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Chapter 10**:**

NEOLIBERAL ORIGINS OF ANTI-GM PROTEST IN EUROPE

Commentary by Les Levidow

Abstract

As the context for this article, the GMFuturos study analyses how the GM crop controversy symbolised a struggle against unwanted forms of neoliberal globalisation in three countries (India, Brazil and Mexico). This article likewise situates the European GM controversy within a long-standing European political agenda of neoliberal policymaking. A biotechnological vision of further industrialising European agriculture was promoted as an overall solution to the problem of European competitiveness. Through various policy and legislative frameworks, these institutional commitments foreclosed European futures, thus provoking conflicts over democratic accountability. As a main lesson to be drawn, political-economic contexts always define the nature of a technology, in turn as the basis for contextualising public responses.

Commentary

Symbolic targeting of GM products

How can one explain the enduring and widespread conflict over GM products? What can be learned from this experience for other new technologies? At the 'GMFuturos' policy workshop June 2014 several speakers echoed a complaint from those commonly voiced by proponents of GM technology since Europe-wide controversy arose in the late 1990s: namely GM technology had been turned into a symbol of wider issues, such as corporate monopoly over the seed supply or the industrialisation of agricultural systems. According to some workshop participants, this symbolic targeting was unfair: why should GM technology be singled out for such blame? Such wider issues are set out in the 'GMFuturos' working paper and are further elaborated in this book. In particular, opposition movements had targeted GM crop technology as a symbol of neoliberal globalisation and/or of foreign-owned multinational companies in each of the three countries studied – India, Brazil and Mexico (Macnaghten and Carro-Ripalda, eds, 2015: Chapters 2-5; also Macnaghten et al., 2014).

In all three countries, protest movements were led largely by peasant movements with broader reasons to mobilise against those neoliberal political-economic agendas, which were seen as extending farmers' dependence on input-suppliers. In India Bt cotton had become a symbol of struggle against multinationals, neoliberal logics, the US and globalization. In Mexico GM maize had become a symbol of a neoliberal political-economic model, especially trade liberalisation with North America. In Brazil GM soya was initially opposed as a threat from multinational companies to small farmers' rights and native seeds, though soya as a foodstuff had a weak public resonance in that country.

In each case, such symbolic targeting of GM crops gained a broad public resonance by linking various issues and constituencies. How and why did this happen in so many places? Why did opponents target GM technology as a symbol of wider issues? And was this targeting unfair?

Actors who make such complaints should examine the roles of their own institutions. These will be analysed here by drawing on my previous research. In Europe GM technology had been promoted as an instrument of a wider neoliberal agenda, aimed at linking government,

public-sector research institutes and the private sector. In the mid-1990s some European politicians and policymakers even warned, 'Any obstacle to GM would jeopardise globalisation and its benefits.' My short article describes the origins of this European political agenda, which became the target of a broadly-based opposition movement.

Agricultural biotechnology linking EU neoliberal agendas

In the early 1990s European policy frameworks adopted the US model of intensive industrial modes of agricultural production as an inevitable pathway. As a broad category, agricultural biotechnology (henceforth agri-biotech) came to symbolise European progress through the adoption of a clean, precise technology that promised to link environmental and economic sustainability, especially through reductions in agrochemical usage. A biotechnological vision was promoted as an overall solution to the problem of European competitiveness: through biotechnology, the argument went, European companies would be able to compete in an increasingly competitive global market, involving the adaptation and consolidation of European companies into competitive multinational corporations. As part of this economic objective, an essential ingredient would be the application of modern biotechnology to European agro-food industries. The European Commission thus promoted biotechnology as central to Europe's future (Gottweis 1998: 170).

Within a neoliberal policy framework, moreover, a 1993 White Paper counselled European adaptation to inexorable competitive pressures, stating: 'The pressure of the market-place is spreading and growing, obliging businesses to exploit every opportunity available to increase productivity and efficiency' (CEC 1993: 92–93). The imperative to adapt was linked to the imperative for radical technological innovations including biotechnology: 'The European Union must harness these new technologies at the core of the knowledge-based economy' (ibid: 7). The entire agro-food industry became discursively 'based on biotechnology', i.e. strategically dependent upon science-led innovation, including GM technologies, as essential tools for future growth and competitiveness (ibid: 100–103).

R&D for proprietary knowledge

This political agenda informed EU research priorities. According to the Fourth Framework Programme: 'In particular, efforts will be made to identify the science and technology options with the most favourable impact on growth, competitiveness and job creation in Europe' (CEC 1994). This agenda equated 'favourable' with being 'globally competitive'. Priority was given to innovations in the new genetics, seen as foundational to improvements in efficiency and competitiveness. State-funded research was designated to be 'pre-competitive': to develop basic knowledge that would facilitate downstream competitive innovations. Policies aimed at the 'Life Sciences' included strategies for industrial integration – between seeds and agrochemical companies, as well as between agricultural supply and pharmaceutical companies – as means towards R&D synergies as well as competitiveness. Such policies also foresaw the European agri-supply industry becoming integrated into multinational companies.

