

Hungry Corporations: Transnational Biotech Companies Colonise the Food Chain

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Chapter 9:

Conclusions: Summing Up and Moving On

Those who do not remember the past are doomed to repeat it.

George Santayana (1863–1952)

Throughout this book we have looked at different ways in which the source of the food stream, basic to human life, is being diverted through the advocacy of genetic engineering and the patenting of living organisms to serve the priorities of the transnational corporations. As we have seen, many of those corporations are larger in economic terms than countries, yet they are private bodies whose recent evolution into global giants has been extremely rapid. We take them for granted, yet we often forget that they have not always been there. The biotech companies are not among the largest in the world, but their ability to change our lives arguably places them among the most powerful, since their work involves bypassing the process of evolution and changing genomes irrevocably. We have given examples of the many levels on which they have been working and of how they are infiltrating and subverting a wide range of institutions in their efforts to promote genetically engineered crops.

The colonisation of indigenous agriculture through the green revolution has destroyed farming systems and eliminated locally adapted varieties and knowledge, undermining the agricultural diversity that has been nurtured over millennia. Each farmer variety that is lost means the loss of germplasm and knowledge painstakingly selected, built up, exchanged and passed on down the generations. Such wealth is irreplaceable. These systems are being replaced by crops that depend on inputs and farming systems that depend on agribusiness, while farmers are being displaced to expanding cities. All this has intensified cycles of dependence and struck at the roots of self-reliance. A system of commerce based on perpetual growth

requires an unquestioning mass consumer culture in order to thrive. This provides the perfect context for the operations of the large corporations. Genetic engineering will intensify this process and GM contamination has already penetrated Mexico, the centre of origin for maize, transformed by farmers over thousands of years from a plant of little food value to a world staple.

The emergence of the biotechnology corporations in their present form would have been impossible without a number of facilitating factors, some old and some new. The gradual development of the charitable corporation into a for-profit entity with little liability, almost complete freedom to operate and only one main obligation – to maximise profit for shareholders – has played a major role. That corporations have also acquired many of the same rights as human beings without any of the limitations of being human adds to the danger.

Financial markets have been liberated over the last 20 years, enabling corporations to move their capital freely and change their focus at will. This has greatly facilitated the growth of corporate power. The World Trade Organisation's agreements are designed to give corporations freedom to operate wherever profits can be maximised. Many countries in the South lack national rules on monopolies, and there is currently no way to tackle global monopolies. Governments with the largest number of corporations – in the US, Europe and Japan – have become increasingly complicit in corporate interests. Politicians and corporate executives regularly swap places in a flurry of revolving doors, especially in the US. All this is facilitating the entry of private corporations into areas of public interest which were formerly the preserve of local communities or governments.

The extension of patents to cover living organisms from 1980 was vital to the biotechnology industry,

enabling it to raise capital on the markets and to construct systems of exclusive monopoly control. It is not surprising that the corporations have invested so much energy in securing intellectual property rights legislation such as TRIPs and the European Directive on the Protection of Biotechnological Inventions. Now they seek a harmonised global patent regime. The effort to develop a genetic engineering technology to prevent the germination of seed and to control the expression of traits (Terminator and Traitor technologies) was initially a collaboration between the US government and a US company. It aimed to increase profits and create an incentive for corporations by preventing farmers from freely saving and breeding seed, forcing them to purchase it anew each year. The level of control delivered by the technology is formidable, since it covers both the product and the intellectual property invested in the product. Nowhere else has the naked intent of the biotech industry been so clearly revealed.

Research is being profoundly affected by a creeping corporate takeover. The obsession with obtaining patents is restricting the free exchange of information and limiting access to information and technology. The quest for rapid returns on investment is distorting the sciences; the hunt for profitable applications risks turning the pursuit of knowledge into a race for technological fixes. Increasingly, technology is driving social development and this is particularly true of biotechnology, where technological optimism is endangering the principle of scientific scepticism. Governments have been complicit here too, hoping for technological solutions to problems that require political commitment. Vitamin A deficiency is one example of this, but the desire to avoid genuine political action permeates the agricultural debate, since, for example, democratic land redistribution is one thing that most governments quietly agree they would prefer to avoid. Instead, the tendency, assisted by new technologies, has been for further consolidation of land, in the name of efficiency.

But genetic engineering as presented by the industry has a deep psychological appeal. People have always longed for miracles. Genetic engineering technologies feed this longing very aptly and the industry has not held back, ably assisted by a burgeoning and rapidly consolidating public relations industry that is full of clever ideas about how to present GM biotechnology as benign. Since so much of the current excitement rests on projections of future possibilities, the painting of dream pictures is made even easier.

