

Definitions of terms such as 'defective' and 'abnormal' is highly controversial, and if some categories of people are typecast with such tags, racial hierarchies and intolerance for diversity of humankind are bound to proliferate.

The biotech century could also usher in a phase of governmental inaction and conservatism if the idea that all social and economic problems originate from genetic make-up of individuals and groups, reigns. Instead of aiding and helping develop least developed countries and their peoples, the rich nations could sit back and express helplessness in the face of 'genetic disorders' that have led to African wretchedness. Genetic sociology thus has the potential of legitimizing the North-South divide as natural and foreordained by genes. The shift from 'nurture' to 'nature' as the explanatory force for inequalities of income and status has serious portents for the future of internal and international socio-economic relations. In America, a new group of dispossessed workers, and throughout the world, a new group of dispossessed and inferior countries will be engendered by 'genetic discrimination' and voices calling for a reordering and restructuring will be cowed down by reams of scientific 'evidence', 'Once a new cosmology is widely accepted, the chances of generating a thoughtful debate over the way the economy and society have been reorganized are slim' (p. 198). The genetics-driven immutable 'law of nature' will become insurmountable for activists preaching reform and change in existing divisions of labour across the world. Darwinism suited the rise of industrial capitalism in the 19th century England and neo-Darwinian genetic cosmology could likewise be the perfect fit for globalization today.

The dependence of the biotech century on computer programming and storage has lessons for international relations too. In an era signified by growing information inequalities between rich and poor and developed and underdeveloped parts of the world, 'survival of the best informed' is crystallizing (p. 215). The marriage of computers and biotechnology (bioinformatics) is working to the benefit of Bill Gates and avant-garde Wall Street insiders, who can offer their software reservoir to the bioprospectors as a bank and clearing house of the gargantuan bits of information that are emerging out of dissecting plant and human genes.

Already, the technology for translating DNA units into binary 0s and 1s is underway. But when almost all of Africa has no clean drinking water, it seems redundant to talk of computer access. The biotech century is becoming a vehicle for increasing the fissures between haves and have-nots by driving a wedge between 'Netizen' and Citizen. Like Edward Said's Orientalists who had the power of knowledge to sit in judgement over native societies, Microsoft Corporation and other monopolistic firms have the opportunity as collaborative partners of the 'scientific establishment' to build upon their riches and boss over the under-informed and illiterate parts of the world. Should they be allowed to 'Play God'?

Should the gene be allowed to become a 'cultural icon, a symbol, almost a magical force' (p. 225)? Should Baconian and Newtonian thinking on limitless science aiding man's unceasing conquest of nature be perpetuated? The biggest question on the cusp of the biotech century is not whether one is opposed to science and technology *per se*, but rather to what kind of science and technology, one that abets injustice or one that benefits mankind and the ecosystem in every corner of the globe. For these reasons, 'every human being has a direct and immediate stake in the direction biotechnology will take in the coming century' (p. 236).

This seminal best-selling work, by an author whose ideas have been influential in shaping public policy in the United States, is a must-read for every concerned citizen of the world.

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Environmentalism Unbound: Exploring New Pathways for Change. Robert Gottlieb. The MIT Press, Five Cambridge Center, Cambridge, MA 02142-1493, USA. 2001. 396 pp. Price: US\$ 29.95.

This is a fascinating book in which the author, on the basis of personal research carried out in California, USA, proposes methods of providing space for all stake-

holders in the management of environment and prevention of pollution. He shows that environmental advocacy need not become just a special interest activity. The author's central thesis is that by reconstituting and integrating environmental justice and pollution prevention into a common vision and set of strategies for change, environmentalism could help lay the groundwork for fundamental social change, to make industries more socially responsive and greener, and to make communities more liveable.

The following three research studies have provided the insights articulated with great lucidity in the book.

