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Key Concepts and Issues in Policy and Practice

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Environment, ethics and public health

The climate change dilemma

Anthony Kessel and Carolyn Stephens

In this chapter we explore the relationship between the environment, ethics and public health (Kessel, 2006). To do this we take the theme of climate change and public health (with climate representing the natural environment), and we examine the relationship between our climatic environment and public health ethics. We illustrate the changing relationship between public health and the environment, and examine the place of ethics in the relationship between the environment and public health. In particular, we critique the status of utilitarianism as a moral foundation for public health. The importance of environmental justice, environmental philosophy and development ethics to the future of public health are discussed.

Background: definitions and methods

As an introduction to this chapter it is important to refer to some difficulties around definitions, and also to briefly describe the methods used. To philosophers definitions are often key to their debates. For one philosopher in particular, Ludwig Wittgenstein, issues to do with definitions are at the root of all philosophical problems (Elliott, 2001). A look at the words used in the title of this chapter readily illustrates the challenges of writing on this topic. To Socrates, ethics was about how we ought to live, and why. More contemporarily, however, ethics has been divided into normative ethics (systematic examination of organized theories) and speculative (or reflective) ethics (Honer *et al.*, 2006). In this chapter we look at moral theories as well as adopting a more speculative approach.

The environment, likewise, has different meanings to different people in different contexts, all of which are relevant to health debates. There is the physical (sometimes called the built) environment, for instance buildings and urban infrastructure. The social environment, in contrast, tends to refer to demographic factors in populations (age structures, ethnic groups, inequalities), and the natural environment usually relates to aspects such as air, water, green spaces (for example, parks, forests), and biodiversity. In this chapter we are largely discussing the natural environment. Within the public health literature the term 'environmental health' has tellingly been used – as will be returned to later in this chapter – largely to capture the impacts of man-made contamination of the environment on human health (for example, chemical hazards, toxins), rather than to describe the intrinsic health of the natural environment per se (Environmental Health Commission, 1997; Jukes, 1999).

What is meant by public health is also open to debate. In 1988, Donald Acheson led an inquiry into the future of public health in the UK and – drawing on Winslow's 1920 definition – described public health as 'the art and science of preventing disease, promoting health, and prolonging life through organized efforts of society' (Department of Health, 1988: 1); the Institute of Medicine in the USA had similarly drawn on Winslow in a report of the same year (Institute of Medicine, 1988). The health historian Dorothy Porter has, in a related vein, labelled public health as 'collective action in relation to the health of populations' (Porter, 1999: 4).

In 2002, the Faculty of Public Health Medicine (UK) was still using Acheson's definition, and added that public health is '... concerned primarily with health and disease in populations, complementing, for example, medical and nursing concerns for the health of individual patients' and its 'chief responsibilities are monitoring the health of a population, the identification of its health needs, the fostering of policies which promote health, and the evaluation of health services' (FPHM, n.d.). What this definition illustrates is the perceived difference between professional public health (practitioners trained in the speciality) and non-professional public health (anyone working to improve population health). There are other qualitative distinctions that characterize the various interpretations of public health, some of which relate to the different histories of public health in different countries, but in this chapter we predominantly use Porter's definition, except when referring specifically to the professional component.

This is an inter-disciplinary chapter. The over-arching academic framework is ethical theory and philosophy, but discussions about history, public health science and policy are integrated within the analysis (Baum, 1995; Green and Thorogood, 2004).

Climate change and public health

In the approach taken to dealing with climate change, the debate about our environment has provided the opportunity to rethink the relationship between mankind and nature, and the moral dimensions of public health theory and practice. Often referred to synonymously as greenhouse warming, climate change presents an instance of the health effects of western lifestyles being borne by those at a distance in time and place. Unlike those affected by, say, passive smoking, those affected by climate change have little or no connection with the perpetrators, yet are left with the consequences. And this raises fundamental questions about the geographical, temporal and moral boundaries of public (health) responsibilities, as well as the place of utilitarianism in public health theory.

The scientific background to the process of climate change is well described in the literature, and will not be repeated here (McMichael, 1995; IPCC, 1996, 2001; Hamilton, 1999). The consequences of climate change to human health are similarly well articulated and most conveniently grouped into direct and indirect effects (McMichael, 1996). The direct effects result from increased exposure to thermal extremes (heat waves and severe cold) and associated climatic changes (deaths in vulnerable groups, domestic violence, civil disturbances and riots, floods, storms, cyclones, hurricanes and bushfires, injuries, psychological disorders and infectious diseases). Indirect effects stem from disturbances to complex ecological systems (changes in the ranges and activity of vectors and infective parasites such as those responsible for malaria, dengue fever, trypanosomiasis and the viral encephalitides), and changed food productivity will result in malnutrition, hunger, impaired

child development and growth, with increased morbidity and mortality (Epstein, 1995; McMichael and Haines, 1997).

Climate change and public health philosophy

From the perspective of public health philosophy, what is fascinating about climate change is that it throws open three new aetiological dimensions to population health and disease. First, the causes of greenhouse warming and the resultant climate change and its health effects are anthropogenic. Excluding 'lifestyle' diseases – which an individual predisposes him- or herself to through personal activity¹ – there are plenty of examples of illnesses created by human activity, such as occupational cancers or the passive smoking example mentioned earlier. But in these situations only the populations that create the environmental hazard experience the consequences.

What is different about climate change is that certain communities (and the individuals within them), through their adopted activities, will affect the health of other communities that may well not have taken up such activities. And this opens up interesting, hitherto unexplored questions about personal responsibility, and also about the relationship between public responsibility and how this is expressed through policies such as those concerning public health. In other words, how do such responsibilities fit into the public health philosophy and practice of the perpetrating communities?

