What Rights are Eclipsed When Risk is Defined by Corporatism?
Governance and GM Food

Paul Nicholas Anderson

GOVERNANCE BY corporate power and financial institutions has long been associated with the demise of the public arena and substantive democracy (Chomsky, 1992; Habermas, 1992; Westbrook, 1991). Significant among contributing factors is the presentation of new technologies. The central contention of this paper is that where public debate on the introduction or extension of new technologies is prescribed to the technical limits of the expert, such dialogue can be confined to areas which in no way question the role of these technologies in the de facto selection of an exclusive kind of society whose development they serve. It is precisely attention to the technically-defined social, economic and environmental impacts of certain technologies, at the expense of attention to their role in shaping society, that underwrites this agenda for narrowing avenues of meaningful public participation. Such confinement limits popular democratic and NGO efforts to influence the use of such technologies. As a consequence, these efforts are unlikely to succeed unless and until the reasons for narrowing public political discourse down to a technology's technically-defined risks, costs and benefits are better understood and challenged.

The question of just what is at risk when risk is defined for us is of fundamental concern to the prospects of viable democracy. The UK government's (declared) position on genetically modified (GM) food provides a case in point. The government's attitude has been from the beginning that scientific testing, such as crop trials, is necessary in order to assess the risks before 'informed' debate can take place. Such risk assessment generally turns on two factors: the amount of harm an accident can cause and the risk of the accident taking place. Both are quantitatively measured and, for the

■ *Theory, Culture & Society* 2004 (SAGE, London, Thousand Oaks and New Delhi), Vol. 21(6): 155–169
DOI: 10.1177/0263276404050460

purpose of decision-making, can be compared with anticipated net benefits. In the case of GM technologies, if what is known of the risks, be they unforeseen mutations, allergens or carcinogens, transference of disease resistance, damage to wildlife or soil fertility outweigh potential benefits commonly cited as increase in crop yields and plant nutritional value which provide prospects for alleviating world hunger and for 'enhancing' human health, then the programme would, in practice, be curtailed – or at least altered. Conversely, should the perceived benefits of the technologies outweigh their risks, there would in principle be no reason why the programme should not proceed.[1]

Fundamental to this view is that a meaningful comparison of risks with benefits depends on the commensurability of what is compared. Requiring some common quantitative measure (usually monetary), benefits are measured according to the same numerical standard that defines risk, a standard which is thought to render different values commensurate. Once made commensurate, alternative courses of action can be compared according to the general criteria of maximum net returns and minimum risk, and it is on this basis that 'informed' debate can take place.

Whilst providing a sense of control in a language readily understood by most (the language of net productivity and of money), the presentation of GM in this quantitative manner greatly limits the scope for cogent discussion. Calculative reasoning turns on questions of means – which option provides most benefits with minimum risks? Such reasoning does not admit questions of ends. Whether or not we want this technology – what end do we want? – cannot be accommodated by quantitative (calculative) reasoning.[2]

This is not to say, of course, that the public has been excluded from discussing the issues; indeed, they have been generally invited to participate. But their views and objections were, and still are, only taken seriously, as was the case with the government's 'national GM food debate', in so far as they conform to the general, technical terms of the experts[3] (a situation compounded, incidentally, when leading NGOs couch their main objections to GM in the same technical idiom).[4] The positive features of such alternatives as the organic option are, for this reason, reduced to the same pseudo-objective quantitative criteria (maximum net returns and minimum risk) that assess GM crops. Objections outside these quantitative terms – for example, that genetic engineering violates the integrity of and essentially 'plays God' with life (the 'creation') are discarded as 'squeamishness', 'fundamentalist', 'blinkered', 'emotionalist', as a 'phobia', or merely a 'knee-jerk response' (chosen almost at random, see, for example, Cohen, 2003; *Economist*, 1998; May, 2002, 2003; *New Scientist*, 1998a, 1998b, 1999, 2000). Those who argue that uncertain risks ought not to be imposed on society for perceived marginal gain are widely dismissed as being 'ignorant of the facts' (see, for example, *Economist*, 1998; Farish, 2003; *Guardian*, 1999b; *Independent on Sunday*, 1998; *The Times*, 2002). For the most part, the technical complexity of the matter is considered to make it the exclusive province of the

expert. When asked, for example, if people should be given the choice whether or not to eat genetically modified food, the Chair of the government's Advisory Committee on Novel Foods and Processes, Professor Janet Bainbridge, once replied that they should not because 'most people don't even know what a gene is. Sometimes you just have to tell people what's best for them.'[5] It stands to reason that if something can be *presented* as a scientific issue, the opinion of the scientifically illiterate becomes invalid. Political and ethical dimensions of that issue are suppressed and the tone of the presentation becomes one of the 'education' of the illiterate (as advocated without a hint of irony by the head of the Royal Society, Robert May),[6] rather than of open public discussion of these dimensions.

