

Bio-Hegemony: The Political Economy of Agricultural Biotechnology in Argentina*

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Abstract. This paper examines relations between the state and capital in Argentina with respect to agricultural biotechnology. Argentina is one of the world's leading exporters of genetically modified (GM) crops and is a key player in the global politics of biotechnology. Whereas in other parts of the world, including other countries in Latin America, active civil societies and some governments have rejected the technology, Argentina has adopted it as a central accumulation strategy. The desirability of this strategy has been secured in material, institutional and discursive arenas of power, producing a particular expression of 'bio-hegemony'. Looking at the role of business in the political economy of agricultural biotechnology is revealing both of the extent and forms of corporate power and contributes to an understanding of hegemony in practice.

Keywords: agriculture, Argentina, biotechnology, GMOs, GM crops, soya, multinational corporations, Monsanto, Gramsci, hegemony

Introduction

As a leading cultivator and exporter of GMOs (genetically modified organisms), the politics of biotechnology in Argentina provide unique insights into conflicts over agricultural futures, contestations over corporate power, and the politics of development in Latin America. The focus of this paper is the role of agro-food corporations in the political economy of biotechnology in Argentina and in particular their role in sustaining what is termed here 'bio-hegemony'.

Argentina presents a fascinating case study for a number of reasons. First, with allies such as the United States and Canada, Argentina forms part of

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global pro-biotech coalitions and, with growing trade ties to China, is the second largest cultivator of GM crops in the world. As a proactive state in the United Nations biosafety negotiations and as a proponent of the WTO (World Trade Organisation) case brought against the European Union's GMO regulations, Argentina's domestic politics play out globally, just as global politics shape policy at the national level. Second, unlike many developing countries whose view of the technology has been informed, at least rhetorically, by concerns with food security, Argentina has embraced the technology on grounds of its export potential. This makes it an interesting case of biotechnology's potential to advance or hinder development. Third, within Latin America, the country's regulatory system is seen by many as a model to be emulated, such that what happens in Argentina could be adopted by other countries within the region. Fourth, Argentina is seen as a gateway to gain access to the rest of the continent for biotech products. Given this, the flow of non-approved GM seeds to Brazil through neighbouring Paraguay provides another interesting regional political angle. Fifth, however, Argentina is also an outlier in Latin America in terms of the lack of opposition it has encountered to the development of the technology, a fact which warrants explanation. Unrivalled support for GM technology in Argentina contrasts with the experience of Mexico, Brazil and Peru. The debate about agricultural biotechnology has been embroiled in legal battles and land invasions in the case of Brazil, outcry at instances of contamination of non-GM varieties by GM crops in Mexico, and concern about exposure of resource-poor farmers to trade with a leading GM exporter in the case of Peru's Free Trade Agreement with the United States.¹

The extent of Argentina's commitment to and acceptance of the technology, where so many other countries have rejected it or adopted a precautionary approach towards it, provides an insightful case of hegemony in practice. This analysis demonstrates the extent to which support for agricultural biotechnology as a key accumulation strategy has been secured through material, institutional and discursive means. While neo-Gramscian scholars have drawn attention to the exercise of hegemony in global politics

¹ Victor Peleaz and Wilson Schmidt, 'Social Struggles and the Regulation of Transgenic Crops in Brazil', in Kees Jansen and Sietze Vellema (eds.), *Agribusiness and Society: Corporate Responses to Environmentalism, Market Opportunities and Public Regulation* (London 2004), pp. 232–61; Elizabeth Fitting, 'The Political Uses of Culture: Maize Production and the GM Corn Debates in Mexico', *Focaal: European Journal of Anthropology*, no. 48 (2006), pp. 17–34; Wendy Jepson, 'Globalization and Brazilian Biosafety: The Politics of Scale over Biotechnology Governance', *Political Geography*, vol. 21, no. 7 (2002), pp. 905–25; Third World Network, 'US FTA likely to open Peru to GMOs?', 2 October 2006, (TWN Biosafety Information Service, Kuala Lumpur, Malaysia); Peter Newell, 'Trade and Biotechnology in Latin America: Democratization, Contestation and the Politics of Mobilization', *Journal of Agrarian Change*, vol. 8, nos. 2–3 (2008), pp. 345–76.

and scholars of Latin America have analysed it in particular country settings, this paper represents the first attempt to draw upon and develop these insights in relation to the political economy of the environment and the governance of technology in Latin America.² The research which underpins this paper combines over 27 key informant interviews with the use of a wide range of published and unpublished academic books and articles, 'grey' literatures, and media sources.³ In this sense, it represents a departure from existing analysis of the general regulatory context of biotechnology in Argentina by drawing on in-depth interviews with a range of key state and market actors in the country's 'biotech boom', aimed at capturing policy in practice and the relations of power which underpin it.⁴

Such an analysis makes important contributions to a number of debates. First, an analysis of state-business relations in one of the world's leading actors in biotechnology speaks to debates about biotechnology policy and politics, and the role of business in particular.⁵ As owners of the technology

² On neo-Gramscian approaches in general, see Stephen Gill, (ed.), *Gramsci, Historical Materialism and International Relations* (Cambridge, 1993), and Adam Morton, *Unravelling Gramsci: Hegemony and Passive Revolution in the Global Economy* (London, 2007). On the application to Latin America, see Adam Morton, 'Change within Continuity: The Political Economy of Democratic Transition in Mexico', *New Political Economy*, vol. 10, no. 2 (2005), pp. 181–202. In studies of global environmental politics, neo-Gramscian approaches have been developed by David Levy and Peter Newell, 'Business Strategy and International Environmental Governance: Toward a Neo-Gramscian Synthesis', *Global Environmental Politics*, vol. 3, no. 4 (2002), pp. 84–101. In relation to biotechnology see also Rodney Loepky, 'History, Technology and the Capitalist State: The Comparative Political Economy of Biotechnology and Genomics', *Review of International Political Economy*, vol. 12, no. 2 (2005), pp. 264–86, and Peter Andrée, 'The Genetic Engineering Revolution in Agriculture and Food: Strategies of the 'Biotech Bloc'', in David Levy and Peter Newell (eds.), *The Business of Global Environmental Governance* (Cambridge MA, 2005), pp. 135–66.

³ The breakdown of interviews so far is as follows: government officials (8), corporate officials (7), academics and analysts (6), NGOs (3), journalists (2), scientists (1). In many cases the identity of interviewees is protected in order to ensure their anonymity, given the sensitive and controversial nature of some of the interview material.

⁴ Eduardo Trigo, Daniel Chudnovsky, Eugenio Cap and Andrés López, *Los transgénicos en la agricultura argentina* (Buenos Aires, 2002); Moisés Burachik and Patricia L. Traynor 'Analysis of a National Biosafety System: Regulatory Policies and Procedures in Argentina' (International Service for National Agricultural Research, Country Report no. 63, The Hague 2002); Ana María Vara, 'Argentina GM Nation: Chances and Choices in Uncertain Times' (NYU Project on International GMO Regulatory Conflicts, New York 2005).