By the early 1990s European Community funds for biotechnology research were made dependent upon industry partners committing resources to any project proposal. Research was given a clear economic function, with 'more careful attention to the long-term needs of industry'. According to managers of the DG-Research Biotechnology Division, 'The most vital resource for the competitiveness of the biotechnology industry is the capacity to uncover the mechanisms of biological processes and figure out the blueprint of living matter' (Magnien and Nettancourt 1993: 51, 53).

This research agenda conceptualised nature as an information machine whose deficiencies had to be corrected, so that such improvement would strengthen European industrial regeneration and competitive advantage. Molecular knowledge was promoted as key to industrial competitiveness. Within the domain of agriculture, research sought to delineate precise genetic changes which could safely protect crops and enhance agricultural productivity. This R&D agenda complemented the wider aim to 'industrialize agriculture', in the words of a lobby group for GM crops (GIBiP 1990).

As newly prioritised in agricultural research, the pursuit of molecular-genetic knowledge facilitated the extension of proprietary knowledge. In 1988 the Commission proposed a directive granting property rights in 'biotechnological inventions', whose title incorporated a basic concept from the agri-biotech industry, representing discovery as invention. Opponents raised the slogan, 'No Patents on Life!' and 'Criminalise Biopiracy!' They warned against several harmful consequences: that the directive would provide an incentive for companies to use GM techniques rather than other methods of improving seeds; that plant patents would deter other forms of seed improvement, especially of non-GM seeds; and that the mere prospect of litigation could deter other plant breeders from using the germplasm of GM crops.

In the ensuing controversy, 'biopiracy' became a common term for the theft of genetic resources – but with two opposite meanings. For advocates of greater patent rights, 'biopiracy' meant violating the rights of an inventor, by using patented materials without a licence agreement or without paying royalties. For opponents of such rights, 'biopiracy' denoted the patents themselves, on the grounds that biological material should remain freely reproducible as a common resource.

Under state pressure to become more 'demand sensitive', public-sector research establishments (PSREs) moved towards a more business-oriented organisational culture. This blurring of the public-private boundary became an imperative for PSREs, not just an opportunity. As some governments reduced core funding for research, public-sector scientists underwent pressure to seek greater funds from private sources. Moreover, some public funding was shifted from PSREs to universities, which more rapidly expanded into new areas and which more readily utilised short-term funding, e.g. by employing contract researchers. Core funding was reduced or transferred to output financing, i.e. dependent upon competitive bidding for specific projects. In the agro-food sector, these pressures stimulated a shift in priorities from agronomic methods to molecular-level research seeking patentable knowledge. These shifts undermined the public-service roles of PSREs and their public credibility as independent experts, especially when risk controversy arose (Levidow et al. 2002).

'Risk-based regulation'

The controversy over GM crops and foods was intensified by neoliberal regulatory frameworks. For many years, some experts and regulatory officials had anticipated that GM crops could generate herbicide-tolerant weeds or pesticide-tolerant pests, thus complicating crop-protection methods.

But official EU risk assessments classified such effects as merely normal 'agronomic problems' rather than as harms that should be considered as necessary components of the risk-assessment methodology. This normative judgement accepted the hazards of intensive monoculture, while also conceptually homogenising the agricultural environment as a production site for standard commodity crops (Levidow and Carr 1996). This regulatory framework complemented a wider project to reconstruct Europe as a 'smooth space' for

freely exchanging goods within the internal market, which remodelled society and environment according to a free-market model (Barry 2001).

Thus early EU regulatory procedures incorporated the neoliberal assumptions of agricultural biotechnology promoters. Under 'risk-based regulation', societal decisions were reduced to a case-by-case approval of GM products within a narrow definition of technical risk. Moreover, scientific ignorance was institutionalised and portrayed as scientific knowledge, especially through the refusal or failure to design risk research appropriately, as well as through character assassination of scientists who attempted to do so (Levidow 2002). This 'risk' framework complemented the wider aim to industrialise European agriculture. Regulatory procedures authorised 'safe' GM products, which could then enter the EU internal market as extra options for farmers. They would have the free choice to buy more efficient inputs for global competitiveness. As unwitting consumers of GM food, the public were imagined to be willing supporters of what was considered a beneficial technology. Within this neoliberal model of rational market behaviour, European publics had little scope to act as citizens.