If resistance to GM produce can be, as it often is, presented as suffering from such psychological afflictions as 'phobias', 'squeamishness' or 'fundamentalist' (where opposition is routinely discredited as 'ideological'), it can be made to appear that a healthy, rational and responsible outlook is implied in its acceptance and is accorded on no other grounds than its acceptance. If this is the case, the argument for GM can be reduced to the same non-rational presuppositions as the alleged position it criticizes and, as such, amounts to covert manipulation which masquerades as 'rational' choice. What is interesting here is that the natural consequence of this argument, namely, the attempt to scientifically assure the public about the safety of GM produce, misses the point that it is precisely the need for 'scientific assurance' that is cause for public alarm. Every such attempt underscores the continuing disenfranchisement of peoples' knowledge and senses in the face of contemporary risk which cannot be seen, felt or heard (e.g. genetic contamination, chemical pollution, biological weapons, radioactivity; Beck, 1987; Lawrence, 2001) – and this subsequently requires that the public abdicate an ever greater degree of their volition to the authority of a select group of experts.[7]

A similar 'scientific' mode of argument was put forward for the expansion of nuclear power in the 1970s.[8] Advanced by the technical arguments of engineers and economists, nuclear power was presented as the answer both to the uncertain future of fossil fuels and to the need for the improved competitiveness of industry in an increasingly deregulated global market. Nuclear power would supply industry with cheap and reliable electricity, so went the argument, 'creating' jobs and raising our standard of living. Limiting cogent discussion to pseudo-objective criteria, non-expert concerns over the risk of radioactive pollution and the problem of waste were dismissed as 'unenlightened' or simply 'hysteria.' Given the massive investment in the industry by energy multinationals and research institutes, it is understandable why this end-eschewing mode of argumentation should be employed. A semi-militarized, centrally administered programme of energy production and distribution which fitted into the multinational network had already been chosen, and the ensuing 'informed' debate placated public fears, just as the government's GM food debate attempted, by fostering the illusory belief that the public were exercising democratic control.

This is an example of how a fundamentally political choice can be presented as a technical option, an option endorsed by apparently impartial experts. But just as nuclear power is not the sole means of supplying energy, neither is genetic modification the sole means of resolving world hunger, of improving agricultural practice or of advancing human health. However, both are means which predetermine what ends are reached, and in the process irrevocably prescribe a particular kind of society to the exclusion or termination of all others. The means employed *are*, in this sense, the end experienced: individual and collective choice and autonomy in food production form no more part of the genetic society than decentralized, sustainable energy generation forms part of the nuclear.[9] Thus, the decision for scientific field trials of GM crops did not, in contrast with the government's claims, rest on a technological basis; it arose from political and ideological choices which were made to appear merely technical.

In the end, it is precisely this hiding behind the 'neutrality' and authority of questionable science that has aroused the suspicion of many scientists.[10] The now considerable dissent within the scientific community over GM has the virtue of demonstrating to the public that scientists have no absolute authority: science is neutral only in so far as it can be put to the service of any cause. Indeed, as André Gorz has argued, science can provide the means but it cannot define the ends.[11] In democracies, in any meaningful sense of the word, ends depend on political and ethical choices made by the people. The division of scientific opinion helps clarify how scientific means may eclipse a series of ends and, moreover, gives a freedom of choice back to the people and confronts us with fundamental political questions:

- Are we comfortable signing away the authority of our senses and volition to a select group of specialists whose ultimate responsibility lies with those who finance their research, the success of which rests in turn on the privatization of our genetic commons?
- Just what kind of growth does genetic engineering serve? Or, as Gorz puts it, isn't it time we chose to subordinate industrial technologies to the extension of individual and collective autonomy, instead of subordinating this autonomy to the extension of industrial technologies? (1983: 40).
- Would we be better or worse off if what we ate were not tied to biotech companies' and their investors' needs for profitability?

Beneath its science-assured exterior, the genetic option has, like the nuclear, a hidden agenda that has been worked out by a select group of business leaders, research institutions and politicians, the extent of which we are only beginning to grasp. How the expert may serve this agenda stems, in short, from the presentation of political choices as technical options and the filtering out of non-quantifiable value considerations therefrom (except, of course, the expert's own). It is largely for this reason, which is compounded by the unwitting compliance of some mainstream opposition

groups, that widespread public resistance to GM produce has induced little deviation in the government's overall genetic strategy.[12]

A further reason perhaps lies in the government's commitment to international trade agreements, currently monitored and enforced by the World Trade Organisation whose mandate, to remove all 'barriers' to global trade (e.g. public protection), requires that the government relinquish much of its right to protect public interests for fear that such protection may be construed as effecting an 'unfair trade advantage'. If the logic of the discourse to remove barriers to trade is to facilitate the unimpeded exploitation of resources, natural and human, and if, as the WTO judges, only 'technical' rather than political and ethical reasons are deemed legitimate to influence this discourse (WTO, 2003), then only 'technical' arguments are rational. When a certain technical rationale is presented as the standard of rationality, it is, as is evident from the government's case for GM produce, really an unacknowledged form of political domination.[13] The technical rationale facilitates the selection of a particular kind of society (whose development the technology in question serves), obscures this end from public political discourse, and in the process, further limits meaningful avenues of public participation. Naturally, we find this mode of argument employed by those who stand to lose the most from free and open discussion and the growth of substantive democracy (liberty, popular sovereignty, human rights), namely, those who represent corporate and state power.