⁵ Robert Falkner, 'Genetic Seeds of Discord: The Transatlantic GMO Trade Conflict after the Cartagena Protocol on Biosafety', in Peter Phillips and Robert Wolfe (eds.), *Governing Food: Science, Safety and Trade* (Montreal, 2001), pp. 149–61; Dominic Glover, 'Monsanto and Smallholder Farmers: A Case Study in CSR', *Third World Quarterly*, vol. 28, no. 4 (2007), pp. 851–67; Peter Newell, 'Corporate Power and Bounded Autonomy in the Global Politics of Biotechnology', in Robert Falkner (ed.), *The International Politics of Genetically Modified Food* (Basingstoke, 2006), pp. 67–85; Peter Newell, 'Biotech Firms, Biotech Politics: Negotiating GMOs in India', *Journal of Environment and Development*, vol. 16, no. 2 (2007), pp. 183–206.

and controllers of distribution and supply chains, firms are cast as agenda-setters, private regulators, and policy enforcers in biotechnology politics, a fact which underscores the critical importance of understanding their corporate strategies and political power. Second, by focussing on the politics of biotechnology, this paper makes a contribution to an important yet understudied area of Latin American politics which increasingly plays a central part in the economic and agricultural policies of leading countries within the region.⁶ This adds to existing studies on particular crops (maize and soybean) or on specific aspects of regulation in the region (such as biosafety), by deepening our comprehension of the relations of power which shape such developments as well as determine who benefits from them.⁷ Third, by looking at state-capital relations in this particular sector, it also adds to broader literatures on business-state relations in Latin America in general and in Argentina specifically.⁸ As Ben Ross Schneider notes in the preface to his book on business associations, ‘Despite the new prominence of business in the political economy of post-reform Latin America, business politics remains a relatively neglected area of research’.⁹ If this observation is true in general terms, it is even more valid in relation to politics at the interface of technology, agricultural development, and the environment in Latin America. Studies of states’ relations with national firms can be usefully complemented by analysis of their relationships with foreign and multinational firms that increasingly dominate key sectors of agriculture and natural resource production in the political economy of Latin America.

⁶ Walter Pengue, *Agricultura industrial y transnacionalización en América Latina: ¿La transgénesis de un continente?* (Buenos Aires, 2005); Miguel Teubal and Javier Rodríguez, *Agro y alimentos en la globalización: una perspectiva crítica* (Buenos Aires, 2002); Gerardo Otero, *Food for the Few: Neoliberal Globalism and Biotechnology in Latin America* (Austin, 2008).

⁷ Fitting, ‘The Political Uses of Culture’; Volker Lehmann and Walter Pengue, ‘Herbicide Resistant Soybean: Just Another Step in a Technology Treadmill?’, *Biotechnology and Development Monitor*, no. 43 (2000), pp. 11–14; Jepson, ‘Globalization and Brazilian Biosafety’.

⁸ Jean Grugel, ‘State and Business in Neo-liberal Democracies in Latin America’, *Global Society*, vol. 12, no. 2 (1998), pp. 221–35; Ernest Bartell and Leigh Payne (eds.), *Business and Democracy in Latin America* (Pittsburgh, 1995); Francisco Durand and Eduardo Silva (eds.), *Organised Business, Economic Change and Democracy in Latin America* (Miami, 1998); Celso Garrido (ed.), *Empresarios y estado en América Latina* (México DF, 1988); Martín Schorr, *Industria y nación: poder económico, neoliberalismo y alternativas de reindustrialización en la Argentina contemporánea* (Buenos Aires, 2004); Peter Birle, *Los empresarios y la democracia en Argentina* (Buenos Aires, 1997); John Freels, ‘Industrialists and Politics in Argentina’, *Journal of Inter-American Studies and World Affairs*, vol. 12, no. 3 (1970), pp. 439–54.

⁹ Ben Ross Schneider, *Business Politics and the State in Twentieth-Century Latin America* (Cambridge, 2004).

Agricultural Biotechnology in Argentina

Argentina is now the world's second largest producer and exporter of GM crops and, with 18 million hectares under cultivation, accounts for 23 per cent of global production.¹⁰ Eleven events and seven GM crop types have been approved for commercialisation so far, the latest in August 2007, including glyphosate-resistant soybean, and herbicide and insect-resistant varieties of maize and cotton; all of them in response to evaluations requested by multinational companies.¹¹ The early adoption of GMOs meant that by 1996 the production and sale of GM soya on a commercial scale had been approved some years before the rest of the world became embroiled in deep controversy about the technology's future. By the time the Alert Network on Transgenics had been created in 1999, 75 per cent of Argentine soya was already GM.¹² Successive governments have stuck with the commitment to promote biotechnology, much to the disquiet of activists hoping for a new approach under Presidents Néstor and Cristina Kirchner.

GM soya is Argentina's most extensive GM crop comprising almost 90 per cent of the 12 million hectares planted in 2001/02 and nearly half of all Argentina's agricultural production by 2002/03.¹³ With a 7 per cent increase in the area under cultivation of GM soya for the latest season for which figures are available (2005/06), the trend looks set to continue amid rising international prices for the commodity.¹⁴ Underscoring the export-driven nature of this model, 98 per cent of soya in 2003 was exported from Argentina as beans, soy meal for animal feed and soy oil, representing about 20 per cent of Argentina's total exports by 2004.¹⁵ More importantly, it has played a key role in Argentina's economic recovery since it defaulted on its US\$ 140 billion national debt in December 2001, after which an enormous devaluation took place. As an Argentine agricultural trader commented at the time: 'The IMF should be very happy with us. Without agribusiness and oil, Argentina would never meet the surplus they are demanding.'¹⁶ The deal struck with the IMF by the Argentine government in September 2003 was

¹⁰ Clive James, *Global Status of Commercialized Biotech/GM Crops* (Ithaca, 2006).

¹¹ 90 per cent of applications for field trials have come from overseas companies: Burachik and Traynor, 'Analysis of a National Biosafety System'.

¹² Kathryn Hochstetler, 'The Multilevel Governance of GM Food in Mercosur', in Falkner (ed.), *The International Politics of Genetically Modified Food*, pp. 157–74.

¹³ Daniel Chudnovsky, *Los límites de la apertura: liberalización, reestructuración productiva y medio ambiente* (Buenos Aires, 1996).

¹⁴ 40.5 million tonnes of soya were harvested in 2005/06: see www.sagpya.mecon.gov.ar/

¹⁵ Emiliano Galli, 'De la chaucha de soja al reactor nuclear de investigación', *La Nación*, 4 January 2005.

¹⁶ Alejandro G. Elsztain, chief executive of Cresud, quoted in Vara, 'Argentina GM nation', p. 8.

based on the assumption that 40 per cent of the total repayment would come from taxes on exports of soya and its derivatives.¹⁷

The government calculated that income derived from exports could help to tackle poverty in the country. Revenues earned from taxes imposed on exports of GM soya have been used to fund assistance programmes such as the *Plan Jefes y Jefas de Hogar* which provides US\$48 a month to unemployed heads of households. Other effects sought from adopting biotechnology have been the savings from reduced pesticide use and reduced soil erosion from less intensive tilling. More critical accounts of the performance of GM crops in Argentina suggest that the record to date has been less positive if a wider range of issues is taken into account, such as evidence of increased chemical imports (such as glyphosate from China), of deforestation associated with land clearing for GM production, and the concentration of land tenure and decreasing employment amongst agricultural labourers. These aspects are discussed further below.

