is an eclectic and diverse discipline; the following sections present some of the authors and philosophies we draw on. First I consider our intellectual roots going back to ancient Greek philosophy and then the contribution of various spiritual traditions and of socialism broadly defined. We then move on to consider some of the seminal figures: the pioneering green economists who have built the foundations for the discipline. The final section considers briefly the possibilities for change within academic economics.

### **[a]Intellectual roots: Greeks, socialists and anarchists**

All intellectual movements wish to trace their origins back to the ancient Greeks, who seem to have been the first to think of everything, and green economics is no exception. Aristotle drew a distinction between the economy focused on social and natural resources (*oikonomia*), and an economy where consideration of property, wealth and currency dominated (*chrematistics*). Although our word economics derives from 'oikonomia', as a result of our disconnection from the land, and especially with the expansion of capitalism, we have drifted away from a focus on managing resources and towards a sole focus on money and property. It can be argued that, as a result of the mortgaging of land and the creation of money primarily through debt (see Chapter 5), the chrematistics economy has all but displaced the household economy. According to John Barry 'It is clear that what sustainable development requires is integrating the "management of the household" with the "economy of the household": that is, integrating economy and ecology.'

Artistotelian philosophy also encompassed a consideration of trade, which was considered 'natural' so long as it provided for sufficiency needs and that the prices of exchange were 'just', i.e. based on the time invested the production, rather than a surplus value for gain by middle men. Aristotle acknowledged the key green principle of a limit to human desires, balanced against a cornucopian perception of the bounty of nature:

Aristotle rejected the idea that human needs are boundless and that there is a scarcity of subsistence in nature. If there was a *perception* of scarcity, it must be attributed to a misconception equating the ‘good life’ with a desire for greater abundance of physical goods and enjoyments.

Consistent with the convivial account of human well-being discussed in later chapters, Aristotle identified civic virtues and communal leisure pursuits as the source of ‘*eudaimonia*’—the good, or satisfying, life.

The Greek philosophers Plato and Aristotle again have something to offer in terms of an ethical theory that helps to underpin green approaches to economics. The moral system known as ‘virtue ethics’ is derived from their philosophical focus on what is required of the individual in order to live a good life—morality then consists in the habits and behaviours that lead to this good life. In the environmental sphere this can be framed in terms of ecological virtue, the demonstration and practice of which can enable a good life lived comfortably within one’s ecosystem. The antithesis is that behaving in an environmentally destructive way is likely to lead to a lack of virtue, and a less fulfilling existence. In political terms—and perhaps in economic terms also—it is our responsibility as citizens to show ‘ecological virtue’: ‘the practice of “ecological virtues” is constitutive of this green conception of citizenship’. Extending Aristotle’s arguments about what is required to live a ‘good life’, green social theorists have also argued ‘that an appreciation of the natural world is a pre-requisite of living the fully human life’.

The problem with any consideration of the socialist intellectual tradition is that it has been ideologically hijacked. Many, if not most, green economists would find much of value in the Marxist critique of economics and we tend not to be queasy about making reference to his work to support our case. However, as the discussions of autonomy and scale in other chapters will make clear, nothing could be further from the green vision for a sustainable economy than the centralised, bureaucratic, materialist and overweening state that practical applications of Marxist philosophy tend to produce. Some powerful contributions to green economics have been produced by writers such as Brian Milani, Mary Mellor and Derek Wall, who would identify themselves as socialists. While Wall highlights green opposition to accumulation—a key concern of Marxist economists—Milani focuses instead on the importance of maintaining an awareness of the rights of workers as well as those of the planet.

However, this is just one of the socialist traditions. Green economics would find more affinity with the lost tradition of socialism represented by figures such as William Morris and Robert Owen (the so-called utopian socialists) and the related economic thinking of the anarchist Petr Kropotkin. Their idealisation of small-scale, self-sufficient human communities, based on craft work, has influenced green economists’ attitudes towards localisation (see Chapter 9) and work in general (see Chapter 4). This was revived later by the guild socialists, whose work has been rediscovered and championed by Frances Hutchinson. It also expresses itself through the emphasis on co-operative business and the social economy, which is discussed in Chapter 6.