So what should be done about this state of affairs? What steps we take depend on what it is we are trying to achieve. That democratic freedom in any meaningful sense is the *sine qua non* of our asking and realizing what kind of future we want, requires our seeking out obstructions to this, typically structures of coercion and authority, and demanding that justification be made of them. If justification cannot be made – and the burden of proof lies with those who consider coercion necessary – those structures ought to be declared illegitimate and dismantled as one would any other illegitimate power structure.

A possible starting point might be the re-examination of the 'rights configuration' presumed in the dismissal of widespread, popular opposition to GM food in the UK by government and certain corporations.[14] Such contempt for popular democracy involves the tacit assertion of a minority's presumed private right to acquire wealth, which GM produce facilitates, at the expense of (at least) four actual basic rights:

- The public's right to be free from the risk of harm inherent in that form of wealth acquisition,[15]
- The equal right to decide which risks, if any, to which one can be exposed, for what reasons and how these risks are to be defined and managed,[16]
- The equal right to participate in the development of society which genetic modification denies by its role in directing it covertly,
- The equal right to a sustainable future which GM compromises by the

inevitable undermining of the organic option due to irreversible contamination from GM crops and GM produce in the food chain.[17]

If the denial of these basic rights is found, under free and democratic discussion, to be incompatible with what could reasonably be expected in a just, decent and democratic society, then the assumed right to acquire private wealth has to be re-defined and the use of technology granted only in so far as they enhance, or at least, protect, these basic rights.[18] Should the existing rights trade-offs be normalized, that is, these basic public rights be deemed unworthy of recognition, then that society naturally forfeits the right to self-designation as just, decent and democratic.

With biotech companies' covert attempts to force GM produce into our food chain,[19] flooding the market before democratic consideration or regulation (so that the right of choice is lost and the organic and conventional options are compromised), such a rights configuration would appear more consistent with societies of a feudal or fascist nature – if by fascism is meant the organized denial of others' rights to liberty, security and life for reasons of the advancement of a minority's private interests. Indeed, in this context it is perhaps well to remember that Benito Mussolini once declared 'fascism should more appropriately be called corporatism because it is a merger of state and corporate power'.[20]

To counter the supposed inevitability of certain technologies, including future technologies, facilitating this corporatist outcome, opposition to them needs to be set within an adequate challenge to prevailing structure and preconceptions of global governance. As a consequence, we should consider more carefully that the way in which the expert represents technological options may marginalize public political discourse, may narrow avenues of meaningful public participation, and may deny the public basic rights by normalizing the externalization of risk for private gain; all of which obscure new courses for society and ultimately entrench the prevailing, unsustainable structure of global governance which divorces decisions over new technologies from those whose lives will be most affected by them.

Acknowledgements

I wish to thank Lewis Cleverdon (Global Commons Institute) and Peter Edwards for their welcome comment and inspiration during the drafting of this article.

Notes

1. See, for example, ACRE (1993, 1997, 1999, 2000), DOE (1995) Royal Society (2002) or FSA (2003). The latter provides a good example of the reduction of the public's 'views' on GM food to mere (quantifiable) perceptions of choice, costs, benefits and risks.

Note also that genetic modification (GM) and its synonym, 'genetic engineering', refer to products containing genetically modified ingredients and to genetically modified organisms (e.g. trees; see, for example, *Guardian*, 1999c). Some would argue that the term GM might better stand for genetic mutilation as it breaches the species barrier (see, for example, Ho, 1998: 12–14, 43), produces

self-replicating pollution and discounts evolution as having neither ethical nor practical sufficiency (Lewis Cleverdon, 2004: pers. comm.).

2. The attempted commensuration of apparently incommensurable viewpoints by the standard of monetary equivalence does not, some would argue, so much commensurate as dominate competing claims by prioritizing one point of view, namely, that of commodification, and forcing all other claims to be formulated in its language. By being ascribed a commodity-value or equivalent, other claims are thereby evaluated according to the same, and by no means neutral, end that money serves – capital accumulation (see, for example, O'Neill, 1997). It is partly in this light that GM proponents such as the head of the Royal Society, Robert May, can designate for instance the apparently less ecologically damaging GM maize tested in the government's farm-scale trials as a 'benefit' (May, 2003) and not for what it actually is: simply less damaging than a comparative conventional maize using a pesticide ingredient (atrazine) so harmful that is has now been banned under EU law (*Independent on Sunday*, 2003). Furthermore, May's naïve belief, shared by more than a few GM proponents (see below), that the political dimension of GM, or as he puts it, the sole issue as to 'what type of *modern* agriculture Britain want[s]', is one that is ultimately decided by technocrats and economists (*Guardian*, 2003f; emphasis added), underscores the abuse of responsibility by select public authorities to conspire, foreseeably, in the demise of the public arena.