Nonetheless, the fact that nearly all of Argentina's GM production is for export, principally as animal feed means that, to date, it has avoided much of the public controversy surrounding the human consumption of GMOs that has characterised debates in Europe and parts of Asia in particular. Notwithstanding some debate about the pros and cons of a monocrop strategy, there has been little discussion about environmental impacts within Argentina or beyond, with the focus much more squarely on the merits of biotechnology as an economic and developmental strategy. Indeed, the Office of Biotechnology of the Secretary of Agriculture, established in 2004 to coordinate overall policy on agricultural biotechnology, developed a ten-year Strategic Plan for Agricultural Biotechnology, to run from 2005 until 2015, which reaffirmed a critical role for biotechnology as the main source of technological solutions for agricultural productivity growth in the country.¹⁸ The plan proposed creating a favourable environment for the creation and development of biotechnology-based companies, and for the consolidation of existing companies. Moreover, at a strategy-building seminar on value chains in which Argentina could be a key competitor, hosted by the Ministry of Economy in 2004, three of the five areas identified were related to biotechnology, including transgenics and bio-informatics.¹⁹ Proactive support for the technology has a much longer history, however.

¹⁷ Lilian Joensen, Stella Semino and Helena Paul, 'Argentina: A Case Study on the Impact of Genetically Engineered Soya' (Report for the Gaia Foundation, London, 2005).

¹⁸ SAgGPA, *Plan estratégico para el desarrollo de la biotecnología agropecuaria 2005–2015* (Buenos Aires, 2004): see www.sagpya.mecon.gov.ar/new/0-0/programas/biotecnologia/pdf/PE.pdf

¹⁹ Interview with participant at the meeting from INTA, 8 November 2006.

Strong state support for soya dates back to the early 1970s when educational programmes were undertaken to convince people of the health benefits of eating more soya, considered necessary in a society where the overwhelming majority of proteins are derived from meat-based sources. The background to this campaign was the balance of payments crisis at the time that meant the government was trying to reduce domestic consumption of meat and increase exports. Courses and talks in the Argentine countryside were sponsored by *Instituto Nacional de Tecnología Agropecuaria* (INTA), alongside the publication of recipe books full of potential uses of soya. This state-led effort to promote soya, working through civil society organisations, made the acceptance of GM soya two decades later easier and less contentious. Early ground in the future battle over the technology had been inadvertently secured.

Despite historically and continuing low levels of research and development in the public sector and a lack of protection and subsidies for agriculture, a key enabling condition for the adoption of GM varieties was the existence of a strong and dynamic agricultural inputs and services sector, particularly regarding seeds, which provided the local germplasm platform for the new genes. This sector was transformed by the neo-liberal reform agenda pursued by President Carlos Menem. A star pupil of the global financial community at the time, Menem oversaw wide-ranging economic liberalisation during the 1990s, with significant impacts on the transport and distribution costs affecting the agricultural sector. This included the privatisation of ports and the energy sector, and the reorganisation of the seed sector.²⁰ The balance between public and private sector research was tilted strongly towards the latter, and the diversity that characterised previous seed supply systems was replaced by a concentration of seed markets on major crops of interest to the new private players such as maize and soya. National enterprises and their commercial lines were acquired by multinational companies and licensing agreements signed which introduced GM technology to locally adapted varieties and hybrids. Seeds could then be sold as part of a technological package of seeds, pesticides and machinery. By the late 1990s, Argentina's seed market was the second largest in Latin America and one of the most significant in global terms, reaching sales of \$850 million by 1997. Argentina was thus exposed to a world seed market in which multinationals were the dominant actors.

The growing dependence on exports of agricultural products was filling the gap left by the decline in manufacturing that followed the liberalisation of the Argentine economy from the late 1970s.²¹ Menem's vision of an

²⁰ Eduardo Trigo, Daniel Chudnovsky, Eugenio Cap and Andrés López, *Los transgénicos en la agricultura argentina* (Buenos Aires, 2002).

²¹ Alejandro Grimson and Gabriel Kessler, *On Argentina and the Southern Cone: Neo-liberalism and National Imaginations* (London, 2005).

export-driven model of growth assumed a globally competitive modern agricultural sector in which biotechnology had a key part to play. Biotechnology was received as a welcome development that offered the prospect of extracting greater profits from using land more intensively but with fewer inputs, therefore reducing production costs. And because less labour would be required to farm the land with the introduction of no-till techniques (drilling seeds directly into unploughed ground), further savings could be made by shedding farm labour. There was, therefore, a strong synergy between the new GM technologies and the low or no-till practices (that were adopted in the 1990s in response to a growing soil fertility problem in some of the main farming areas of the country), as well as to adverse commodity prices on world markets. This *siembra directa* method found a perfect match with glyphosate-tolerant soybeans as a way of managing weeds and pests more effectively as well as reducing input and labour costs.²² The use of this approach grew from 4 to 15 million hectares between 1997 and 2002, of which more than half was accounted for by soybeans, according to the *Asociación Argentina de Productores de Siembra Directa* (AAPRESID).

This model has not been without its costs, however. The first is environmental. Soybeans tend to be cultivated in monocultures on large farms. This feature of the production process has been the focal point of criticisms from some environmental and rural groups in Argentina, such as Greenpeace and *Grupo Reflexión Rural*, which object to the clearing of forests to make way for soya plantations.²³ Second, the biotechnology boom in Argentina grafts onto a particular form of rural class politics where large-scale farming by wealthy landowners predominates. It is these same farmers who have adopted biotechnology most rapidly and extracted most gain. Increases in the scale of operations, enabled by the technology, has concentrated power in the hands of large landowners at the expense of smaller producers. Such impacts were foreseen and endorsed by the government. As far back as 1992, the Under-Secretary for Agriculture, Carlos Ingaramo, announced that 200,000 producers would be lost in rural areas, and that farms of less than 200 hectares would not be able to compete in global markets. An agricultural census conducted by *Instituto Nacional de Estadística y Censos* (INDEC) ten years later showed that since 1988 the number of farming units had declined by 24.5 per cent.²⁴ Critics allege that pressure on land and the huge profits to be made from the soya boom have given rise to a violent politics of dispossession, a problem acknowledged even by some

²² Eduardo Trigo et al., *Los transgénicos*.

²³ Greenpeace Argentina, 'Desmontes S.A: Quiénes están detrás de la destrucción de los últimos bosques nativos de la Argentina' (2006): available at www.greenpeace.org/raw/content/argentina/bosques/desmontes-s-a.pdf

²⁴ Joensen et al., 'Argentina'.

in government.²⁵ This has included claims of forced acquisition of land by larger farmers, who are reported in some cases to have hired armed militias to intimidate people into leaving their land.²⁶ More generally, the overvaluation of the peso during the 1990s combined with market liberalisation led to land concentration and loss of employment for many farmers amid efforts to reduce margins.