The consequences of all this are far-reaching. GM biotechnology is a microcosm for industrial development in general. The increased vertical and horizontal integration of the biotech industry means that ten companies control almost 33 per cent of the commercial seed market; five control 75 per cent of the vegetable seed market, while four control almost 100 per cent of the GM seed market. Two companies

control 34 per cent of the global agrochemical market and ten control 85 per cent. Currently, Monsanto traits can be found in 91 per cent of GM crops grown worldwide. Recent mergers and acquisitions (such as the creation of Bayer CropScience and Syngenta) have been approved without building in any capacity for addressing the issue of global monopolies. Meanwhile, public interest research is being increasingly hijacked by corporate priorities and corporations are gaining access to public funding and publicly funded institutions such as universities and agricultural research centres.

So where is all this leading? History may provide us with clues. The British East India Company began as a group of traders and ended up ruling India:

Yet an empire of trade unexpectedly became an empire of conquest. From 1740, interventions in local politics and the deployment of increasingly effective armed forces gave company employees the confidence and capacity to impose their will on annexed territories in northern India.

The transformation from trader to sovereign was swift, brutal and decisive. By the 1770s, a company state had been created in Bengal, and further expansion was sustained by the formation of a large army of Indian sepoy's financed through the collection of land revenues. As the mathematician William Playfair pointed out, 'From a limited body of merchants, the India Company have become the Arbiters of the East.'¹

Today, we run the serious risk of finding ourselves ruled by corporations far more completely and powerfully than the East India Company ever ruled India. They are busy recolonising every space that has experienced colonisation before, and a multitude of new spaces that could not previously be colonised either because the technology or the legal rights were not available – our bodies, our brains, the products of collective and traditional human experience and creativity. We therefore need to question not just the technology of genetic engineering itself, but the bid for power that it represents. Even if that bid for power is not always conscious amongst the human heads of the businesses, it is an inevitable outcome of the many freedoms we have given the corporations and the structures that they have developed and exploited, notably legal and financial.

A major consequence of the increasing domination of research by the corporations is that there is less funding and less intellectual energy available for looking at methodologies, innovations or regenerated old practices, such as the use of raised fields in South America, that cannot be patented or otherwise controlled to ensure private profit. The corporate mindset means that knowledge and practice accumulated all over the world, together with farmer varieties/germplasm, are seen simply as raw material

for the development of privately owned technologies. If they can't use it, they see no point in promoting or protecting it.

GM biotechnology is increasing the tendency towards genetic uniformity in crops and cultivation of monocultures. Past experience suggests this will accelerate the development of new pest and disease attacks. Already some of the current generation of GM crops are beginning to show signs of failure. Evidence shows that yields are not as good as promised. Pests and weeds are developing resistance to pesticides and herbicides. It is often the case that new technologies reveal only their positive side at first. This may be explained by the suppression of less positive test results, the absence of tests, the fact that no-one was looking for problems, or simply the fact that those problems could not be predicted readily at the time of the introduction of the technology. However, this was certainly not the case with genetically engineered crops, where critics were long ago predicting the problems that have emerged to date, such as the build-up of resistance, contamination and gene flow.

Yet, the corporations may not perceive failures among the current generation of GM crops as a major threat. 'Miracle' high-response varieties of the green revolution often only lasted a few years before they were overwhelmed by pests and diseases, involving breeders in a constant race to find new varieties, while agrochemical companies sought new (patentable) chemicals to subdue the pests. Whatever the impact on the farmer, it was all good business for the companies. Moreover, chronically dependent customers, whoever they may be, are ideal fodder for generating profits. If those customers are tied up by debt and vanishing profit margins, all the better. The corporations are already promising new generations of GM crops designed to tolerate salt and drought.

They do not mention that there are already farmer varieties of crops worldwide that are able to do the same thing. They do not publicise the fact that all over the world people are maintaining, rebuilding and creating ways of producing food that thrives on diversity instead of monoculture, and that work *with* soil, climate, ecology and other species, instead of treating them as obstacles. In Cuba, where the collapse of the former Soviet Union left the country short of inputs and petroleum, they are developing organic food gardens; in Argentina, following the collapse of the economy, people are turning to their own resources to do the same thing. In Africa, where most farmers still save and breed their own seed, many are *de facto* organic or use very low levels of inputs. In a report produced in February 2001, Jules Pretty and Rachel Hine present 47 case studies and conclusions.² In a report for Greenpeace, Nicholas Parrott and Terry Marsden give more examples of alternatives to the chemical model of farming.³