3. A good example is the government's 'GM Nation? The GM Food Debate'. Its website (http://www.gmnation.org) structured public participation survey questions around the issue of benefits, risks and costs so as to exclude basic political and ethical questions the public may have. (See also Robert May's lament that the public debate on GM food has been hampered by an under-emphasis of the benefits of genetic modification; May, 2002 and below). That the 'great GM debate' was allocated 26 times less the amount than the government had already invested with public money in the 'improve[ment of] the profile of the biotech industry' and, that the debate, which was to 'ensure all voices are heard', as the then Environment Secretary Margaret Beckett trumpeted, with an advertising budget of precisely zero and discussion limited to six towns (Monbiot, 2003) and whose website, the only other government-sponsored forum for public discourse, was subject to constant crashes during a debate which lasted 3 June–18 July 2003 (compared with countries such as New Zealand and Ireland which offered upwards of twelve months), should come as no surprise once the government's underlying agenda for narrowing the debate has been understood. Within the narrow framework of technically-defined risks, costs and benefits, the government can appear to claim to have 'taken into account public opinion' registered during the national debate (*Guardian*, 2004a), that is, to have denied political, ethical or other objections that the public may have which do not conform to the framework and to have reduced the rest to terms (risks, costs and benefits) which can be easily manipulated and presented in such a way as to avoid threats to the general neo-corporatist agenda (see below).

4. A cursory glance at campaign material of mainstream opposition non-governmental organisations (NGOs) suggests a general unwillingness or failure to grasp this level of political realism (e.g. Diamond, 2003; FoE, 1998, 2003a, 2003b: 7, 12–14; Greenpeace, 2000, 2003; Meziani and Warwick, 2002; Soil Association, 2003; the umbrella 'Five Year Freeze' campaign – http://www.fiveyearfreeze.org and http://www.gmleaflet.org). Formulating their objections predominantly in terms of pseudo-objective technical criteria is an ill-thought out tactic (see below) shared

by other critics (for example, *Independent*, 2003; Meacher, 2004). The Nuffield Council on Bioethics' report on 'the [sic] ethical and social issues of GM crops' (1999) is a further example of avoiding the central social issue of GM, namely, the narrowing of the public political arena and the *de facto* selection of a particular kind of society to the exclusion of all others (see below). The frequently observed tendency in the national media to couch the problems of GM as one of safety (cf. *Guardian*, 2004c), licences what some claim to be the (pseudo) scientific management of the perception of risk (see, for example, Ho, 1998 and below), redefines the exercise and scope of authority (Habermas, 1992) and displaces a whole swathe of social, political and ethical concerns about GM technology (see below). On the more general point of NGOs' unwitting extension of rationalization through 'ecological modernization', see Hajer (1997).

5. See *GM-Free* (1999: 8). To give an example of the extent of the government's neutrality on the GM issue, eight of the thirteen members of the Advisory Committee on Releases into the Environment (ACRE) had links with the biotech industry and interests in almost 40 percent of the trials that the panel itself approved, with six paid by the committee to grow genetically modified crops. Since it was set up in 1992, the panel had not refused one application to release genetically modified organisms into the environment (See *Ecologist*, 1998).

6. May cited in *Guardian* (2003b); see also May (2002). Such masking of political considerations with technical argument is not uncommon. The former Environment Secretary, Margaret Beckett, observed that 'opposition [to GM] might eventually be worn down by sound scientific argument' (Radio 4 News, 2004), as if politics can be reduced to scientific management, as if science is 'neutral', and, moreover, as if 'sound science' would automatically decide in favour of GM produce (cf. Ho, 1998: ch. 3). Similarly, the once head of the Committee for the Public Understanding of Science in Britain, Professor Lewis Wolpert, argued for a sharp distinction between science as 'neutral and value-free' and its application *qua* technology which can be either 'beneficial or harmful' (Wolpert, 1996: 9–21). The distinction is spurious, particularly in experimental sciences such as genetics, where techniques determine what sort of questions can be meaningfully asked and hence the range of answers that are deemed significant and relevant to the science (see also Ho, 1998: 7).

7. In addition, GM opponents have been accused of morally bankruptcy by preventing the starving many in the 'Third World', who have not the luxury of choice, from the right to benefit from GM food. (For such arguments, see, for example, Cohen, 2003; *Economist*, 1999; *Guardian*, 2000, 2002c, 2004c; *New Scientist*, 1998c, 2000; *The Times*, 2000). Since this contention also appears to have stuck, and is one upon which many GM opponents have curiously fallen silent, it is worth considering two points. First, since the overwhelming majority of famines over the last century were caused, as Amartya Sen and others have demonstrated, not by a shortage of food but rather by a lack of access to food (or rather, an iniquitous distribution in peoples' ability to acquire food), that is, by the economic and political measures, not resource shortage, the introduction of GM crops and ensuing corporate control of local food systems is likely to exacerbate not ameliorate world hunger (See Dibb and Mayer, 2000; *Guardian*, 2002a, 2002b; Ho, 1998: 125–31; Kimbrell, 1998; Monbiot, 2002; Sen, 1982; Shiva, 2000). Secondly, a possible reason why the 'right to benefit' (or 'moral bootheel') argument has gone largely unchallenged, may have something to do with the more general point about the form of justice that prevails in societies which organize social life around the production