### **[a]Spiritual Dimensions**

It may be unexpected in a book on economics to include a discussion of spirituality, but a spiritual grounding, broadly defined, has been important to many if not most of those who have built the discipline that is the focus for this book. A colleague reported a remark by Teddy Goldsmith that every recipient of the Right Livelihood Award (the alternative, green Nobel Prize) had had some sort of spiritual faith which helped to

ground and guide their work. For those who eschew this sort of thinking, it may be sufficient to consider the ethical dimension of green economics, but many of the words green economists use in their writing—words like reverence and awe—come from a realm of human existence which is neglected in our predominantly materialist culture. For many green economists this is a source we need to draw on when reorienting our economic life. In this section I cover very briefly the links between green economics and some spiritual traditions.

~~—Insert Photo 2.1. ‘Chief Seattle: the original green economist?’—near here~~

The most well recognised spiritual grounding is probably the worship of the Earth as practised by indigenous peoples and our own ancestors. The following quotation that is attributed to Chief Seattle, who is also well-loved by greens for having pointed out that we cannot eat money, sums up this perspective:

***This Earth is precious. Teach your children what we taught our children. The Earth is our Mother. The Earth does not belong to man; man belongs to the Earth. Every part of this Earth is sacred because everything is connected, like the blood which unites one body. Trees, air, water, animals, grass, Earth are like many fine strands that weave the web of life; men are merely a strand of it. Respect your Mother because whatever befalls the Earth soon befalls the sons of the Earth.***

This type of relationship with the earth, which is still the source of everything that allows us to live, was intrinsic to human life for thousands, perhaps millions, of years. It is still predominant in many areas of the world today, interestingly some of them that have been least successful in the more exploitative type of economy that flourishes in the early 21<sup>st</sup> century. Perhaps the most pungent attempt to bring this sort of thinking into modern economic debates has been achieved by US writer Kirkpatrick Sale. His bioregionalism is an attempt to link ecological science with the spiritual reverence for the earth mother. Such a philosophy requires us to become ‘dwellers in the land’.

One of the guiding figures of our discipline, E. F. Schumacher, wrote that ‘It is inherent in the methodology of economics to ignore man’s dependence on the natural world’. Schumacher also famously wrote an essay called ‘Buddhist Economics’ in which he considered various economic questions from the perspective of a Western academic economist compared with a Buddhist economist. His argument was built on the fact that ‘right livelihood’ is one of the requirements of the Noble Eightfold Path Buddhists are required to follow. What, he asked, would this imply in terms of how we organise our economy? As just one example, he extrapolates from Buddhist teachings to suggest the role of work within the economy: ‘to give man a chance to utilise and develop his faculties; to enable him to overcome his ego-centredness by joining with other people in a common task; and to bring forth the goods and services needed for a becoming existence.’ The centrality in Buddhist teaching of the striving to sever one’s attachment to the material world has serious implications for the existing economy, and can support the move towards a more convivial economy—‘more fun; less stuff’—that sustainability will require.

The Quakers play an immanent, although often invisible, role in the green movement (Kenneth Boulding, whose contribution is discussed later, was a Quaker). The Quaker way of acceptance and deep respect seems to offer a spiritual basis for a revision of the way we deal with our planet. Quakers are also untroubled by the need for significant political upheaval and have the useful phrase of ‘speaking truth to power’ to describe the need for acting according to one’s conscience in the world. The faith is not heavily textually based, the most useful reference being the Advice and Queries that have

been produced by Quakers themselves over the centuries. Of these, no. 42 is most pertinent to the theme of this book:

**We do not own the world, and its riches are not ours to dispose of at will. Show a loving consideration for all creatures, and seek to maintain the beauty and variety of the world. Work to ensure that our increasing power over nature is used responsibly, with reverence for life. Rejoice in the splendour of God's continuing creation.**

Just as many in the anti-poverty campaign have drawn inspiration from a Christian faith, so Jesus's mission to the poor (as later revived by the Liberation Theologians of Latin America) has provided a spiritual grounding for some green economists. Ideas from the wider judaeo-Christian tradition—particularly that of the jubilee, the reallocation of land and forgiveness of debt every fifty years to prevent the concentration of wealth—have also been important. In the UK context, the Christian Council for Monetary Justice has been a prominent campaign body for monetary reform, as Christian groups have been at the forefront of campaigns for fair trade.