Second, the health effects of climate change are, to a substantial degree, likely to impact at a large geographical distance from their source. Aside from the equity issues relating to the *differential* impact and ability to mitigate or adapt accordingly – which are looked at later in this chapter – it is difficult to think of any other example² in which the activities of one community could so connectedly affect the health of a population afar. War is perhaps the closest parallel. Related to this point, the third new aetiological dimension that climate change throws up is that the health impacts of current (and past) activities will likely be the burden of generations to come. Once again, it is difficult to recall any similar example in the history of public health. So the question arises again of how do these spatial and chronological dimensions fit into the public health philosophy and practice of the perpetrating communities?

Like much public policy, public health is informed heavily by one moral theory: utilitarianism. Yet utilitarianism is problematic and seems out of touch with the world's current problems. As a guide for both personal and public morality, traditional utilitarianism appears anachronistic. Indeed, the roots of all the new dimensions of health effects of climate change outlined above, can be tracked against the deficiencies of utilitarian theory.

So the next section looks specifically at utilitarianism, its moral limitations and the relevance of these to climate change and public health philosophy. After that, the first major challenging moral framework for public health is considered, one based on John Rawls's vision of social justice.

¹ Personal choice, however, such as the ability to stop smoking, may be affected by factors such as employment status and social support, both of which are linked to deprivation.

² Apart from other economic activities related to human lifestyles.

Utilitarianism, climate change and public health

Utilitarianism falls into the consequentialist class of moral theories, in which the rightness or wrongness of an action, or rule, is determined by the consequences of that action or rule. Despite relentless ongoing criticism utilitarianism has proved a remarkably tenacious moral theory, the corner-stone to liberal democracy, and both its persistence in and significance to western political philosophy inevitably tie utilitarianism to ethical issues in public health.

Utilitarianism became applied politically in the eighteenth century, and is most famously associated with Jeremy Bentham (1748–1832) and, a little later, John Stuart Mill (1806–73). But utilitarianism had antecedents, and the main tenets of the theory were laid down earlier by philosophers such as John Locke (1632–1704) and David Hume (1711–76).

Bentham was a lawyer and was most interested in the relevance of his ideas to legislation. This element connected him strongly to one of his followers, Edwin Chadwick, because of a shared belief in improving the lot of those worst off through reform. However, Bentham's concept of equality was strikingly at odds with that of certain successors, such as Marx and Engels, who provided a very different explanation for the historical processes determining how inequalities arose and what should be done to redress them. To Bentham, equality formed the basis of a calculus³ in which each individual was of equal value (Russell, 1991).

Bentham's theory was founded on two linked principles, the principle of association and the principle of utility. The principle of association was a deterministic account of linked mental occurrences, akin to the modern 'conditioned reflex' but without the physiology. The principle of utility, or the greatest-happiness principle is, however, what Bentham is best known for, and rests on the premise that what is good is pleasure, and what is bad is pain. Bentham came to this position through the belief, articulated in his 1789 *Introduction to the Principles of Morals and Legislation*, that human beings are subject to, and slaves to, two poles of sensation (Scruton, 1996). Bentham took the leap of designating happiness as the moral goal, and his principle of utility '... approves or disapproves of every action whatsoever, according to the tendency which it appears to . . . augment or diminish the happiness of the party whose interest is in question; or what is the same thing in other words, to promote or to oppose that happiness' (Bentham, quoted in Rachels, 1993: 91).

Extrapolated from the individual to the larger, social domain, the principle of utility states that '... the greatest happiness of all those whose interest is in question . . . [is] . . . the only right and proper and universally desirable end of human conduct' (Bentham, quoted in Scruton, 1996: 224). So, one set of affairs is better than another if there is a greater balance of pleasure over pain, or a smaller balance of pain over pleasure. Empiricism was thus brought firmly into the foreground, as the right action could – in theory at least – be determined by summing up individual experiences of these two sensations. This process of quantification was Bentham's 'felicific' calculus,⁴ in which the 'audience' to be considered was all those affected by the action, each counting equally.

In his 1863 book *Utilitarianism*, John Stuart Mill, like Bentham, extended moral consideration to the whole of sentient creation but, differently, made qualitative

³ The calculus referred to a calculation, rather than the modern understanding as a particular method in mathematics.

⁴ Also known as the optimific, or hedonic, calculus.

distinctions between pleasures (Harris, 1997: 128). Although critiques of modern utilitarianism, and their relevance to public health, will be looked at a little later, it is necessary to point out here a serious problem with the theory's early forms. That is, utilitarianism as depicted by both Bentham and Mill, makes a conceptual leap of inferring from what 'is' in the world to what 'ought' to be. Bertrand Russell (1991: 744) is straightforwardly damning:

John Stuart Mill, in his *Utilitarianism*, offers an argument which is so fallacious that it is hard to understand how he can have thought it valid. He says: Pleasure is the only thing desired; therefore pleasure is the only thing desirable. He argues that the only things visible are things seen . . . and similarly the only things desirable are things desired. He does not notice that a thing is 'visible' if it can be seen, but 'desirable' if it ought to be desired. Thus desirable is a word presupposing an ethical theory; we cannot infer what is desirable from what is desired.

With this seemingly mistaken leap in mind, it is perhaps surprising that utilitarianism has endured. Yet few would demur that utilitarianism strongly underpins much of contemporary moral and political thinking and action. Good national policies are judged to be those that increase overall wealth, the modern euphemism for the greatest happiness, and good public health policies are judged to be those that demonstrably improve population health.