of commodities. In commodity-based societies, Ivan Illich once observed, the assertion of rights typically follows suit: as material progress is measured by the volume and variety of commodities produced, so we come to measure social progress by the distribution of access to these (Illich, 1978: ch. 1). In this way, social justice becomes largely condensed to the assertion of rights and entitlements, be they to basic health care, nutrition or education. The point here, which many GM proponents and opponents alike have missed, is that the affirmation of rights to benefits conceived of as commodities is mistaken for advancing essential liberties, whereas in fact the extension of rights to commodities has, Illich argues, generally proceeded by denying liberties (Illich, 1978: ch. 1). While such rights protect access to commodities, liberties, in contrast, protect those conditions conducive to the flourishing of 'civil society', by which is meant the web of uncoerced relations created between people themselves independent of external regulation, but which so often fragment and degenerate when incorporated within market relations. Failure to distinguish liberties from commodity-rights may explain in some way GM opponents' inability to adequately respond to proponents' 'moral bootheel' argument.

By failing to distinguish liberties from commodity-rights, it is difficult to see how GM opponents can respond to the fact that market- and state-based regulation, which fills the vacuum created by the breakdown of civil society, readily follows from arguments for peoples' rights to benefits conceived of as commodities, other than by advocating rights, such as those of 'livelihood' and of consumer choice, which in turn sanction further external regulation. Consequently, the issue is not first and foremost the denial of the right to benefit, as GM proponents would have it, but the denial of fundamental liberties by the assertion of the right to benefit from commodities. Asserting commodity-rights paves the way for political and economic measures, such as control of access to food resources, that gives rise to a set of problems (e.g. mass under nourishment, famine) to which large-scale commodity producers alone appear to have answers. The circularity of the logic of claiming efficiency in the provision of a solution to a problem that one has oneself helped to create (erosion of civil society and food autonomy) and which, through this solution (GM produce), one worsens (again, usually to the extent that one has profitable solutions to problems that one's former 'solutions' created), is unlikely to be seen and hence adequately addressed until opposition to GM produce by NGOs and critics includes a sufficiently clear critique of the commodity-principle at the heart of the contemporary form of global governance. (On NGOs and this issue of governance, see, for example, Anderson, 2000 and Bryant, 2002; on, for example, Novartis, Du Pont, Monsanto and Bayer-Aventis seeking to control 90 percent of the caloric food intake of the world, see Hawken, 2003: 14).

8. See Allaby (1990: ch. 9), Elliot (1978: 78–102) and Gorz (1983). I am indebted to Gorz for some of the points that follow.

9. In addition to dependence on a select few who exert massive control of global food production and consumption, the possibility of the irreversible elimination of the organic option once GM crops take hold in a given country is considerable and has been well documented. See, for example, *Guardian* (2003e), Ho (1998: 130–1, 133–6, 138–45), Pearce (2004: 8) and Shiva (1993). Some GM proponents have attempted to displace this concern by emphasizing, among other things, buffers of 'exclusion zones' between GM and conventional or organic crops to prevent, it is claimed, contamination. This proposal that can be more clearly seen for the absurdity it is upon cursory consideration of, for example, elementary temperate

ecosystem hydrodynamics and other avenues of seed transportation. Moreover, climatic events such as the formation of dust clouds from the Sahara over southern England every 2–3 years (cf. http://www.llansadwrn-wx.co.uk/watch/dustdec03.html, http://www.bbc.co.uk/wiltshire/weather/wind.shtml or http://www.met-office.gov.uk/education/curriculum/leaflets/airmasses.html) and from the Gobi Desert over the Grand Canyon and even France (April, 2001; http://www.abc.net.au/science/news/enviro/EnviroRepublish_860879.htm) – events which are likely to increase with global climatic destabilization – raise the question as to just how large a buffer zone would be required to prevent contamination. It is for these and allied reasons surrounding the safety and deleterious impacts of GM crops that leading UK insurers, who have placed the risks of genetic contamination and damage in the same category as asbestos, thalidomide and terrorism, have refused to cover farmers who grow GM crops and conventional farmers anxious to insure against contamination of their crops (*Guardian*, 2003d).

In addition, the surprise with which the government's attempt to auction the UK public's genetic secrets to pharmaceutical companies – a step towards privatizing the nation's DNA and one strand in the likely fabric of a 'genetic society' – was received is telling (*Observer*, 2001). The surprise is indicative of the misrecognition of the fact that the predominant danger of technologies such as genetic engineering lies just as much in the role they serve, endorsed by technocrats and economists, in the covert shaping of a particular kind of society to the exclusion of all others as it does in its measurable ecological and health impact.