Other green economists have drawn inspiration from an eclectic range of spiritual sources. Derek Wall, for example, has used the Rastafarian principle of *ital*, a kind of sacred injunction to consume locally. Those calling for monetary reform have sought support in the prohibition of *riba*, the Koranic injunction against usury or the charging of interest on loaned money. Meanwhile, the Celtic pagan religion has inspired others with its rejection of the dualism of mind-body or male-female, its embedding of human life within nature, and its celebration of the annual cycle of the year. While this may appear something of a spiritual ragbag, that is in a sense unsurprising if we take seriously the suggestion that we are moving into a new phase of human development that seeks to better balance the material and immaterial, reacting against the strongly Sensate (in Sorokin's terms) phase of the Enlightenment.

### **[a]Key Figures and Ideas**

#### **[b] James Robertson**

James Robertson was born in 1928 and brought up in Yorkshire and Scotland; he studied at Balliol College Oxford. He worked on decolonization policy for the British government and then in the Cabinet Office and the Ministry of Defence. In the 1970s he worked as a consultant while developing his green economics ideas. In 1978 he published *The Sane Alternative* with his partner, Alison Pritchard, and in 1983 they helped found The Other Economic Summit and later the New Economics Foundation, a think-tank that has been fundamental in developing the new economics and giving it a sound empirical base. He has been a fellow at Green College, Oxford and worked with the Oxford Centre for Environment, Ethics and Society, as well as working for the World Health Organisation, the European Commission and the OECD. His work is influenced by the rise of feminist and ecological consciousness and by the work particularly of Schumacher and Illich.

| —Photo [2.14.2](#). James Robertson with his wife and co-worker Alison Pritchard—

Unlike the other green economists mentioned in this section Robertson cannot be identified with any particular aspect of economics: his contribution has been to provide a wide-ranging vision of a 'sane alternative' to the existing economic paradigm.

In the book of that title he argued for a holistic approach to change rather than a focus on any particular crisis:

First, our approach was comprehensive . . . I suggested that, by applying principles of ‘enable and conserve’ to almost every sphere of human life and organisation, we could create interactive support for benign change between them all. Instead of combined system collapse, we could achieve combined system renewal.

In 1985 he published *Future Work*, which argues for a revolution in the organization of work with more focus on self-provisioning and what Robertson calls ‘ownwork’ (this aspect of his writing is discussed in more detail in Chapter 4). *Future Wealth*, published in 1990, has been called by the author ‘one of my more important books’. It is another holistic and visionary book, dealing with the need for rethinking our economic paradigm, a new approach to work, localization, global poverty, trade and global finance, the role of corporations, money and taxation. Apart from work, the key aspect of Robertson’s study has been money—the manner of its creation and the impact that has on the economy as a whole. In *Creating New Money* (published with Joseph Huber in 2000), Robertson argues that the creation of money, and the value gained from this, should revert from commercial banks to governments:

The proposed method of creating new money will be simpler, more straightforward and easier to understand than the present one. It will be markedly beneficial from the viewpoint of public spending, borrowing and taxation. Subject to one proviso, it will almost certainly provide a more effective and practical instrument of monetary control. The proviso is that the creation of new money by commercial banks shall stop.

Robertson’s other major contribution is in the area of fiscal policy, where he has argued for the taxation of commons, primarily land, and a range of green taxes, enabling the reduction of taxes on incomes and the funding of a citizens’ income scheme.

This book is dedicated to James Robertson who I have called ‘the grandfather of green economics’. His contribution is monumental and indispensable. He is probably the only contributor to green economics who is referred to in every chapter of the book and his contribution to all the themes covered is insightful, authoritative and compassionate.