However, the pursuit of happiness has become something closer to a 'taken-for-granted', a lifelong endeavour shaped by society, unquestionably accepted and followed. And the inevitably elusive chase finds happiness disguised as, *inter alia*, healthism, obsession with risk aversion and consumerism (Forde, 1998; Porter, 1999). Not surprisingly therefore, faced with the significant lifestyle changes that would be required to offset climate change and its global health effects, most individuals do not really want to sacrifice or undermine pursuit of their own happiness-oriented goals, despite superficial environmental soundings to the contrary.

Picking up on this, the philosopher Alasdair MacIntyre has put the blame for today's moral ambivalence squarely on the shoulders of utilitarianism, and the selfishness it has engendered. He (1989: 243) argues that ' . . . the individualism of modern society and the increasingly rapid and disruptive rate of social change brings about a situation in which for increasing numbers there is no overall shape to the moral life but only a set of apparently arbitrary principles inherited from a variety of sources'. Further, MacIntyre (1989: 237–8) holds the early utilitarians directly responsible for today's woes, and emphatically questions the price to be paid:

The concept of happiness is, however, morally dangerous in another way; for we are by now well aware of the malleability of human beings, of the fact that they can be conditioned in a variety of ways into the acceptance of, and satisfaction with, almost anything. That men are happy with their lot never entails that their lot is what it ought to be. For the question can always be raised of how great the price is that is being paid for the happiness.

Critiques of utilitarianism, and relevance to climate change

The first criticism is that utilitarianism, in its classical or present economic form, necessitates the enumeration and summation of utilities in some shape or form. And utilitarianism then uses the results of this process as the moral basis to guide actions or policies. In its early form an obvious difficulty was how to quantify happiness, along with the problem

outlined earlier of whether happiness is an appropriate moral goal in the first place. Preference- and welfare-based utilitarianism circumvent the latter issue, but do not get around the issue of quantification.

In fact, modern versions of utilitarianism do precisely the opposite. They are reliant, perhaps more than ever, on empirically obtained information as the basis for acting. They place, metaphorically, all the moral eggs in the basket of a positivist conception of science. In a classic book containing essays for and against utilitarianism, the philosopher Bernard Williams describes contemptibly the appeal of utilitarianism in that it picks up 'little of the world's moral luggage', preferring instead to place huge demands on information because 'even insuperable technical difficulty is preferable to moral unclarity, no doubt because it is less alarming' (Williams, 1991: 137).

This moral side-step may be economically and politically advantageous, in the short term at least, but it raises almost insuperable problems for climate change. There may be a general consensus now on the scientific proof that climate change is actually happening, but there is no agreement about what should be done about it (Menne and Bertollini, 2005; DEFRA, 2006).

More subtly, however, centralizing utilitarianism in the climate change debate raises the important point that some elements are more amenable to scientific enquiry and analysis than others. The environment, for example, is excluded from investigation. After all, how do you place a utility function on the value individuals may, or may not, place on retaining a beautiful area of wilderness, or an unpolluted atmosphere? It is clearly easier to calculate the economic costs of climate change and the mitigation strategies to prevent it, than to reliably quantify the health impacts or environmental utilities, so creating a bias in areas of consideration; and this does not even touch the question of how to compare different utilities. This is a fundamental issue recognized by Williams (1991: 148):

For to exercise utilitarian methods on things which at least seem to respond to them is not merely to provide a benefit in some areas which one cannot provide in all. It is, at least very often, to provide those things with prestige, to give them an unjustifiably large role in the decision, and to dismiss to a greater distance those things which do not respond to the same methods. Just as in the natural sciences, scientific questions get asked in those areas where experimental techniques exist for answering them, so in the very different matter of political and social decision weight will be put on those considerations which respected intellectual techniques can seem, or at least promise, to handle.

The second criticism of utilitarianism, and its framing of climate change policies, relates to proximity. As has been described, classical and modern versions of utilitarianism involve quantification and summation of individual utilities, whether happiness, preferences or interests. But who should be included in the arithmetic? Bentham and Mill predicated that the pleasures and pain of all affected by the action, the audience, should be considered, including – to a lesser degree – non-human animals.

Although circumstances in the nineteenth and twentieth centuries were more contained than today by the technological allowances of the time, the focus on individuals (the audience members) close in space and time applies to both eras. This is because, as before, the utilitarian calculus favours consideration of issues around which there is greater certainty. The philosopher Robert Goodin (1997: 247) highlights that utilitarians may want to include the utilities of all those affected by an action in any given calculation, but in practice it is unlikely:

... utilitarians can go on to say, perfectly properly, that as a purely pragmatic matter their calculations will often lead us to show some apparent favouritism toward those near and dear to us. It is easier to know what people nearby need, and how best we can help; ... Those are purely contingent, pragmatic considerations, to be sure. In the ideal world, they may be absent. But in the real world, they are powerfully present.

This creates special problems for policies relating to climate change. At the national level, and at the local level within countries, policy makers usually take into account the effects of their policies on individuals within their immediate boundaries. Climate change would appear to open up the borders by demanding that those from afar are considered too. But it is hard at present to know how to incorporate such requirements, and it remains difficult to believe that such tough decisions will be made by politicians with national, party, and their own interests at heart. The limited concessions to date in the high profile international climate change meetings affirm the somewhat bleak outlook.