Multi-issue target

By promoting agri-biotech as an instrument of a neoliberal agenda, the EU system provoked great suspicion and opposition, which grew from the mid-1990s onwards. GM crop technology was turned into a symbol of anxiety about multiple threats: about the food chain, agro-industrial methods, unforeseen and long-term hazards, state irresponsibility and political unaccountability through globalisation. From 1998 onwards, the controversy often gained large public audiences through the mass media, as well as active involvement of many civil society groups. They took up slogans from small activist groups as well as from high-profile campaigns of large NGOs.

Together these activities developed citizens' capacities to challenge official claims and in the process created new civil society networks demanding state accountability. European citizens were told that they must accept agri-biotech, yet this imperative was transformed by civil society actors into a test of democratic accountability; public debate became a forum for deliberating societal choices (Levidow and Carr 2010). Various protest organisations and associated publics attacked the European Commission's neoliberal framing of the GM crop agenda as a ready-made, multi-issue target. Critics emphasised the above linkages within the agendas of those institutions (including the Commission) that were promoting agri-biotech. Yet proponents of the technology complained about unfair or irrational targeting; they distinguished between a benign technology and its external context or consequences.

Lesson-drawing?

In explaining the public controversy on GM crops and foods globally, the GMFuturos project diagnoses an 'institutional void', i.e. a deficient institutional capacity to address important political and cultural issues beyond those of technical risk (Macnaghten et al. 2015: 17; also Macnaghten et al., 2014). At least in the European Union, however, the fundamental problem has been arguably the converse, namely that such issues were pre-empted by institutional commitments. These were devised to further industrialise European agriculture, to extend proprietary rights to seed varieties and to define 'risk' narrowly as the definitive basis of regulation. The overall neoliberal framework provided a common target for diverse societal groups across Europe. This broad mobilisation was analogous to the pattern that has arisen in many countries of the global South, especially those studied in the GMFuturos project (India, Brazil and Mexico).

Many writers have drawn lessons from the controversy in Europe, both for the adoption of

GM products there and for the governance of other novel technologies. Some commentators have drawn dubious lessons. For example, according to one commentator: 'The easiest way for the nanotechnology community to avoid the problems experienced in the deployment of biotechnology is to provide accurate information and encourage critical, informed analyses' (McHugen 2008: 51). This appeals to a deficit model, attributing the earlier public controversy to a deficiency of publicly available information. In practice, greater public knowledge highlighted linkages between GM products and neoliberal policy agendas, thus generally increasing public opposition. (For a more detailed critique of the deficit model of science communication, see Macnaghten et al. 2015, Chapter 1, section on 'Science and Publics').

Another commonplace lesson is that the next novel technology could become 'another GM' if the public is not adequately consulted at an early stage, and that greater public involvement or deliberation could help to avoid societal conflict over technological innovations. For example, 'Given the opportunity to deliberate on such innovations, the public voice can be expected to be measured and moderate' (Gaskell 2008: 257). Notwithstanding the benefits of improved public dialogue, both of those lessons decontextualize public responses to the technology from its political-economic settings and agendas.

As a different lesson for the future, any technoscientific issue unavoidably has a political-economic dimension which can take various forms and trajectories. Power struggles arise over how to define the issues at stake, even the nature of the technology. By institutionally foreclosing these issues at an early stage, as was done for GM products in Europe, proponents provoked public controversy. Leaving the trajectory open for public deliberation has yet to be tried as a democratic experiment.

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For reports from several research projects, see the Biotechnology Policy Group pages, http://technology.open.ac.uk/cts/bpg.htm
Relevant papers are amongst those listed from 1996 onwards at http://oro.open.ac.uk/view/person/ll5.html

Author's biography

Before and during the rise of protest against genetically modified (GM) crops and foods throughout Europe, Les Levidow had the opportunity to research the conflicts and consequent regulatory changes. He studied interactions between EU institutions, member states and civil society protest. To analyse these dynamics, his research drew on interdisciplinary approaches linking perspectives from sociology, political science and especially Science and Technology Studies (STS). Through involvement in more than six research projects during a fifteen-year period (1989-2005), he attended numerous public events, organised several multi-stakeholder workshops and carried out over a hundred interviews with key actors. This included three research projects funded by the European Commission on the regulation of GM products; another Commission project on the shaping of GM innovation trajectories; and two research projects funded by the ESRC examining the UK's regulatory approach to GM crops and foods, within efforts towards EU regulatory harmonisation and within trans-Atlantic regulatory conflicts. This research provided the basis for two books (Murphy and Levidow 2006; Levidow and Carr 2010), four special issues of journals (see Carr 2002; Levidow and Carr 1996, 2000, 2005) and over thirty journal papers (see Acknowledgements section).

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