10. See, for example, the recent establishment of the Independent Science Panel (London), sponsored by the Institute of Science in Society and including leading scientists in the field, to counteract what they claim to be a concerted attempt by government and select members of the scientific establishment to promote GM under the guise of sound science which, they contend, is in fact, irredeemably flawed science (see www.i-sis.org.uk). See also *Guardian* (1999a) and Genewatch UK (http://www.genewatch.org). The prospect of irreversible contamination must cast doubt on the competence of the scientific enterprise itself. In so far as the scientist may perforce be described as one who does not pollute the laboratory – control conditions being a requirement of experimental credibility – releasing self-propagating entities into the 'environment' shreds this remit (Lewis Cleverdon, 2004: pers. comm.).

11. See Gorz (1983: 99–102) for an extended discussion of these points.

12. See, for example, *Guardian* (2003c). The cynic might suspect that a possible reason for the Blair government's staunch support for GM is that the emerging genetic society, being so fundamentally anti-democratic, is in keeping with the requirements of control of the existing structures of global governance.

13. Arguments which require protection or 'impediments' to global trade to be based on, and only on, 'sound science' are increasingly commonplace. See, for example, the US objection to European opposition to GM food (e.g. *Guardian*, 2004b; Ho, 1998: 31–2) and the Cartegena Protocol (designed to regulate the international trade in GM produce; see *The Times*, 2003).

14. Naturally implicated in the dismissal of popular democracy are the supporters and suppliers of these corporations; e.g. a range of banks, insurance companies, investment houses and investors, lawyers, scientists, economists and other 'experts'.

15. The denial of which is further entrenched by the lack of legal liability for adverse effects on people and the ecology from the release of GM organisms.

16. For possible elaboration, see, for example, Penz (1998: 38–9) and Williams (1988: 157–66, 167–80).

17. See, for example, Ho (1998: 130–1, 133–6, 138–45); Mayer (1998); Meziani and Warwick (2002); *New Scientist* (2004) which documents how over 100 000 small conventional and organic farms have been eradicated since the introduction of GM farming in Argentina alone; Pearce (2004: 8); Physicians and Scientists for the Responsible Application of Science and Technology (http://www.psrast.org); Shiva (1993). As the government deliberates on avenues of remedial action for farmers whose organic crops become contaminated, admitting that 'it would probably be impossible to grow the same species of organic crops in Britain without cross-contamination' (*Guardian*, 2003g), it might be well to ask just how much is the irreversible loss of organic agriculture in Britain – the sole reliable means of a safe and sustainable food future – for a corporate sector's perceived benefit, actually worth?

18. For further discussion of the identification and rectification of implicit rights trade-offs within conflict situations, see, for example, Anderson (2003).

19. See, for example, *Guardian* (2003a), Williams (1998: 162).

20. Although Mussolini refers to the historically-specific 'Corporate State' of Italy during the 1930s and 40s, his account is relevant here. See Mussolini and Gentile (1932), Mussolini in Ingersoll and Matthews (1991: 241–2), in Higham (1983: xv) and on the Corporate Accountability Project website (www.corporations.org). On what John Dewey called the 'industrial feudalism' of the contemporary system, see, for example, Chomsky (2000: 189, 208).

To take but one of numerous possible examples of the merger of corporate and state power, one might consider Lord Sainsbury, the UK Minster for Science, with his national supermarket chain, staunch support for, and with extensive business interests in, the biotech industry, appointed peerage and naturally unrelated distinction of being the Labour party's biggest single donor. Recent reports that he attended, in contravention of Cabinet Office regulations, key Cabinet meetings, 'which drew up a top-level strategy to promote biotechnology' in Europe – using public funds and from which he would benefit personally – which aimed to limit the 'EU's ability to raise ethical issues surrounding biotechnology' (*Observer*, 2004) do little to undermine this contention.

References

ACRE (1993) *The Regulation and Control of the Deliberate Release of Genetically Engineered Organisms.* Department of the Environment/Advisory Committee on Releases into the Environment guidance note 1. London: DETR.

ACRE (1997) *The Commercial Use of Genetically Modified Crops in the United Kingdom: the Potential Wider Impact on Farmland Wildlife.* Discussion paper. Advisory Committee on Releases into the Environment. London: HMSO.

ACRE (1999) *Genetically Modified Organisms and the Environment: Co-ordination of Government Policy.* Advisory Committee on Releases into the Environment. London: HMSO/DEFRA.

ACRE (2000) *Risk Assessment for Release and Marketing of GMOs in the European Union.* Advisory Committee on Releases into the Environment. London: DEFRA.

Allaby, M. (1990) *Living in the Greenhouse: a Global Warning.* Wellingborough: Thorsons.

Anderson, P.N. (2000) *Commodification, Conservation and Community: An Analysis and a Case Study in South India.* Edinburgh Papers in South Asian Studies Series no. 14. Edinburgh: Edinburgh University Press.