So far, the focus of this second criticism has related to geographical proximity. But utilitarianism also has a temporal bias. The utilitarian philosopher J. J. C. Smart (1991) argues that it is impossible to envisage the total future situation because it stretches to infinity. According to Smart it is unnecessary in practice to consider very distant consequences, as these in the end approximate rapidly to zero like the furthest ripples on a pond after a stone has been dropped into it. He (1991: 33–4) defends this presentism:

The necessity for the ‘ripples in the pond’ postulate comes from the fact that usually we do not know whether remote consequences will be good or bad. Therefore we cannot know what to do unless we can assume that remote consequences can be left out of the account.

This issue is particularly acute for climate change, and policies related to it, as the environmental, financial and health effects will not only occur in the future, but in the distant future. Economists have a general way of dealing with this phenomenon called ‘discounting’, an analytical tool to compare economic effects that occur at different points in time.⁵ But there are different discount rates available and ‘the choice of discount rate is of crucial technical importance for analyses of climate change policy, because the time horizon is extremely long, and mitigation costs tend to come much earlier than the benefits of avoiding damages’ (IPPC, 1996: 8).

There has been extensive, unresolved debate about discounting in assessment of climate change policies, a debate which reminds us that facts alone cannot provide moral judgements. The recent IPCC publication (2001: 97) emphasizes that uncertainty regarding the discount rate ‘relates not to calculation of its effects, which is mathematically precise, but to a value judgement about the appropriateness of the present generation valuing services for future generations’. Environmental philosophers have pointed out that any form of discounting devalues the environment, and the benefits that the environment holds for future generations.

The final criticism of utilitarianism relates to equity. The summation and averaging of utilitarian calculations insufficiently recognizes the importance of how utilities are distributed within the population under consideration. Whether the utility is health or wealth, there is scant difference between a population in which a small number have a lot of (good)

⁵ The basic premise behind discounting is that a million pounds to me now is of more value than a million pounds in a year’s time.

health and the remainder have poor health, and a population in which everyone is reasonably healthy. And this does not sit comfortably with our common-sense morality, as Williams (1991: 142–3) states:

In this light, utilitarianism does emerge as absurdly primitive, and it is much too late in the day to be told that questions of equitable or inequitable distribution do not matter because utilitarianism has no satisfactory way of making them matter. On the criterion of maximising average utility, there is nothing to choose between any two states of society which involve the same number of people sharing in the same aggregate amount of utility, even if one of them is relatively evenly distributed, while in the other a very small number have a very good deal of it; and it is just silly to say that in fact there is nothing to choose here.

So, if climate change illustrates that utilitarianism is a limited moral determinant of public health policies, an alternative is needed. And here, recent developments in the climate change debate suggest an alternative might be emerging.

Social justice and climate change

There is a huge literature on justice stretching back as far as the Greeks. Aristotle, for instance, in the *Nicomachean Ethics* considers just actions, and likens the characteristic of being just to the other ‘excellences’ – or virtues of character. For Aristotle justice is a mean, injustice represents the extremes and the just man⁶ recognizes how to determine an individual’s appropriate share (Urmson, 1998).

In contemporary times, however, social justice has come to embody aspects of the last part of Aristotle’s definition, fairness and proportionality. In contrast with legal and retributive justice, social justice is about the distribution of society’s benefits and burdens and the socio-political mechanisms that enable such distribution to occur (Daniels, 2000).

This climate change dilemma has certainly extended the boundaries of moral debate in areas of public, and public health, policy making. Because the causes and effects of climate change are differentially distributed, the reasonableness of basing decisions purely on utilitarian economic thinking has been questioned.

As a result, there has been a flurry of academic work looking at equity considerations in the climate change debate. One way of determining how to distribute the costs of climate change mitigation and adaptation policies would be *not* to try to ‘falsely’ distribute such costs at all, but to allow the market to decide. But libertarian, or market utilitarian, approaches would likely lead to rich countries not valuing or wanting to pay for such policies and poor countries being unable to afford them. Unless there was some kind of catastrophic threat from climate change, poor countries might well be left to simply deal with the consequences.

An alternative framework would be contractarian, also sometimes called administrative utilitarian. In this approach, the limits of using total sum or average utility as a sufficient determinant of policy are acknowledged, and efforts are made to incorporate

⁶ We are using man here, rather than person, to represent Aristotle’s depiction, which focused predominantly on men.

additional dimensions to economic calculations to allow for more informed and, apparently fairer, distribution.

This framework has been argued is more egalitarian and has drawn strongly on the concept of social justice. In fact, one person's theory has been stressed within this dimension of the debate, John Rawls, whose name can be found scattered among the articles, discussion papers, and policy-related documents on equity issues in climate change. Rawls's (1999) *A Theory of Justice* was first published in 1971 and 40 years later the impact remains remarkable. There has been much discussion of Rawls's theory, and a number of expositions, and it is not appropriate to detail these here. However, a very brief recap is necessary as a prelude to the following sections.

Rawls thinks of justice as fairness. He starts from the premise that utilitarianism is an inadequate, inappropriate, and ultimately unjust moral or politico-economic tool for making distributive decisions in society. For Rawls (1999: 3), justice *denies* that '... the loss of freedom for some is made right by a greater good shared by others.' And justice does *not* allow '... that the sacrifices imposed on a few are outweighed by the larger sum of advantages enjoyed by many'. Instead Rawls (1999: 5) defines justice as '... a characteristic set of principles for assigning basic rights and duties and for determining what they take to be the proper distribution of the benefits and burdens of social cooperation'.