## **[b] Schumacher on scale and appropriateness**

Ernst Friedrich (E. F.) Schumacher was born in Germany in 1911, studied at Oxford and then, to avoid Nazism in his homeland, returned to the UK, where he continued his studies under J. M. Keynes and wrote academic and journalistic articles. Following the end of the war he worked with the British government to rebuild the German economy and was then an economist and statistician for the British Coal Board. Hence he began as a fairly conventional, although brilliant, economist, and through his career developed a growing concern for the environment and the profligate way in which the economy uses resources. His development of ‘Buddhist economics’ following a consultancy visit to Burma in 1955 has been discussed in an earlier section.

[—Insert Photo 2.1. ‘Fritz’ Schumacher near here—](#)

Leopold Kohr—whose work is less well-known but arguably just as important as a basis for green economics and certainly highly influential on his student Schumacher—wrote that Schumacher’s central message was that ‘Instead of concentrating on mending the sides of the overgrown hull of the ship, he suggested: get out of it. Save yourself in a

fleet of small lifeboats.’ Schumacher’s work had two themes of crucial importance to green economics: the importance of scale, to which his attitude is summed up in the mantra of environmentalists, Small is Beautiful; and the value of intermediate technology. Like Kohr, Schumacher questioned the concepts of ‘progress’ and ‘development’ so prevalent amongst economists and particularly the onward march of organizations and nations into larger units. For him there was an appropriate scale, which related to the geography and culture of a locality. This type of organization makes possible the choice of an appropriate level of technology, meeting human needs without ever-more sophisticated machinery, using up increasing quantities of energy and resources.

Schumacher challenged some of the most powerful assumptions of economic theory:

**He saw the need to provide his colleagues and audiences with philosophical maps related to actual reality. In the process, his life was one of constant challenges and questioning, including most of the basic assumption on which Western economic and academic theory had been based. What are the ‘laws’ that govern the ‘science’ of economics? What is the true value of money? What is the relationship between time and money? What is the real worth of work? And of development?’**

This questioning of the motivation and organization of the economy was fundamental and extremely radical for its time; its influence on later green thinking on economics has been profound. In many ways he set the agenda for the sub-discipline of green economics, as identified by Diana Schumacher in her introduction to a posthumous collection of essays:

**fundamental prerequisites for sustainability—namely the transcendence of moral values; the equality and dignity of all people in the eyes of God; the integrity of human work as the resource base of any economy; the value of local communities; and the need for decentralised decision-making and self-sufficiency wherever practicable.**

### **[b] Kenneth Boulding and limits to growth**

Kenneth Boulding was born in Liverpool, UK in 1910 and studied at Oxford, Harvard and Chicago; he taught economics at Michigan and Boulder, Colorado. He began his career in fairly conventional economic vein, and achieved an impressive academic reputation for publishing and teaching. However, after the war he changed tack, attempting to fuse biology and economics in the book *Evolutionary Economics* published in 1944. This was the first attempt to synthesise the scientific aspects of economics and ecology and thus an important precursor to green economics. Boulding argued for a more interdisciplinary approach and also for the importance of the normative aspects that economics often sidelines. Amongst green economists Boulding is perhaps most well-known for his comment that ‘Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist’.

—Photo [2.31.3](#). Kenneth Boulding—

As an early proponent of the need to move towards a non-growth or ‘steady state’ economy, Boulding used the contrasted images of the cowboy and the spaceman to explore our attitude to our environment. The cowboy, who finds his apotheosis in American capitalism, is always pushing outwards, expanding his available resources,

finding ever new frontiers to exploit. The spaceman, by contrast, is forced to recognize the limits of what he has brought on his small ship:

**Earth has become a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, man must find his place in a cyclical ecological system which is capable of continuous reproduction of materials even though it cannot escape having inputs of energy.**

This image provides a stark illustration of two of the key principles of green economics: the importance of the circular flow of materials around the planet and the need to handle wastes positively. It is an interesting ironic development of this contrast that, with the NASA project to put a human being on the surface of Mars now itself using up a large quantity of earth's resources, the cowboy will meet the astronaut at the final frontier: space.