Anderson, P.N. (2003) 'Governance by Universal Justice or Serial Warfare?', *International Journal of Human Rights* 7(4): 143–54.

Beck, U. (1987) 'The Anthropological Shock: Chernobyl and the Contours of the Risk Society', *Berkeley Journal of Sociology* 32: 153–65.

Bryant, R. (2002) 'Non-Governmental Organisations and Governmentality: "Consuming" Biodiversity and Indigenous People in the Philippines', *Political Studies* 50: 268–92.

Chomsky, N. (1992) *Deterring Democracy*. London: Vintage.

Chomsky, N. (2000) *Rogue States: The Rule of Force in World Affairs*. London: Pluto.

Cohen, N. (2003) 'The GM Jeremiahs', *The Observer*, 11 May.

Diamond, E. (2003) *Science as Smokescreen? A Report on the Farm Scale Evaluation of GM Herbicide Tolerant Crops*. London: Friends of the Earth.

Dibb, S. and S. Mayer (2000) *Biotech – The Next Generation. Good for Whose Health?* London: The Food Commission/Genewatch.

DOE (1995) *A Guide to Risk Assessment and Risk Management for Environmental Protection.* Department of the Environment. London: HMSO.

Ecologist (1998) 'Call to Sack UK Biotech Advisors', *The Ecologist* 28(5): 285.

Economist (1998) 'In Defence of the Demon Seed', *The Economist*, 13 June.

Economist (1999) 'Frankenstein Foods', *The Economist*, 20 February.

Elliot, D. (1978) *The Politics of Nuclear Power.* London: Pluto.

Farish, W. (2003) 'Biotech is Benign', *The Guardian*, 4 June.

FoE (1998) *GMOs: The Case for a Moratorium*. London: Friends of the Earth.

FoE (2003a) 'Genetically Modified Crops and Food', Briefing paper. London: Friends of the Earth.

FoE (2003b) *Earth Matters.* London: Friends of the Earth, 56 (Autumn).

FSA (2003) *Consumer Views of GM Food.* London: Food Standards Agency.

GM-Free (1999) 'GM Food: a Guide for the Confused', *GM-Free* 1(1): 8–12.

Greenpeace (2000) *Food, the Environment and GMOs.* Briefing paper. London: Greenpeace.

Greenpeace (2003) *GM Farm Scale Trials.* Briefing paper. London: Greenpeace.

Gorz, A. (1983) *Ecology as Politics.* London: Pluto.

Guardian (1999a) 'Ousted Scientist and the Damning Research into Food Safety', *The Guardian*, 12 February.

Guardian (1999b) 'Blair Rules out Block on New Genetically Modified Crops', *The Guardian*, 13 February.

Guardian (1999c) 'Forests in Danger from GM Super-Tree Says WWF', *The Guardian*, 10 November.

Guardian (2000) 'Feed the World Opportunity Seen for GM Salmon', *The Guardian*, 22 April.

Guardian (2002a) 'Seeds of Change', G2, *The Guardian*, 10 July.

Guardian (2002b) 'Hi-Tech Crops Will Not Save Poor', *The Guardian*, 25 November.

Guardian (2002c) 'US Aid for Africa's Famines', *The Guardian*, 13 December.

Guardian (2003a) 'Case Not Proven', *The Guardian*, 17 October.

Guardian (2003b) 'Slow Germination of GM Crop Debate', *The Guardian*, 11 February.

Guardian (2003c) 'Majority Against GM Food', *The Guardian*, 29 April.

Guardian (2003d) 'Insurers Refuse to Cover GM Farmers', *The Guardian*, 8 October.

Guardian (2003e) 'Scientists Uncover Risks in GM Oil Seed Rape', *The Guardian*, 14 October.

Guardian (2003f) 'Debate on GM Crops "Bbeset by Confusion"', *The Guardian*, 25 November.

Guardian (2003g) 'Report Warns of Risks Posed by GM Crops', *The Guardian*, 26 November.

Guardian (2004a) 'Scientists Clear GM Crop for Planting', *The Guardian*, 14 January.

Guardian (2004b) 'EU Lifts Six-Year Ban on GM Corn', *The Guardian*, 15 May.

Guardian (2004c) 'Gene Firm Pioneers Desert Crop', *The Guardian*, 21 May.

Habermas, J. (1992[1962]) *The Structural Transformation of the Public Sphere*. Cambridge: Polity.

Hajer, M. (1997) *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford: Clarendon Press.

Hawken, P. (2003) 'Politics of Sustainability', *Resurgence* 221: 14–15.

Higham, C. (1983) *Trading with the Enemy: The Nazi-American Money Plot 1933–49*. New York: Delacorte Press.

Ho, M-W. (1998) *Genetic Engineering: Dream or Nightmare?* Bath: Gateway.

Illich, I. (1978) *The Right to Useful Unemployment*. London: Marion Boyars.

Independent (2003) 'The Risks of Genetically Modified Crops Still Outweigh the Benefits', 17 October.

Independent on Sunday (1998) 'Thus Does Cloning Make Cowards of Us All', 13 December.