Rawls makes two other key assertions. First, he argues that people's perceptions of entitlement – and so too of justice or fairness – are inevitably shaped by their own backgrounds, interests and social organizations. While Rawls accepts that human beings naturally have certain interests – for instance striving for basic primary goals – most interests are not of this nature and any agreed notion of justice needs to be reached before the undue influence of unnatural interests. Second, he predicates that any social advantages obtained through chance – by birthright or natural endowment – are essentially unfair.

Putting these together Rawls sets out to establish the principles of justice for the basic structure of society that would be agreed by individuals in an 'original' (or abstract pre-existence) state. Taking the form of a social contract these principles are those that '... free and rational persons concerned to further their own interests would accept in an initial position of equality as defining the fundamental terms of their association' (1999: 10). This initial, or 'original', position corresponds to the state of nature in the traditional theory of the social contract. Rawls purports that the 'original position is ... the appropriate initial status quo, and the fundamental agreements reached in it are fair.' This, he (1999: 11) continues, '... explains the propriety of the name "justice as fairness": it conveys the idea that the principles of justice are agreed to in an initial situation that is fair'.

Fairness issues in the climate change debate

Armed with the basics of Rawls's theory of justice, it is possible now to return to the climate change debate. The starting-point for the distributive concerns in climate change are three related questions: who is responsible for the problem; who will suffer (most) from the problem, and how; and who will bear the costs of abatement? The four fairness issues in climate change policy that correspond to these questions have been expressed as follows (Reichert, 1998; Rayner *et al.*, 1999):

1. What is a fair allocation of the costs of preventing the global warming that is still avoidable?
2. What is a fair allocation of the costs of coping with the social consequences of the global warming that will not, in fact, be avoided?
3. What background allocation of wealth would allow international bargaining (about the first two points) to be a fair process?
4. What is a fair allocation of greenhouse gases over the long-term and during transition to the long-term allocation?

In trying to address the fairness issues in climate change, debate has actually focused on an administrative utilitarian (or contractarian) approach, drawing in, to a degree, some Rawlsian ideas of social justice. The IPCC, for example, distinguishes two categories of equity as significant to climate change analyses: procedural equity and consequentialist equity. The former is largely about making policy, focusing on the criteria and methods for implementing fair procedures for design of, and participation in, the decision-making processes, as well as respect for legal rights. It is about inclusion, fairness and openness at all stages in the policy making processes and corresponds to item four on the list above.

Consequentialist equity, in contrast, and is about the outcomes of climate change (and policies addressing climate change): justice and fairness in respect of the *impacts* of climate change, and justice and fairness in respect of *abatement*, in other words the distribution of burdens and allocation of benefits associated with reducing greenhouse gas emissions and managing climate change. Consequentialist equity has been further divided into *intragenerational* equity (although actions by individuals in contributing to greenhouse gas emissions may affect anyone, impacts reflect vulnerability and are borne differentially by social groups or countries depending on their geography, economic development and so forth) and *intergenerational* equity (costs of abatement may be borne now but benefits may not be realized well into the future). Consequentialist equity takes on board the widely heralded 'precautionary principle', which dictates that when there is serious doubt about likely environmental impacts and consequences, decisions should be made that err on the side of safety (Hayry, 2003).

Climate change and climate justice

The intellectual and theoretical developments described in the previous section have been mirrored in two parallel, connected sets of processes in the climate change debate: developments in international policy around managing climate change; and growth in the campaigning efforts of pressure groups. There is not scope here to look at how international policy developments have captured Rawls's ideas, although these are described elsewhere (Kessel, 2006). Instead, climate justice will be explored here.

In parallel to policy developments and negotiations (and sometimes providing evidence for them) there has been a groundswell in 'independent' think tanks, non-profit making organizations, and other new bodies established to press for fair and generally more aggressive policy targets relating to climate change. A number of these have expressed their opinions and activities in terms of global justice, and their mix of conscience-driven academics and pressure-group campaigners has provided both the intellectual base and the energy needed to drive activities forward. There is the feel of a throwback to the lobbying efforts of the first half of the twentieth century to clean the skies of air pollution.

The Global Commons Institute (GCI), for instance, was set up in 1990 in London, and has been encouraging awareness of its solution to climate change called *Contraction and Convergence*. Put forward as the suggested international framework for the arrest of greenhouse gas emissions *Contraction and Convergence* has argued that economic growth can continue at current ('business as usual') rates only provided large efficiency gains are made and nearly all energy comes from renewable sources (Global Commons Institute, n.d.; Meyer, 2000).

Another group, the cleverly named US-based EcoEquity, is committed to advancing equal rights to global commons resources, in particular the principle of equal per capita rights to the atmosphere. Lamenting both US rejection of the Kyoto Protocol and also the Byrd-Hagel resolution,⁷ EcoEquity (n.d.) has argued that fairness '... cannot and will not mean that the rich go on as before', and that a climate treaty will have to embody a '... fairness that is acceptable in China as well as the United States'. EcoEquity has intended to deepen and clarify the meaning of climate justice through drawing together academics and non-government organizations into the global justice movement: 'What will we be doing?' has been asked on the EcoEquity (n.d.) website 'Working to bring the many threads now being spun around climate justice together into a stronger web, one that can support a broader political strategy.'

There are other individual groups or organizations, but a powerful coalition of groups – including CorpWatch, Friends of the Earth International, OilWatch Africa and the World Rainforest Movement – gathered as the 'International Climate Justice Network' at the final preparatory negotiations for the Earth Summit in Bali in June 2002. The coalition developed a set of principles aimed at 'putting a human face' on climate change. The 'Bali Principles of Climate Justice' first outline the nature of the problem (caused primarily by the rich, and felt disproportionately by small island states, coastal peoples, women, the poor and others; violating human rights), then state 27 core principles of the international movement for Climate Justice (CorpWatch, n.d.).