The organisation of farming lobbies reflects this politics. While the *Sociedad Rural Argentina* (SRA) and the *Asociación Argentina de Consorcios Regionales de Experimentación Agrícola* (ACREA) represent larger farming interests, those with over 2000 hectares in the case of the latter, and are supportive of the role of multinational capital in Argentina's agricultural development, the *Federación Agraria*, which represents 100,000 producers and has strong links to the cooperative system, led protests against the changes to seed laws aimed at protecting Monsanto's technology (this is discussed further below). Such differences explain why hegemony can be sustained around support for agricultural biotechnology in the midst of conflicts between different producers over access to (bio)technology. Crop biotechnology, in this sense, is one site for a broader struggle for dominance between competing fractions, of which the SRA and the *Federación Agraria* are a visible manifestation, specifically between those who have profited from the neoliberal reforms introduced by Menem and are able to compete in global markets, and those smaller producers looking to state protection and access to the means of producing the wealth generated by biotechnology.

Thus far we can see how the agricultural base of the Argentine economy and the way in which it is structured politically and economically made the adoption of crop biotechnology a relatively straightforward affair and the transition to this mode of agricultural production a smooth one for the owners of the technology. These are the base conditions from which the specific expression of agro-hegemony was possible in relation to crop biotechnology in the form of 'bio-hegemony'. 'Bio-hegemony' has been produced and sustained by an alliance of interests which includes powerful agribusiness producers and traders (such as Cargill), export-oriented elements of national Argentine capital (such as Bio Sidus, Relmo, and Don Mario), multinational biotechnology firms (such as Syngenta, Dow, and Monsanto), large commercial banks, and supportive elements within the Argentine state itself. It is this bloc which, as we will see below, has been highly successful in promoting GMOs as a critical element of an accumulation strategy and advancing their own role in delivering it.

²⁵ *Ibid.*; Report of Human Rights Ministry, 'Las "Guardias Blancas" en Santiago', 12 March 2003; www.malvenidos.com.ar/archivo/001/nota3.htm

²⁶ 'El lado criminal del boom sojero', *Vein-ti-tres*, 23 November 2006.

Corporate Power in the Politics of Biotechnology in Argentina

This section explores the power exercised by agricultural biotechnology corporations in the contemporary politics of biotechnology in Argentina through reference to their material contributions to the Argentine economy, their presence in and active shaping of the institutional deliberations of government on the issue, and their contribution to the construction and maintenance of a particular set of discourses about agricultural biotechnology. It is important to note that while for the purposes of analytical clarity these dimensions of power are discussed separately, it is their interaction and mutually reinforcing nature that gives these corporations such power in the contemporary political economy of Argentina.

Before proceeding further with an exposition of the value of the concept of hegemony in understanding these developments, it is important to differentiate the particular expression of bio-hegemony that is being analysed here from its broader location within a base of agro-hegemony that has dominated politics during previous periods in Argentina's history.²⁷ At its most general level, agro-hegemony refers to an effect of power that derives from an arrangement of material and political power that is heavily reliant on agricultural production and is clearly not unique to GM crops. It manifests itself in systematic and high levels of support for agriculture, successful deflection of challenges to the viability and desirability of an agribusiness model, and entrenched degrees of political control through the machinery of the extended state.

The centrality of agriculture to the Argentine economy means that agricultural producers will always wield significant power in Argentine politics. Competition remains, however, over which model of agriculture is most productive and best able to compete in a global market environment, and which producers are most able to deliver it. The changing nature of the structure of production means that agro-hegemony expresses itself in distinct forms which reflect the prevailing organisation of economic and political power at a particular historical moment. Export-oriented models with large agribusiness at the helm have been predominant since the 1990s. The neo-liberal reforms introduced by Carlos Menem produced new alignments in the relationship between the state and capital. The combination of structural adjustment and the privatisation of large sectors of the economy that had previously been under state control, as Jean Grugel puts it, 'dramatically altered the relations between the state and private business, both domestic and international, and changed fundamentally the access particular groups had to shaping policy in the medium and long term' in Argentina, as in other

²⁷ On the power of landowners in the first half of the twentieth century see Peter Smith, *Politics and Beef in Argentina* (New York, 1969).

parts of the region.²⁸ The growing importance of multinational seed and biotechnology firms in Argentina, noted above, brought new political actors onto the scene.

Considerable effort is continually vested in maintaining agro-hegemony, even if, as we shall see below, conflict is intense around the distribution of the wealth generated by this model. Relations between large firms, producer associations, and the state differ depending upon who is in power and where their broader constituencies of support lie. The left-leaning government of Cristina Kirchner elected in 2007, while committed entirely to the agricultural model that it has inherited, has also been subject to pressure from elements of its social base, which included the movement of the unemployed (*los piqueteros*), for example, to redistribute the wealth that exporters are accumulating from rising soya and wheat prices. This resulted in a wave of conflict sweeping the country in response to rises in taxes on agricultural exports in 2008.

Political support for agricultural biotechnology in Argentina, unprecedented within the region, has to be understood against a background of agro-hegemony as well as being one manifestation of it. The existing organisation of the system of agricultural production and widespread penetration of civil society, through schools and control of the media, created powerful enabling conditions for the adoption and promotion of biotechnology, occupying spaces where resistance to the technology has blossomed in other contexts. The financial crisis and the pressure this created to increase exports to generate revenue provided further incentives for Argentina to be at the forefront of the 'gene revolution'. External events, therefore, created conditions favourable to those elements of national and transnational capital well placed to deliver technological packages that would generate much needed export earnings. Not only does agricultural biotechnology derive from – and depend upon – the broader structure of agro-hegemony for its predominant position in the Argentine economy, it also reinforces that structure by consolidating power and wealth in the hands of political and economic elites and legitimising an export-led agribusiness model underpinned by GM technology.

It is important to emphasise that while it is difficult to conceive of the waning of agro-hegemony, given the economic and social weight of the forces which sustain it, the future role of biotechnology *per se* to support and sustain this broader model is less secure. While the country's near total dependence upon it makes it almost impossible to imagine a transition to an alternative model of production under present conditions, biotechnology, in the final analysis, represents a corporate strategy and set of technological practices that serve as a means to sustain and expand a particular model of

²⁸ Grugel, 'State and Business', p. 227.

agribusiness development. If the technology fails to realise its full potential over the long term, if consumer resistance were to be more widespread, or the social and environmental impacts of the model considered to render it economically unsustainable, other accumulation strategies would be sought. This would not necessarily imply that the purveyors of the technology would relinquish their dominant position. Rather, attempts to construct alliances and coalitions would begin afresh in order to consolidate support around a new technology able to protect agro-hegemony from internal and external challenges.