Independent on Sunday (2003) 'Flaw in Crop Trials Destroy the Case for GM', 12 October.

Ingersoll, D and R. Matthews (1991) *The Philosophic Roots of Modern Ideology: Liberalism, Communism, Fascism*. Englewood Cliffs, NJ: Prentice Hall.

Kimbrell, A. (1998) 'Why Biotechnology and High-Tech Agriculture Cannot Feed the World', *The Ecologist* 28(5): 294–8.

Lawrence, F. (2001) 'We Get CJD and Bile Duct Cancer So Others Get Rich', *The Guardian*, 28 May.

May, R. (2002) 'GM Food Could Be Good For You', *The Guardian*, 29 November.

May, R. (2003) 'GM Warriors Have Killed the Debate', *The Guardian*, 25 November.

Mayer, S. (1998) *Genetically Engineered Crops and Food: The Case for a Moratorium.* Briefing Paper no. 4. London: Genewatch.

Meziani, G. and H. Warwick (2002) *Seeds of Doubt*. Bristol: Soil Association.

Monbiot, G. (2002) 'The Covert Biotech War', *The Guardian*, 19 November.

Monbiot, G. (2003) 'Let's Do a Monsanto', *The Guardian*, 10 June.

Mussolini, B. and G. Gentile (1932) 'Doctrine of Fascism', *Enciclopedia Italiana*.

New Scientist (1998a) 'Strange Fruit', *New Scientist*, 31 October.

New Scientist (1998b) 'Chock-Full of Natural Nonsense', *New Scientist*, 7 March.

New Scientist (1998c) 'Greening the Desert', *New Scientist*, 18 July.

New Scientist (1999) 'The Name of the Game: The Battle Over Genetically Modified Food is Not What it Seems', *New Scientist*, 22 May.

New Scientist (2000) 'Two Cheers for Montreal', *New Scientist*, 5 February.

New Scientist (2004) 'Argentina's Bitter Harvest', *New Scientist*, 17 April.

Nuffield Council on Bioethics (1999) *Genetically Modified Crops: The Ethical and Social Issues*. London: Nuffield Council on Bioethics.

Observer (2001) 'Fury at Plan to Sell off DNA Secrets', *The Observer*, 23 September.

Observer (2004) 'Minister Broke Cabinet Rule Over Business', *The Observer*, 22 February.

O'Neill, J. (1997) 'Managing Without Prices: The Monetary Valuation of Biodiversity', *Ambio* 26(8): 546–50.

Pearce, F. (2004) 'Gene Pollution is Pervasive', *New Scientist*, 28 February.

Penz, P. (1998) 'Environmental Victims and State Sovereignty: A Normative Analysis', pp. 27–47 in C. Williams (ed.) *Environmental Victims: New Risks, New Injustice*. London: Earthscan.

Radio 4 News (2004) 'Government to Back GM crops', 19 February (also available on the BBC News website: http://www.news.bbc.co.uk/1/hi/uk_politics/3501669.stm/).

The Royal Society (2002) *Genetically Modified Plants for Food Use and Human Health – an Update*. London: The Royal Society.

Sen, A. (1982) *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Oxford University Press.

Shiva, V. (1993) *Monoculture of the Mind*. Penang: Third World Network.

Shiva, V. (2000) 'Poverty and Globalisation', Reith Lecture (no. 5), 12 May, URL: http://news.bbc.co.uk/hi/english/static/events/reith_2000/lecture5.stm

Soil Association (2003) 'Genetic Engineering – The Key Issues'. Briefing paper. Bristol: Soil Association.

The Times (2000) 'Allow GM Crops to Feed Poor, Says Top Scientists', *The Times*, 12 July.

The Times (2002) 'Seeds of Doubt', *The Times*, 17 August.

The Times (2003) 'Trade Rows Loom Over GM Export Treaty', *The Times*, 28 May.

Westbrook, R. (1991) *John Dewey and American Democracy*. Ithaca, NY: Cornell University Press.

Williams, C. (ed.) (1998) *Environmental Victims: New Risks, New Injustice*. London: Earthscan.

Wolpert, L. (1996) 'In Praise of Science', pp. 9–21 in R. Levinson and J. Thomas (eds) *Science Today: Problem or Crisis?* London: Routledge.

WTO (2003) *Industrial Tariff Liberalisation and the Doha Development Agenda*. WTO discussion paper no. 1, Geneva: World Trade Organisation Secretariat.

Paul Nicholas Anderson advises and conducts freelance research, largely for non-governmental organizations, having studied and taught philosophy, anthropology and environmental science. His current doctoral research examines the role and efficacy of a rights-based commons framework for addressing and resolving conflict-generating dimensions of global governance. Presently based at the Centre for the Study of Global Ethics, University of Birmingham, he also manages, and researches on, a European-wide project, *PropEur*, on property regulation in the human body (genome and tissue), in the plant and animal genome in relation to biodiversity, sustainable development, food production and in the 'information society'. http://www.propeur.bham.ac.uk