Within the context of this chapter – climate change dilemmas as a theme to explore the relationships between the environment, ethics and public health – these principles illustrate that Rawls's social justice has provided an alternative moral framework to utilitarianism for public health. The climate change debate has spawned a range of academic, policy and pressure group writings reflecting ideas articulated by John Rawls. Connected to this, the climate change debate has also become an arena for expression and discussion of the perceived reasons for many of the world's ills: the impact of industrialization and of modern western lifestyles, global poverty, and the conceptual imperialism of economics (Victor, 1999; Anthanasiou and Baer, 2002; Brown, 2002).

Discussion: environmental ethics, environmental justice and public health

Professional public health in the UK emerged at a time of great social and philosophical change and its conceptual framework was immediately linked to the utilitarian thinking of the period. Around the turn of the twentieth century, as the bacteriological model of disease pathology became widely accepted, medical and public health theory became increasingly

⁷ A campaign prior to the Kyoto negotiations of 1997 led to 95 US senators demanding developing countries also take on firm reduction commitments, so challenging the UNFCCC principle that developed countries take the lead in reducing emissions.

underpinned by science and epidemiology. Huge strides have since been made in western medico-science but, in parallel, both medicine and public health have become more distanced from the environment.

The climate change dilemma illustrates the limitations of public health theory, founded on utilitarianism, to cope with modern challenges such as climate change. And at a less global level, public health practitioners, through the twentieth century, have found it increasingly hard to engage in real issues about the health of the environment. Such developments have not occurred in isolation.

Separation of public health and the environment

The origins of today's environmental problems, and the relevance of this to public health, can be traced through the inter-connected paths of progress in scientific medicine, public health and political philosophy over the past few hundred years.

Before the era of Descartes, the relationship between mankind and nature was more integrated. In the centuries of Hobbes and Locke, however, this outlook changed dramatically. The development of mechanistic philosophy and the progression of science somewhat removed humans from the natural environment, which itself was mechanistically objectified. The era of individualism had begun, with justification of self-interested behaviour and an emphasis on individual and private rights. Personal morality no longer had a special relationship to the state, whose role became that of partner in a dispassionate arrangement that primarily provided an environment suitable for promotion of the individual (Cohen, 2001). Mary Midgley (2001: 159) captures this well:

Since the Renaissance, this kind of contraction has in any case been happening in political philosophy in the West. Political thinkers of the Enlightenment systematically shrank morality by making it essentially a civic affair – a matter of mutual bargaining between prudent citizens within a limited society. Contract thinking sought to abolish the idea of duties towards anyone or anything outside that society . . . But this move had unintended side-effects. It now makes it quite hard for us to make sense of our responsibility towards humans outside our own society, and almost impossible to explain our responsibilities towards non-human nature.

The seventeenth-century philosopher John Locke's emphasis on individual rights and property rights illustrate how the era also proclaimed mankind's dominion over nature. The natural environment was articulated in inert, demarcated terms, largely devoid of value, and humans would be morally justified in manipulating it any way necessary to further legitimate personal interests. This tied in with ownership, rather than stewardship, of nature and began to set in stone an image of the natural environment – detached and there for human needs – which has only relatively recently been challenged by environmentalists (Passmore, 1974).

In fact, despite some romantic inclinations, this image of nature was reinforced during the eighteenth and nineteenth centuries as utilitarian political philosophy took hold (Rousseau, 1762). As discussed earlier, utilitarianism has (indirectly) reinforced moral justification for individual pursuit of that which gives pleasure, with maximizing human happiness as the overall goal. Manipulating nature to meet these ends has ethical validation and modern welfare economics – the corner-stone of liberal democracies – is grounded in these ideals. Yet utilitarianism focuses proximally, both in terms of the 'audience' within its calculation (failure to include impacts on those at a distance) and with regard to time – the difficulty of incorporating the needs and desires of future generations. And there is little or no accounting for the intrinsic worth of nature.

Utilitarianism emerged politically at a time of corresponding changes in science, medicine and biology. The connection of human health with nature through miasmatic theories of disease was gradually replaced at the end of the nineteenth century by bacteriological explanations, which catalysed the reductionism of medical science. And at that time Darwin and his colleagues were providing a vision of nature that placed self-interested behaviour at its very core, the driver for change, integrally related to adaptation to, and manipulation of, the environment (Dawkins, 1976).

Through the twentieth century individuals have often been seen as disconnected from other individuals and the natural world, with purpose, values and goals narrowly defined. Midgley (2001: 69) again captures this well:

It is the *social atomism that lies at the heart of individualism* – the idea that human beings are essentially separate items who only come together for contingent reasons of convenience [original emphasis]. This is the idea expressed by saying that the state is a logical construction out of its members, or that really there is no such thing as society. A social contract based on calculations of self-interest is then supposed to account for the strange fact that such things as human societies do actually exist.

These developments have clearly impacted on how public health has progressed. Public health theory and practice has become distanced from the environment. Within contemporary public health the term ‘environmental health’ has come to signify how degraded aspects of the environment affect human health, rather than reflect the true health of the environment *per se*.

There has, however, been a recent counter-vision, in the form of environmental ethics, which has provided a different way of understanding the world. A look at environmental ethics, and the related areas of development ethics and environmental justice, will enable a synthesis of the implications for public health.

Environmental ethics

Although environmental ethics has blossomed as an academic activity over the last two decades, its main tenets can be traced back to earlier this century. And, though these fundamentals have been subject to considerable theoretical and philosophical debate, they have also become inescapably linked to socio-political ideologies and movements (Light and Holmes, 2003).