Boulding was also critical of the straight-line thinking inherent in mainstream economics; this he described as 'a linear economy . . . which extracts fossil fuels and ores at one end and transforms them into commodities and ultimately into waste products which are spewed out the other end into pollutable reservoirs'. This way of organising an economy was, he declared, 'inherently suicidal'. His alternative was a prototype for the spaceship earth which he thought he had identified in the traditional village economy of Asia. Rather than a linear form this had a circularity built in—'a high-level cyclical economy'. This was written nearly forty years ago and laid the groundwork for the closed-loop economy and the principles of permaculture which will be discussed in the next chapter.

### **[b] Nicholas Georgescu-Roegen and the entropy law**

Nicholas Georgescu-Roegen was a Romanian born in 1906 who studied mathematical statistics in Bucharest and at the Sorbonne before moving on to Harvard to learn economics from Schumpeter. Following the communist takeover of post-war Romania he settled permanently in the USA, with an academic job at Vanderbilt University. As a teacher he had an important influence on a generation of economists, of whom the most important for the purposes of this book is probably Herman Daly, whose writings on the steady-state economy will be discussed in the following chapter. Georgescu-Roegen made various important theoretical contributions to mainstream economics but from the 1960s onwards turned his attention towards the interaction of the economy with the environment.

Georgescu-Roegen shares with Boulding an interest in an evolutionary approach to economic theory and in the creative potential of combining traditional science disciplines with economics. In Georgescu-Roegen's case his focus was physics and his application of the second law of thermodynamics to economic processes was a revolutionary step in terms of green economics. This law states that 'In nature there is a constant tendency for order to turn into disorder', or that there is an inherent tendency in the universe towards chaos. As Boulding put it, there is 'no way of turning pots back into clay' and this has important implications for the use of energy within an economy. Although it seems shocking to us that economists should be so neglectful in their consideration of energy, Georgescu-Roegen points out that economics as a discipline developed before the theory of thermodynamics had been devised: economics began in around 1770 but thermodynamics had its origins some 50 years later.

The importance of the second law of thermodynamics *to the economy* now underpins the thinking of those whose objective is a sustainable economy:

Trying to buck the laws of thermodynamics is not sensible . . . The second law of thermodynamics . . . is sometimes called the law of entropy—entropy being a measure of the amount of energy no longer capable of further conversions to perform useful work. Entropy within any closed system inevitably increases over time; it is only the fact that our system is open to incoming solar radiation that prevents an inexorable decline into chaos.

It is important to note that the law applies *in a closed system* (meaning that no energy enters or leaves) and that Georgescu-Roegen's argument therefore assumes the Nature is such a closed system—a precursor to the 'limits to growth' thesis that will be discussed in the following chapter. The implications of this for the economy are wide-ranging: energy can be used once only and while materials can be re-used and recycled this is a process which faces diminishing returns. The law also implies that creating order through human activity must lead to disorder elsewhere and this process is accumulative and increasingly chaotic.

### **[b] Hazel Henderson and the ~~ieing model of the~~love economy**

Hazel Henderson was born in Bristol, UK in 1933 and has worked ~~as an academic economist~~ at the University of California as well as advising the US government and being elected a member of the British Royal ~~Society~~Academy of Arts. She styles herself as an 'evolutionary economist and futurist' and has been a stringent critic of existing economic theories which she dismisses as 'flat-earth economics': 'The word is out that economics, never a science, has always been politics in disguise. I have explored how the economics profession grew to dominate public policy and trump so many other academic disciplines and values in our daily lives.'

Her *magnum opus* is *The Politics of the Solar Age: Alternatives to Economics*, first published in 1988. The book perfectly exemplifies the way in which green economics unites concerns for sustainability and social justice, indeed how these are inextricably joined:

An economy based on renewable resources carefully managed for sustained yield and long-term productivity of all its resources can provide useful, satisfying work and richly rewarding life-styles for all its participants. However, it simply cannot provide support for enormous pyramided capital structures and huge overheads, large pay differentials, windfall returns on investments, and capital gains to investors.