The notion of (bio) hegemony, as it is being applied here, refers to the alignment of material, institutional and discursive power in a way which sustains a coalition of forces which benefit from the prevailing model of agricultural development. In this sense it draws on notions of hegemony that derive from the work of Antonio Gramsci. For Gramsci, hegemony implies:

Not only a unison of economic and political aims, but also intellectual and moral unity ... The development and expansion of the [dominant] group are conceived of, and presented, as being the motor force of a universal expansion ... In other words, the dominant group is coordinated concretely with the general interests of the subordinate groups.²⁹

This requires the successful projection of particular interests as general interests such that the benefits and value of agricultural biotechnology acquire the status of common sense and go largely unquestioned. It is consensus around the benefits of biotechnology that binds together different fractions of capital and a diversity of firms whose interests may differ on an issue by issue basis, but whose general interests in securing a supportive political and economic environment for the technology coincide. Hence conflicts over access and ownership between national and international capitals and those whose interests are shaped by their place in the production chain are subsumed by a general desire to see a political and economic environment supportive of the development of the technology. Articulating the interests of capital in general, as opposed to specific fractions of capital, as coinciding with the accumulation strategies of states is a key function of umbrella industry coalitions.³⁰

Contrary to more pluralist views of power where absence of conflict is not equated with the exercise of power, in this account power is very much at work in the maintenance of particular framings of an issue, ensuring that

²⁹ Antonio Gramsci, *Selections from the Prison Notebooks* (New York, 1971), p. 181.

³⁰ Peter Newell, 'Technology, Food, Power: Governing GMOs in Argentina', in Jennifer Clapp and Doris Fuchs (eds.), *Agro-Food Corporations, Global Governance, and Sustainability* (Cambridge MA, 2009) pp. 253–84.

some issues remain ‘non-issues’, or to use Matthew Crenson’s phrase, that an ‘un-politics’ of agricultural biotechnology is maintained.³¹ Gramsci’s emphasis on the cultural sphere of politics is important here in understanding the discursive politics of biotechnology: the construction of the everyday acceptability of biotechnology and the lack of space given to counter-narratives in the Argentine media, as discussed below. Private sector actors have played supportive roles in public arenas and in the media, building and sustaining the case for biotechnology. In Gramscian terms, along with allies in the scientific community who often serve as ‘organic intellectuals’ for the biotechnology bloc, such business groups play a key part in creating conceptions of common sense that are closely aligned to the ‘conception of the world of the leading group’.³² The discursive power at play in rendering some aspects of (potential) debate invisible operates alongside more open attempts to maintain hegemony. Challenges from elements of civil society within Argentina and internationally have been successfully marginalised in the case of the former and overcome in the case of the latter through institutional battles won through the WTO. The result is that the question of whether and on what terms agricultural biotechnology should be adopted as a core element of economic policy, which has produced such intense social and political conflict in other countries – including elsewhere in Latin America – has continued to be a ‘non-issue’ in Argentina.

Hegemony is never complete, however. Gramsci was alert to the fact that hegemony necessarily also creates vulnerabilities, fragilities and opportunities, therefore, to resist its reach. Rather than place emphasis on the ‘static’ and ‘immobile’ in relation to social forces, he placed emphasis on a ‘relation of forces in continuous motion’ pointing to the possibilities of a ‘shift in equilibrium’.³³ In the context of Argentina, these moments manifest themselves as fractures among those sustaining the GM revolution in the country, in conflicts between political organisations representing international and national capital, for example. These inter-capital conflicts produce interesting tensions in the battle to define the interests of capital in general as opposed to those of particular fractions of capital.³⁴

There is currently a limited role for national civil society in its attempt to contest hegemonic narratives that biotechnology serves the general interests of the nation rather than particular sectoral interests. Nevertheless, international and regional resistance to GM technology has, to some extent,

³¹ Matthew Crenson, *The Un-Politics of Air Pollution* (London and Baltimore, 1971).

³² Gramsci, *Selections from the Prison Notebooks*, p. 423.

³³ Gramsci, *Selections from the Prison Notebooks*, p. 172.

³⁴ John Holloway and Sol Picciotto (eds.), *State and Capital: A Marxist Debate* (London, 1978); Peter Newell and Matthew Paterson, ‘Climate for Business: Global Warming, the State and Capital’, *Review of International Political Economy*, vol. 5, no. 4 (1998), pp. 679–703.

forced the government of Argentina to adopt strategies of compromise and to engage in delicate coalition-building around support for biotechnology in order to secure access to lucrative markets in Europe: an issue which became the centre point of the WTO panel decision discussed in more detail below.³⁵ The government has been proactive in asserting the rigour and effectiveness of its decision-making processes around biotechnology products, projecting them as an exemplar to be adopted by other governments within Latin America, and demonstrating that the means are in place to manage and minimise risks associated with the technology as a means of accommodating critics. As Peter Andrée argues, ‘Regulatory practices that place controls on industrial practices are often established in order to build consent among groups in society who are suspicious of the direction taken by the leaders of a hegemonic formation.’³⁶ By concentrating debate about the appropriate governance of the technology in political arenas where the demand for elite expertise is high and channels for public participation weak or non-existent, opportunities for fuller social contestation are minimised. This allows policy-makers to ‘displace the social confrontation about genetic engineering from a multitude of different locations to the well-defined and “controllable” space of regulatory politics’.³⁷

Although this discussion focuses on the exercise of bio-hegemony in the specific context of Argentina, taking the national politics of agricultural biotechnology as the point of reference, the relations of power which sustain hegemony around this issue draw from and reproduce forms of hegemony which exist transnationally.³⁸ Indeed, as Adam Morton argues, hegemony ‘appears as an expression of broadly based consent, manifested in the acceptance of ideas and supported by material resources and institutions which is initially established by social-class forces occupying a leading role within a state but is then projected outwards on a world scale’.³⁹ The United States continues to be the epicentre of the biotechnology revolution in terms of scientific innovation and support to industry, and successive US governments have shown themselves willing to intervene forcefully on behalf of their firms

³⁵ Newell, ‘Trade and Biotechnology in Latin America’.

³⁶ Peter Andrée, ‘The Genetic Engineering Revolution in Agriculture and Food: Strategies of the Biotech Bloc’, in David Levy and Peter Newell (eds.), *The Business of Global Environmental Governance* (Cambridge MA, 2005), p. 137–38.

³⁷ Herbert Gottweis, *Governing Molecules: The Discursive Politics of Genetic Engineering in Europe and the United States* (Cambridge MA, 1998), p. 264.

³⁸ Stephen Gill, ‘Globalisation, Market Civilisation and Disciplinary Neoliberalism’, *Millennium*, vol. 24, no. 3 (1995) pp. 399–423; William Robinson, *A Theory of Global Capitalism: Production, Class and State in a Transnational World* (Baltimore, 2004); Kees van der Pijl, *Transnational Classes and International Relations* (London, 1998).

³⁹ Morton, *Unravelling Gramsci*, p. 113.

in disputes over market access.⁴⁰ Examples below, in relation to intellectual property protection, show this to be true also in the context of Argentina. The multinational companies that play such a key role in the political economy of biotechnology in Argentina have a simultaneous presence in many other countries, they are often based in the most powerful countries in the global political economy, and they have access to multiple decision-making arenas which gives them structural advantages over the states with whom they are working and seeking to influence. The analysis below attempts to capture the ways in which these broader global political configurations have an impact upon the politics of biotechnology in Argentina and vice versa. Hegemony around this issue is neither confined to Argentina nor does it derive solely from the national context in which its consequences are being examined here.