It is difficult to place the various philosophical perspectives on the environment into a bag labelled ‘environmental ethics’, as they differ in many important aspects, but what they share is a fundamental questioning of the value, or values, ascribed to nature. Yet even here there are different approaches, or ways in, to examining this core. One such approach, a sort of starting point in environmental ethics, is to distinguish between anthropocentric (human-centred) and non-anthropocentric ethics. This is seen as a good place to begin because an oft shared belief in environmental ethics is that the roots of today’s environmental problems lie in the moral favouritism given to human interests; this is in itself linked to developments in science and political philosophy discussed in the previous section. The moral favouritism, the anthropocentric ethical framework, is then disapproved of in different ways and for different reasons.

In trying to summarily address what an environmental ethic is, Robert Elliot captures this overview and presents five sub-divisions. The first, ‘human-centred ethics’, has modern utilitarianism as an exemplar, in which facts are needed to calculate the happiness yielded

by options, but only humans are treated as morally considerable, that is, are included in the calculus. An 'animal-centred ethic' treats individual animals as morally considerable, but may allow ranking to account for different interests and capacities. Treating equal interests equally and unequal ones unequally, for example, would accommodate human ranking above animals based on a different capacity for rational autonomous action. A 'life-centred ethic', on the other hand, counts *all* living things as morally considerable, not just humans or non-human animals. However, while some would ascribe equal moral considerability to all life, such as the 'biotic egalitarianism' of Norwegian philosopher Arne Naess, others allow differentiation, for instance by complexity. This may favour, for example, the biosphere over humans and leads to a special kind of life-centred ethic termed 'ecological holism', which grants moral considerability to wholes, such as large ecosystems or the biosphere: individuals or species are only important in relation to these wholes. The final environmental ethic, called 'rights for rocks' by Elliot (1997), extends moral considerability to all as an 'everything ethic'.

Underlying these divisions, or different perspectives, is the question of what makes something worthy of moral considerability – worthy of consideration when judging the morality of action (Goodpaster, 1978). Humans are morally considerable because they have interests that can be promoted or harmed, based on their human capacities – for rational thought and action, and sentience. However, not only is sentience shared by some animals (which could extend moral consideration to them), but moral considerability could lie elsewhere, in some other intrinsically valuable property, for instance complexity or even beauty. This in turn would shift moral considerability to non-sentient animals, plants,⁸ ecosystems or the wilderness, and could include non-living⁹ entities.

The different perspectives within environmental ethics lie along a spectrum, which stretches from humans to animals, plants, all living and non-living things, incorporating different concepts of what matters morally. Des Jardins, for example divides the spectrum up a little differently, but it still incorporates the same elements. His grouping are: biocentric ethics, which is centred around (all) life and has correlative duties¹⁰; ecological ethics, which focuses on ecological communities and embraces ethical holism; the 'land ethic', articulated first by Aldo Leopold in 1949, which embraces living things, ecosystems and the land (Callicott, 1979); 'deep ecology', especially that of Naess, which emphasizes the deep roots of environmental crises, the radical cure needed (personal and cultural transformation) and forcibly expresses its distinction from shallow anthropocentric environmentalism; and social ecology and ecofeminism, which explore how social structures serve the interests and power of certain groups, reflected in (and reinforced by) domination over nature (Des Jardins, 1997).

However the continuum within environmental ethics is separated out, academically or theoretically, a common thread is the difficulty, or failure, to ascribe 'inherent' value

⁸ The difference between having interests and goals has been stressed by philosophers. A plant may grow towards light or a tree may wither and die, but neither the plant nor the tree, arguably, has attitudes towards these happenings.

⁹ The distinction between living and non-living is often neither biologically nor philosophically clear. For instance, a rock may be considered non-living or inert, but what about soil?

¹⁰ These are non-maleficence (to any organism), non-interference, fidelity (to not betray or deceive wild animals) and restitutive justice (to restore balance if harm done).

to non-human nature, whether that is other animals, vegetation or alternative concepts of what might exist. The anthropocentric nature of western ethics gives, at best, 'instrumental' value to anything non-human; in other words wombats, wild flowers and the wilderness are of value only by way of serving human interests – as pets, for rambling or as potential new medicines. This has arisen because of entwined developments in science, medicine, and moral and political philosophy over several hundred years. It may be fair to reflect that dominion over beasts was heralded back in Aristotelian times, but the contemporary situation is rather different in terms of the success and value placed on liberal individualism, materialism and the socio-political structures enshrining these ideologies. The present situation is also vastly different in terms of the depth of environmental crises affecting the planet, of which greenhouse warming is just one example. The Australian philosopher Peter Singer (1999: 285), despite holding sentience alone as morally considerable, is sure of the seriousness of the problem, and the extent of change needed:

Now we face a new threat to our survival. The proliferation of human beings, coupled with the by-products of economic growth, is just as capable as the old threats of wiping out our society – and every other society as well. No ethic has yet developed to cope with this threat. Some ethical principles we do have are exactly the opposite of what we need. The problem is that . . . ethical principles change slowly and the time we have left to develop a new environmental ethic is short. Such an ethic would regard every action that is harmful to the environment as ethically dubious, and those that are unnecessarily harmful as plainly wrong.

Singer then outlines his environmental ethic as including consideration of all sentient creatures now and well into the future, aesthetic appreciation of wild places and nature, rejection of materialistic ideals, promotion of frugality and reassessment of extravagance. He (1997) has espoused these views elsewhere in further detail. For Singer, and many others, the connection between environmental ethics and environmental activism (or environmentalism) is strong.