For example, raised beds or *chinampas* have been developed in waterlogged regions of the world including China, Kashmir, the Andes of South America, Guyana and Mexico, where they have been in continuous use for over 2,000 years. They produce good yields. In China:

Narrow beds are used for sugar cane and vegetables, while systems for longer duration crops, such as banana, citrus and lychee have wider beds and ditches. In the ditches rice, fish and edible snails are cultivated and mud is excavated to put on the beds. These high-bed, low-ditch systems have helped to lower water tables, reduce soil erosion and nutrient loss, preserve organic matter in ditches and increase the internal cycling of nutrients.⁴

All over the world, there are organisations and initiatives working at grassroots level, often focusing on women, who have been neglected until recently by the proponents of industrial agriculture. Just three examples are:

- UBINIG, in Bangladesh, worked with village women and farmers to set up Naya Krishi Andolan (New Agriculture Movement), which focuses on diversity cropping and maintains 'community seed wealth centres'. It involves 100,000 farming families.
- Deccan Development Society works with the poorest women in about 75 villages in Andhra Pradesh, India, based on the principles of access, control and autonomy. They have set up systems to protect and retrieve farmer varieties, uncultivated foods and medicinal plant resources, and established women's media.
- The Green Belt Movement began in Kenya in 1977. Its focus is tree planting, involving 5,000 nurseries and some 20 million trees to date. It has helped to increase the income and status in their own communities of some 80,000 women and there are now related projects in 30 African countries.

The message that comes from these initiatives is increasingly clear. We have to choose which path to take, as Brewster Kneen observes when writing about the Deccan Development Society:

The choices facing the people of Andhra Pradesh (and the rest of us) are stark: the preservation or reconstruction of autonomous local food systems and biodiversity, or dependence of the wealthy on the monoculture of a single globalized, TNC-controlled industrial food system, while the poor are left to beg on the streets.⁵

The choices *are* stark, but people in the colonised North are gradually beginning to wake up to them. The companies have not succeeded in quietly integrating GM crops into the food chain, unannounced and

unnoticed, as they had hoped. Concern about the imposition of genetic engineering has provoked great unease among the urban populations of the North – in the UK, for example – where the industrialisation and consolidation of the food chain is intense. The issue has become a core around which unease about food and power, government, technology and corporations has crystallised. More and more people want to take some responsibility for how their food is produced, even to produce it themselves. They feel that current applications of genetic engineering threaten to merely reinforce current power structures, in spite of the siren song of the PR specialists, and they want something different. Change is hard work. It means rejecting systems based on perpetuating old values and old power structures. It means deciding if we want corporations to continue in their present form, or whether we want to rethink and reshape them completely. The simplest way of overcoming existing power structures is to create our own, which requires commitment and effort from each of us. Above all it demands that we cancel the agreement to delegate responsibility for the state of society, so that we can get on with our private concerns. We have to assume responsibility ourselves, individually and collectively. We all have to choose, on an individual, family, community and societal level.

Only by assuming such responsibility can we bring about real change and offer real support to those, mostly in the South, who are already practising appropriate methods of food production. They have a great deal to teach us.

Notes

- ¹ Huw Bowen, 'Imperial Adventurers', *Guardian*, 12 January 2002.
- ² Jules Pretty and Rachel Hine, 'Reducing Food Poverty with Sustainable Agriculture: a Summary of New Evidence'. <http://www2.essex.ac.uk/ces/ResearchProgrammes/safewexecsumfinalreport.htm>
<http://www2.essex.ac.uk/ces/ResearchProgrammes/SAFEW47casesusag.htm>
- ³ Nicholas Parrott and Terry Marsden, *The Real Green Revolution: Organic and Agro-ecological Farming in the South*, Department of City and Regional Planning, Cardiff University, for the Greenpeace Environmental Trust, February 2002.
- ⁴ Jules Pretty, *Regenerating Agriculture: Policies and Practice for Sustainability and Self-Reliance*, London: Earthscan, 1995, p. 127, quoting S. M. Luo and R. J. Lin, 'High Bed-Low Ditch System in the Pearl River Delta, South China', *Agricultural Ecosystems and Environments*, 36 (1991): 101–9; C. S. Zhu and S. M. Luo, 'Red Deserts Turn to Green Oceans', *ILEIA Newsletter*, 8 (4) (1992): 25–26.
- ⁵ Brewster Kneen, 'A Global Village', *Ram's Horn*, 207 (December 2002).
<http://www.ramshorn.bc.ca/>