Material Power

This section explores the first and perhaps most significant pillar of bi-hegemony: material power. This power derives from and is expressed through control over agricultural production and the technologies that enable the realisation of gains from biotechnology. As traders, exporters and employees, large biotechnology companies make a significant contribution to the capital accumulation strategies of the Argentine state through employment and taxation, and are responsible for the quotidian governance of supply chains, agricultural markets and production in the field.

Agricultural biotechnology clearly plays a central role in state economic strategy for Argentina. This was re-affirmed by the National Plan in 2005, but proactive support for the technology has a much longer history, as already noted. Figures regarding the percentage of agriculture devoted to biotechnology and the percentage of exports based on agriculture, provided above, make it abundantly clear that the material contribution of the biotechnology sector to the Argentine economy is immense. Indeed, the very nature of the approval system is structured around the export potential of the technology with a 'mirror policy' whereby only those crops already approved in Argentina's principal export markets, most notably Europe, will be commercialised. The political implications of this structure of production are apparent through, first, patterns of trade in which companies are key players and, second, the property rights they seek to secure to guarantee a return on their investment.⁴¹

⁴⁰ Gottweis, *Governing Molecules*; Peter Newell, 'Lost in Translation? Domesticating Global Policy on GMOs: Comparing India and China', *Global Society*, vol. 22, no. 1 (2008), pp. 115–36.

⁴¹ Peter Newell, 'Globalisation and the Governance of Biotechnology', *Global Environmental Politics*, vol. 3, no. 2 (2003), pp. 56–72.

Trade

The politics of biotechnology have to be understood in relation to Argentina's trade politics, within Latin America and globally. What happens in Argentina's key export markets is a significant determinant of the course of events within the country. The turn to China has been particularly important and notable in this regard. The warming of relations towards China has been gradually consolidated through increasing agricultural trade links between the two countries. When the price of soya fell in Argentina, China looked to strengthen trading ties and Argentina was well placed to increase exports to such a huge market.⁴² Business groups such as the *Cámara de la Producción, la Industria y el Comercio Argen-China*, active since 1984, have a longer history of trying to increase trade ties between the two countries. Not all firms have welcomed closer ties, however. Monsanto, for example, pressured the Argentine government to initiate a dumping case against China following the alleged dumping of imports of glyphosate, a direct threat to the company's foothold in the market. In February 2004 the government decided not to pursue the case, a decision that found support across the agricultural sector, which was concerned about antagonising a key trading partner. The interests of capital in general would not be served by pursuing a sensitive political issue with an increasingly important trading partner which was of concern to one foreign multinational, albeit an important one.

There is an interesting regional dimension to the trade politics of biotechnology. This derives from the recognised, but illegal smuggling of GM seeds, or *soja Maradona* as it is dubbed, between Argentina and Brazil via Paraguay. This has led to representations by the Brazilian government to Argentina requesting tougher measures to control this unregulated diffusion of GM seeds. Argentina claims that the seeds are meant for processing as oil in Paraguay, but are illegally bagged and sold on for direct growing in Paraguay and Brazil.⁴³ Others suggest that the use of the seeds for cultivation, rather than processing, is with the direct support of biotechnology companies for whom it is a 'logical firm strategy', as one interviewee described it.⁴⁴ There is indeed evidence of farmers from neighbouring countries being offered seeds that were not approved outside Argentina at rural fairs. Argentina, in this sense, is seen as a useful platform from which to penetrate markets in Brazil, Paraguay and Bolivia.

⁴² 'Ventas argentinas de soja a China se acelerarán', *Revista 7*, 11 November 2003; www.elpanamaamerica.com.pa/archive/11112003/finance12.shtml

⁴³ Interview with Mónica L. Pequeño Araujo, Coordinadora de Proyectos Especiales en Biotecnología, Instituto Nacional de Semillas, 24 October 2006.

⁴⁴ Interview with official from Ministry of Agriculture, November 2006.

Within the institutions of Mercosur, such as the Working Group on Environment (SGT6), despite early framings of the potential risks associated with the technology, Argentina played a lead role in vetoing the biosafety clause of a proposed draft environmental agreement. The Framework Agreement accepted in 2001 has no section at all on biosafety issues. Nevertheless, on other occasions Argentina has used its influence within Mercosur to elicit support for its stance in a conflict with a foreign firm. When Argentina called a meeting of ministers of agriculture in Mercosur in 2005 to generate backing for its position against paying Monsanto royalties on soya crops (rather than seeds), initial support was forthcoming from Brazil and Paraguay. Intense pressure in the wake of the meeting, however, led to these governments retracting their positions on the basis that they were concluding their own agreements between the private sector and Monsanto. Official Argentine sources assumed that aggressive lobbying by Monsanto on the Brazilian and Paraguayan governments concerned not to prejudice their own bargaining position by declaring support for the Argentines, was behind this about-turn.⁴⁵

An intriguing element of the *global* trade story is the case brought before the WTO dispute settlement panel by the United States and its allies, including Argentina, contesting the European Union's *de facto* moratorium on the commercial approval of GM crops. Government officials concede that Argentina was under considerable pressure to sign up to the case and to demonstrate solidarity with their larger allies in the 'Miami' group of GM exporting nations. Some elements within government were reluctant to launch an offensive against the EU, upon whom Argentina is dependent for trade and with whom it had managed to avoid trade conflicts through its 'mirror' policy described above. Although companies such as Monsanto, following the line of their headquarters in St. Louis, were keen to pursue the case, many firms in Argentina were wary of the merits of doing so. Grain and food traders such as Cargill were also reluctant, given the significance of the European market for their products.⁴⁶ The concern on the part of these elements of industry was the potential for Monsanto's more conflictual strategy to sour relations and strategic advantages for the sector as a whole.⁴⁷

Nevertheless, under pressure from powerful allies such as the United States, Argentina supported the WTO case on the grounds that securing long-term market access for the technology, identified as central to Argentina's growth strategy, trumped the concerns of grain traders who were agnostic about the technology *per se*. The state had to steer policy towards reconciling the needs

⁴⁵ Interview with official from Ministry of Agriculture, November 2006.

⁴⁶ Interview with grain trader, Cargill, October 2006.

⁴⁷ Interview with head of regulatory affairs, multinational corporation, October 2006.

of ‘capital in general’ with overall state strategy.⁴⁸ A leading figure in the *Comisión Nacional Asesora de Biotecnología Agropecuaria* (CONABIA, the central body responsible for GM approvals, and one of a team of four representatives from Argentina who attended the WTO hearings in Geneva), expressed a frustration that biotechnology firms were ‘thinking in the very short term, product by product’, and losing sight of the need to win the overall battle to secure access for biotechnology products to the European market, to ‘defend the long term political strategy that is key for Argentina’s national development’.⁴⁹ In this sense, the outcome of the case in favour of Argentina and its allies is seen as a ‘symbolic victory’, important in the longer-term perspective of securing political conditions conducive to the technology’s development, but unlikely to lead to immediate retaliatory action from the parties that brought the case because of the dependence on European markets that has been described above.⁵⁰

Property Rights

If securing regional and global market access for the products of agricultural biotechnology garners widespread support amongst business groups and the Argentine government, the issue of Intellectual Property Rights (IPRs) has caused deep divisions in this alliance. The conflict is about access to the technology and the extent to which more stringent forms of IPR protection are warranted. Despite the fact that all want to see a supportive environment for the development of crop biotechnology, the Argentine government and associations of smaller producers are keen to preserve maximum access to GM seeds for farmers, while the biotechnology multinationals want restricted access to their seeds to recover the costs associated with their development.