- A dry-cleaning industry in crisis, the debate over alternative pollution prevention approaches, and whether such alternatives can help establish a new community of interests.
- A set of janitorial cleaning products that may be hazardous to workers and how such hazards can and have been addressed in the context of the search for social and environmental justice.
- The barriers and opportunities in constructing a community or regional food systems approach in the face of a globalizing food system that has changed the very nature of how we grow, make and consume our food.

The first example relates to a small business like dry-cleaning. How can it fit into the environmental policy mode of bringing about 'cleaner, cheaper, smarter environmental change'? The technological and social struggles which small dry-cleaners had to undergo for fulfilling an 'eco-clean' concept are described in detail. For example, in the fifties and sixties, perchloroethylene (perc) was considered to be a safe cleaning agent. However, in mid-seventies, the National Cancer Institute, USA identified perc as a liver carcinogen in mice. Thus, new technologies were being proposed and discarded on considerations of human health and environmental safety. The author summarizes the numerous ecological debates which surrounded the dry-cleaning industry for most part of the latter half of the 20th century and demonstrates the importance of social movements and community action as well as worker and workplace engagement in restructuring the industry. The industry has now seen a transition to wet-cleaning, ending pollution-causing chemical dependencies.

The second example relates to janitorial work. Over the years, janitorial work itself has become more a reflection of the potency of the chemicals used than the knowledge of how best to achieve a standard of cleanliness applicable to a particular place. The author traces various stages of the 'Justice for Janitors' movement. Taking the example of the Santa Monica City's Toxics Use Reduction Programme for janitorial cleaning products, the author illustrates how a new social and environmental justice agenda can be evolved which harmonizes the environment, workers union and community objectives. Santa Monica's example shows how connecting the social and the ecological discourses can result in a 'win-win' situation for all.

The third example taken up for detailed analysis deals with the gradual erosion of community-centred food systems and their replacement with fast food-chain stores. The biotech food revolution of the nineties further transferred the responsibility for food security from local communities to multi-national corporations. The author points out how the US media had at first largely ignored the controversy surrounding genetically modified foods. The terminator seed (i.e. embryo abortion resulting in the non-viability of the seed) controversy became a key rallying point for critics and activists in the United States and Europe, leading to a more well-informed debate

on issues like genetic diversity, the monopolization of seeds and intellectual property rights. This led to greater interest in alternative growing practices, including organic farming. A significant development was the enactment by Congress of The Organic Foods Production Act, which led to USDA establishing a National Organic Programme and an empowered National Organic Standards Board. All this led to the mainstreaming of environmental sustainability concerns into the food production process. Various means of linking the producer and the urban consumer in the form of 'neighbourhood markets' also grew. In 1997, the Community Food Security Coalition adopted a *Healthy Farms, Healthy Kids* initiative that sought to expand farm to school purchases as well as 'learning by doing' strategies for nutrition and environmental education through school gardens. California's 'Garden in Every School' programme provided the necessary resources.

The examples cited by the author indicate that we need to place 'Man in Nature', recognizing that in doing so, we would need to establish a more complicated and supple sense of how we fit into nature. It is also clear that ecology-oriented companies will constitute the next generation of more profitable, high performance and sustainable business, thus ushering in a new kind of global ecological order. It is clear from the

history of the American environmental movement, that whether focusing on the food we eat, the clothes we clean or the places where we live, work and play, there is need for a new discourse and language which is inclusive and not abusive.

Globally, the great challenge lies in ending unsustainable lifestyles on the part of a billion and unacceptable poverty on the part of another billion. Sustainability should not be measured only in terms of economics or ecology, but also in terms of social factors. The examples cited in this book have much to offer in terms of resolving many environmental conflicts as well as pollution problems associated with major industries like leather, textiles and aquaculture in India. Robert Gottlieb has rendered great service to the cause of conflict resolution in the area of environment protection and sustainable development by pointing out that for every problem, there is a viable solution and that the various stakeholders should try to shed light on options rather than indulge in just a 'don't' philosophy.

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