### **—Insert Figure 2.1. 'Hazel Henderson's illustration of the love economy' near here—**

Her illustration of the global economy as a cake (see Figure 2.1), of which conventional economic measures ignore the most significant aspects, exemplifies her approach to economics. GDP is a narrow, economic, patriarchal measure of the economy that fails to take into account the most important aspects of productive life, such as caring and the environment itself. Henderson has engaged with the key topics of concern to green economists: land ownership, ethical consumption, money creation and control, the absence of freedom in the 'free market', the need for smaller scale, revitalised local economies, and she has also worked tirelessly to create viable alternatives in her own local community.

### **[b] Richard Douthwaite and the growth illusion**

Richard Douthwaite was born in Yorkshire, UK in 1942 and studied at Leeds and Essex universities. He worked as a government economist in the West Indies before moving to Ireland to become a freelance economist and writer with a special interest in climate and energy issues and local economic development. Taking forward the concern of both Boulding and Schumacher with the growth addiction of capitalist economics, Douthwaite anatomised its negative consequences in his first book, *The Growth Illusion: How Economic Growth Enriched the Few, Impoverished the Many and Endangered the Planet*, which was published in 1992. He followed this up in 1996 with a more practical reflection of his experiences with attempts to build stronger local economies, especially in Ireland. *Short Circuit* (1996) gives examples of currency, banking, energy and food production systems which communities can use to make themselves less dependent on an increasingly unstable world economy.

—Insert Photo 2.4. Richard Douthwaite near here—

Unlike most of the other green economists included in this chapter, Douthwaite has also engaged in political activity—both through lobbying work by the Dublin-based FEASTA organisation he co-founded, and by working with the Irish Green Party. His focus in recent years has been particularly on energy and climate change issues including the editing of *Before the Wells Run Dry* (2003), a study of the transition to renewable energy in the light of climate change and oil and gas depletion and the development of the Cap and Share model for limiting CO<sub>2</sub> emissions and sharing the value from their trade on an equal basis. Douthwaite also acted as economic adviser to the Global Commons Institute (London) from 1993 to 2005 during which time GCI developed the Contraction and Convergence approach to dealing with greenhouse gas emissions. Figure 2.2 illustrates the 'lockstep' relationship between economic growth and carbon dioxide emissions that is the impetus behind Richard's work and that of the Global Commons Institute.

—Insert Figure 2.2. 'The relationship between economic activity and carbon dioxide emissions' near here—

## **[b] Learning from the South**

It is noticeable that, in spite of my contention in Chapter 1 that green economics is keen to bring multiple perspective to bear on the analysis of our economy, the economists profiled here have been predominately white, Western males. The contribution of ecofeminists to the development of green economics is covered in the following chapter, but it is important to note here the contribution of economists and other thinking from the global South, as well as the influence of life in the colonial and post-colonial countries on many green economists, including some of those included by name in this chapter.

Manfred Max Neef is a Chilean self-styled 'barefoot economist', who links poverty and ecological devastation with the inappropriateness of neoclassical models of economic development. He describes his work, based on his study of poor communities in Latin America, as 'economics as if people matter'. He was awarded the Right Livelihood Award in 1983 for his work on 'human scale development'. Martin Khor, the Malaysian economist, has been influential in critiquing the present global trade system and in proposing the World Social Forum as a means of re-empowering the poor world. The insights of the Liberation Theologians of Latin America have also been important in development the concept of the 'solidarity economy' as has Paulo Freire's 'pedagogy of the oppressed' in developing a teaching style for green economics.