The leading firms argue that IPRs are key to their ability to control access to their products, yet in Monsanto’s case, the fact the firm does not have an exclusive patent for its seeds has generated an intense conflict with the government of Argentina. Monsanto originally licensed the firm Asgrow Argentina to have access to its Round-up Ready (RR) gene. When the multinational firm Nidera acquired Asgrow in the late 1980s and with it access to the gene and the right to use all Asgrow’s germplasm, it became possible to disseminate the seed widely in Argentina. In the mid-1990s, Monsanto bought Asgrow International’s grain and oilseed business, ending the free access agreement with Nidera for new breeding lines, though Nidera kept control of existing lines. In 1996 commercial authorisation was granted to

⁴⁸ Holloway and Picciotto, *State and Capital*.

⁴⁹ Interview at CONABIA, November 2006.

⁵⁰ Interview with biotechnology sector analyst, 26 October 2006.

Nidera for RR soybeans, the seeds of which were sold to farmers without purchase contracts.

When Monsanto requested an exclusive patent on RR soybean seed, it was denied on the grounds that the gene had already been released, with many plants expressing the RR gene, and hence it was no longer 'novel'.⁵¹ Since Argentina adheres to the 1978 version of the International Union for the Protection of New Varieties of Plants (UPOV) treaty which allows farmers to save seed for their own purposes, and the herbicide-resistant gene in RR soya comes from the seed, farmers are able to re-seed without paying royalties to Monsanto. This has given rise to a huge black market in *bolsa blanca* soybean seeds, which keep the price of RR soybean seed in Argentina below global market prices. Today, unofficial estimates put the figure for illegal seeds planted in Argentina at between 70 per cent and over 80 per cent.⁵²

There is a great deal at stake, economically and legally. Monsanto has sought to sign contracts with farmers regarding access to the technology. National firms such as Bio Sidus have also been pressurising the government to prevent abuses of 'farmer privilege' provisions by protecting their products.⁵³ Around this issue there is common ground with Monsanto and other multinational corporations where policy positions can be advocated by industry groups such as the *Foro Argentino de Biotecnología* (FAB) which represents both national and foreign firms. Other industry coalitions attempting to bridge the interests of foreign and national capital have not succeeded in maintaining unity, however. The strong reaction of the *Asociación de Semilleros Argentinos* (ASA) to the government's conflict with Monsanto over the issue of IPR protection, coming out in support of the foreign multinational, left many members unhappy. The fissure led many Argentine producers to create a rival seed growers' association, the *Cámara Argentina de Semilleros* (CAS), entrenching the distinctive perspectives of foreign and national firms and, according to one rural media source, 'disputing the representation of a business worth US\$800 million'.⁵⁴

Also interesting is the transnational element to this dispute. The conflict over IPRs between the Argentine state and Monsanto was driven, in part, by producer interests in the United States disgruntled with the fact they were having to pay technology fees to use Monsanto products while farmers in Argentina were apparently getting away without paying. This was keeping the

⁵¹ Interview with Maria Laura Villa Mayor, lawyer, INASE, 24 October 2006.

⁵² Interview with researcher with agricultural trade policy institute, Buenos Aires, 2 December 2006; Action Group on Erosion, Technology and Concentration, 'Terminator Seed Battle Begins: Farmers Face Billions of Dollars in Potential Costs' (2006), available at www.etcgroup.org/en/materials/publications.html?pub_id=23.

⁵³ *Ibid.*

⁵⁴ 'Lanzaron una nueva cámara semillera', *InfoCampo*, 24–30 November 2006, p. 3.

overall costs of production lower and reducing the price of soya and other products on the international markets, making them more competitive than their US counterparts. One interviewee suggested in this regard that the powerful US corn growers and soybean associations were pressuring Monsanto to toughen its stance towards illegal seed sales in Argentina.⁵⁵ Groups such as the American Soybean Association have raised these issues in the past in relation to Brazil, working closely with Monsanto, to ensure that imported soymeal is not derived from 'pirated' RR soybeans.⁵⁶

There has been significant pressure to strengthen national systems of patent protection from both the pharmaceutical and agricultural biotechnology industry, which has succeeded in bringing about changes favourable to industry. Political pressure and vast sums of money were mobilised towards pushing the Argentine Congress to loosen restrictions on what can be patented and by whom.⁵⁷ More sinister in the realm of agri-biotechnology are the repeated approaches that have been made to government officials to join Monsanto.⁵⁸ Given the discrepancy between salaries paid by multinational corporations and those earned by public officials in Argentina, such offers are a great temptation. For the company, having an employee with direct contacts and inside information about government strategy and operations is invaluable, although they also run the risk of alienating the government they are trying to outmanoeuvre by using what one official referred to as 'dirty methods'.

As in many other countries, industry lobbying is backed by pressure from the US government.⁵⁹ Argentina appears on the US government's 'watch-list' of countries which are allegedly not fulfilling their obligations under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). This inter-capital conflict among producers has created inter-state tensions, with the US Secretary of State intervening on behalf of Monsanto to make representations to the Argentine Secretary of Agriculture, Miguel Campos, about IPR protection. Campos suggested that the key alliance that exists between the United States and Argentina, as part of the Miami group in the biosafety negotiations, and as partner in the WTO case, was put at stake by such overt gestures on behalf of the company. This confrontational approach, at odds even with other producers and biotechnology firms, has provoked strong responses. In June 2005 Campos complained to a press

⁵⁵ Interview, Ministry of Agriculture, November 2006.

⁵⁶ American Soybean Association, 'South American soymeal imports frustrate U.S farmers', press release, 30 August 2002.

⁵⁷ Interview with IPR lawyer, Ministry of Agriculture, 10 November 2006.

⁵⁸ Interview material, Secretary of Agriculture, November 2006.

⁵⁹ Newell, 'Lost in Translation'.

conference that ‘Monsanto has shown that it continues to be a national embarrassment’.⁶⁰

In December 2003 Monsanto stopped selling its own seed in Argentina, and it terminated soybean research and marketing in 2004, a strategy aimed at pushing the government into negotiations about compensation and technology fees. A bill promised at the end of 2004 did not materialise following strong resistance from farmers’ groups such as the *Federación Agraria Argentina*, which represents a broad section of over 100,000 smaller producers. Monsanto’s response to the legislative stalemate has been to attempt to collect royalties by other means. Shifting venues, in June 2005 Monsanto filed lawsuits in Denmark, Spain, the United Kingdom, and the Netherlands, where it does enjoy patent protection, in order to collect royalties on imported RR soya from Argentina. A court in Madrid ruled in September 2007 that the Spanish importer Sesostris, controlled by the international commodities group Louis Dreyfus, was exempted from such payments.⁶¹ Monsanto has vowed to appeal the ruling. There is a sense on the part of government that Monsanto’s strategy is one of attrition: to draw out the legal cases since they have the funds and personnel to outlast the resistance of the government. Concluding all the cases could take at least five years (including pre-hearings, the court case and appeals), and Monsanto has access to the very best lawyers to support their claims to patent protection.⁶² It is clear, however, that the issue of property rights, as a key means of recovering value, has produced distributional conflicts between elements of national and international capital and among producer organisations that collectively support biotechnology vociferously. Such fractures have not, to date, been of a magnitude that would weaken bio-hegemony or the way in which it is projected and sustained across the arenas of power being discussed here.