Environmental justice and development ethics

Environmental ethics, as a field within ethical theory, has not developed in a vacuum. Two complementary concepts have emerged in the same recent period: environmental justice and development ethics. We do not have time to explore these concepts fully but will outline them briefly in the context of discussion of climate change and environmental ethics because of their relevance to the theme.

Environmental justice originated in protests in the 1980s by community groups in the USA against the repeated siting of polluting factories and waste sites in predominantly black neighbourhoods and indigenous peoples' reservations. Civil rights protestors highlighted the disproportionate burden of negative environmental impacts these caused for the most vulnerable sectors of society (Stephens and Bullock, 2000).

In 1994, the issue reached the White House when then President Clinton issued Executive Order 128298: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This order reinforced the Civil Rights Act 1964 by requiring federal regulatory agencies to 'make environmental justice a part of all they do' (EPA, n.d.).

Environmental justice is generally defined in normative terms, specifying a set of conditions or expectations which should be aspired to, sought after or demanded. Two

definitions provide examples. The US Environmental Protection Agency (n.d.) defines environmental justice as:

. . . the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Meaningful involvement means that: (1) potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; (2) the public's contribution can influence the regulatory agency's decision; (3) the concerns of all participants involved will be considered in the decision making process; and (4) the decision makers seek out and facilitate the involvement of those potentially affected.

Environmental justice has also been conceived in terms of rights and responsibilities. For example, Stephens and Bullock (2000) assert that environmental justice means:

. . . that everyone should have the right and be able to live in a healthy environment, with access to enough environmental resources for a healthy life

and

. . . that responsibilities are on this current generation to ensure a healthy environment exists for future generations, and on countries, organizations and individuals in this generation to ensure that development does not create environmental problems or distribute environmental resources in ways which damage other peoples health.

This idea of rights and responsibilities has a strong modern resonance with climate justice discourse, and indeed the two movements have begun to come together. The notion of responsibility also resonates with Singer's concepts of ethics in the age of individualism. And to an extent, this notion has become part of modern consciousness in wealthy countries and is articulated through the growing trend towards organic and locally sourced foods, recycling of waste and more sustainable building design. None of these actions may have a direct benefit on the individuals doing them, but the notion of responsibility – towards the planet, other species and the future – seems to motivate people nonetheless.

A final stream of complementarity is with the emerging field of development ethics. The central concept of development ethics is a reflection on where we are going as a species: the clearest articulation of this is from the International Development Ethics Association (IDEA) formed in 1984. They argue that: ' . . . international development ethics is ethical reflection on the ends and means of local, national and global development' (IDEA, n.d.). We do not have the space to expand their ideas fully, but their initial declaration outlines the framework (IDEA, 1989):

- the absolute respect for the dignity of the human person, regardless of gender, ethnic group, social class, religion, age or nationality;
- the necessity of peace based on a practice of justice that gives to the great majorities access to goods and eliminates the conditions of their misery;
- the affirmation of freedom, understood as self-determination, self-management, and participation of peoples in local, national and international decision processes;

- the recognition of a new relation of human beings with nature, facilitating responsible use, respectful of biological cycles and the equilibrium of ecosystems – especially those of tropical forests – and in solidarity with future generations; and
- the stimulus to construct a rationality suited to exploited peoples, one that accords with their cultural traditions, their thought, their interests, and their needs and that involves a new valuing of self-esteem based on their being subjects rather than objects of development.

There are strong themes of justice and respect in this statement. It also articulates a form of procedural justice in its emphasis on freedom and participation.

Both environmental justice and development ethics bring the field of environmental ethics into the more activist realm of human rights, and overall development policy. Linked to climate change, development ethics would argue that our whole development trajectory is flawed – built on wasteful materialism and pursuit of human happiness articulated through ever increasing material wealth. Utilitarianism would see no problem with this – but both environment justice activists and development ethicists would argue that, with the changes in our environment brought about by human material development, the entire human development trajectory needs to be reviewed.

Conclusion

To have purchase, attempts to seriously tackle problems such as climate change need simultaneously to address the roots that have bred liberal individualism, dominant utilitarian-based political philosophy, materialism and social atomism.

Environmental ethics reminds us that the roots of current environmental ideas lie deep. Several hundred years of separation in western thought of mind from matter, subject from object, values from facts, has resulted in the dominance of scientific reductionism over holism, and the devaluing of nature. Connected developments in moral and political philosophy have ingrained utilitarianism and liberal individualism, justifying self-interested behaviour and leading to social atomism. The depth of the problem means meaningful solutions need to be radical.

Within public health, the environment has predominantly been viewed rather than inherent value of instrumental, as concerned with the human health consequences of environmental damage. The climate change dilemma is illustrative of connections between environmental ethics and human welfare, and reflective of the limitations of utilitarianism as the underpinning moral theory of public health. The alternative of Social and environmental justice is presented.

Over the last two centuries the means to health have been thought to be through improved material well-being – initially clean water, sanitation, safe housing. While even these conditions are still lacking for a shocking majority of the world's population, for a minority the definition of material well-being is not only a selfish level of material consumption, but deeply damaging to the planet and its future. While environmental matters such as chemical hazards and even outdoor air pollution are undeniably important, they really only attend to the superficial end of the spectrum, representing shallow environmentalism.

For the future of the public's health a more substantial change in attitudes is required: the discipline of public health needs to embrace the ideals of environmental ethics and social justice, and incorporate the idea of development ethics with its emphasis on critical reflection on our very development model.

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