India has provided much inspiration for green economists, primarily based in the work of Gandhi and his followers. Gandhi's concept of *Swadeshi* or self-reliance and his

idealisation of the life of the rural community in India has supported the development of ideas about re-localising the economy. Vandana Shiva has indicated the value of India's traditional Vedic beliefs in building a response to the ecological devastation wrought by global capitalism. Writing with Maria Mies, she, like Gandhi before her, confirms the point made earlier about the need for a spiritual grounding to economics:

**'Mati Devata, Dharam Devata—The soil is our Goddess; it is our religion'.** These are the words of adivasi women of the Save Gandmardham movement as they embraced the earth while being dragged away by the police from the blockade sites in the Gandmardhan hills in Orissa. Dhanmati, a 70-year-old woman of the movement had said, 'We will sacrifice our lives, but not Gandmardhan. We want to save this hill which gives us all we need.'

### **[a]Challenging Economics in the Academy**

The quotation from Hazel Henderson given earlier indicates the scepticism green economists have towards the academic discipline of economics—elsewhere she dismisses its contribution as 'three hundred years of snake oil' and calls for 'defrocking the economics priesthood'. Although the green economists profiled in this chapter have studied within the academy there is a historical drift away from the universities in the development of economic responses to the environmental crisis. This is unsurprising as the university is hostile territory for any except those economists wedded to the neoclassical paradigm and equipped with an advanced degree in mathematics. Economics journals are stuffed with mathematical models and peer reviewers are likely to reject papers that omit mathematical formulate, no matter how urgent the topics they address. Because of this power structure that many critics have likened to a pseudo-theological control of the discipline, many important insights that have contributed to the development of green economics—as outlined in the chapter that follow—have emerged either in other academic disciplines, such as geography, development studies, politics, and so on, or outside the academic world altogether. Green economists are as likely to work for pressure groups or as freelance consultants as in universities.

For Henderson this political control of economics is no accident. The discipline has been used as a fig-leaf to excuse and justify a political project to bring about an unequal sharing of the earth's resources. As described by Henderson this procedure was calculated and well-funded, including such masterstrokes as the creation of an apparent 'Nobel Prize' for economics, which is in fact a prize funded by the Bank of Sweden and invented in 1968 to attempt to improve the status of the discipline. In his introduction to *Small is Beautiful* Theodore Roszak quotes Professor Erik Lundberg, of the Nobel Committee, justifying the new award thus: 'Economic science is developed increasingly in the direction of a mathematical specification and a statistical quantification of economic contexts . . . These techniques have proved successful and have left far behind the vague, more literary type of economics'. This has become a self-fulfilling prophecy as the list of prize-winners over the past forty years attests. Even former winners of the prize are rebelling, as in Joseph Stiglitz's statement that '[Economics as taught] in America's graduate schools . . . bears testimony to a triumph of ideology over science'.

The hegemony of the neoclassical paradigm within the university has been challenged in recent years. There has been a call for a paradigm shift in the methods and approach of economics, an abandonment of what has been called 'physics envy'—the desire for accurate measurement and objectivity in a discipline whose subject-matter is primarily that unmanageable species the human being. The Association of Heterodox Economists supports those who champion alternative ways of considering the economy, and green economics is a recognised strand within the Association. A more robust

challenge has come from the Post-Autistic Economics network, an organisation set up by a group of students from the Sorbonne in Paris who were tired of the narrow nature of the economics they were being taught. While there has been criticism of their use of a medical term they have justified the name on the basis that it describes the closed-minded and self-absorbed nature of contemporary economics. The following example illustrates this incestuousness:

A glance through the 2003 edition of Penguin's Dictionary of Economics illustrates the accentuated continuation of this tiny all-powerful closed shop. The dictionary has entries for 29 living economists. Of these, 26, 89.7 percent, are from the US or have had all or the most important part of their careers there. Think about that: 26 for one country and 3 for the rest of world. And that is in a British publication by a team of three British authors. And what are the affiliations of the 26 US economists? 100% of them have either taught at or received their PhD from one of the Big Eight [US universities].

So there are rumblings in the academy and this is an interesting time to work as an economist. Green economics is one response—a positive proposition for a study of the sharing of resources based in a respect for the planet and a commitment to the equal treatment of human beings and the species we share this planet with. Unlike economics as it has been practised over the past sixty years or so this is an approach which does not limit itself to the management of the economy but asks searching questions about power structures as well.