Institutional Power

This section explores the second pillar of bio-hegemony, institutional power. This power derives from and is manifested in access to bureaucratic structures and decision-making procedures within the state institutions that have responsibility for governing agricultural biotechnology. It generates insights about the forms of influence that businesses exercise through formal channels and systems of representation as well as informally through social networks. Although it is often argued that business organisations are weakly developed

⁶⁰ Rachel Nellen-Stucky and François Meienberg, ‘Harvesting Royalties for Sowing Dissent? Monsanto’s Campaign against Argentina’s Patent Policy’ (Berne, 2006): available at <www.evb.ch/cm_data/Artikel_Monsanto_Soya_Arg-EU_E_final.pdf>.

⁶¹ Nicolas Misculin, ‘Monsanto loses Spanish court case on Argentine soy’, *Reuters*, 7 September 2007.

⁶² *Ibid.*

in Argentina in comparison with other countries in Latin America, I have shown elsewhere that in the case of agricultural biotechnology, there are a number of well-resourced organisations representing different, though often overlapping, sections of the business community.⁶³

Biotechnology corporations are heavily involved in formal decision-making in Argentina. This is hardly surprising given their material contribution to the economy. Both in their own right, as well as through associations such as the ASA and the FAB, they seek to ensure that their voice is heard in discussions about the formulation and implementation of policy. Their close links with government have led to accusations of a revolving door, or more severely of co-optation of leading ministers by biotechnology interests. Greenpeace Argentina, for example, went so far as to label Roberto Lavagna, a former Minister of Economy and presidential candidate, ‘Monsanto employee of the month’.⁶⁴ The fact that he founded and worked for the firm ECOLATINA, which was hired by Monsanto during the trade dispute with China, only served to fuel the activists’ claims.

Apart from formal participation on key decision-making bodies, discussed below, public and regulatory affairs personnel from biotechnology companies claim to meet with government officials from different ministries, depending on the issue, every two to three weeks. Changes to the regulatory system are discussed at length with industry representatives before key officials make a final decision. Likewise, before significant international meetings and in their wake, by way of feedback, consultations are held with companies likely to be affected by the issue under discussion. There was extensive formal and informal consultation with biotechnology corporations and seed traders, for example, prior to and during the WTO dispute with the European Union.⁶⁵ There are also meetings with associations such as the ASA prior to WTO meetings or negotiations around plant genetic resources in an attempt to build consensus positions on key issues.⁶⁶ The nature of the relationship differs from one government department to another, and the cycles of interaction are determined by broader patterns of political events. Meetings between business and government were more intense in 2000–01 in the wake of global controversies around the technology and then in the run up to the WTO panel case. What emerges from the discussion below,

⁶³ Peter Newell, ‘Technology, Food, Power’. For the argument about the weakness of business organisations in Argentina, see Schneider, *Business Politics*.

⁶⁴ Greenpeace Argentina, ‘Lavagna, el empleado del mes de Monsanto’, 13 July 2004. <http://www.greenpeace.org/argentina/bosques/lavagna-el-empleado-del-mes-d>

⁶⁵ Interview with personnel from Cargill, October 2006; interview with staff from DNMA, October 2006.

⁶⁶ Interview with Mónica L. Pequeño Araujo, Coordinadora de Proyectos Especiales en Biotecnología, Instituto Nacional de Semillas, 24 October 2006.

however, is evidence of a close and privileged relationship between those elements of capital central to the biotechnology boom and the 'globalising state bureaucrats' anxious to support them.⁶⁷ Hence, while the configuration of power among government departments may shift depending on which administration is in power and where their strategic priorities might lie, there is currently a mutually supportive relationship between the key departments within the Argentine state and the business groups discussed here which serves to reinforce bio-hegemony.

CONABIA is, in many ways, the epicentre of the approval process for agricultural biotechnology applications. It is a multi-sectoral body, wherein private and public organisations are represented. Membership and coordination have been modified with increasing input from the private sector. CONABIA is made up of three public research institutions, four public universities, six private sector associations, one consumer organisation, four representatives from *Secretaría de Agricultura, Ganadería y Pesca* (SAGPyA), and two from the Health Ministry. Companies participate through chambers and associations, such as the FAB and ASA, rather than as individual firms, often adopting common positions on the issues under discussion. Nevertheless, individuals representing those bodies come from companies such as Monsanto, Syngenta, Dow and Bayer.

Given the range of institutional actors that have a role to play in the governance of agricultural biotechnology in Argentina, it is not surprising that some firms have closer ties with some committees, departments and ministries than others. Different parts of the state also have distinct regulatory responsibilities so that on questions regarding the implementation of the Cartagena Protocol on Biosafety, which Argentina has signed but not ratified; or labelling, for example, firms work closely with the Ministry of Foreign Affairs, while the seed law requires close cooperation with INASE and the Ministry of Agriculture. The Ministry of Agriculture is described by regulatory affairs staff as being very 'pro-technology' and 'pro-production', and in this sense is very responsive to their views. Despite good relations with the Ministry of Foreign Relations, International Trade and Culture, the support of this ministry for the ratification of the Cartagena Protocol, in opposition to the Ministry of Agriculture, drew fire from the industry. In reality, though, there is not much dispute around the Protocol since Argentina has not ratified it and most officials regard it as more or less irrelevant to the day to day trade in GMOs. Predictably the pattern of interaction goes beyond the distinct positions of government departments and industry lobbies to personal relationships between government and industry

⁶⁷ Shaun Breslin, 'Reforming China's Embedded Socialist Compromise: China and the WTO', *Global Change, Peace and Security*, vol. 15, no. 3 (2003), pp. 213–29.

personnel within and beyond formal decision-making committees.⁶⁸ For example, the Secretary of Agriculture appointed in 1999 was more precautionary in his outlook towards the trade consequences of biotechnology approvals, while Roberto Lavagna as Minister of Economics under the administration of President Néstor Kirchner, perhaps for the reasons given above, was more strident.

Different parts of government also have distinct cultures of engagement with the private sector. Within INASE, the agency responsible for seed registering and commercialisation as well as plant variety protection, specific industry roles are defined by regulations. These require a seat on the board that directs the body for five private sector representatives, including one for seed producers, one for phyto-improvers, one for plant variety holders represented by the *Asociación Argentina de Protección de las Obtenciones Vegetales* (ArPOV), and two for seed buyers. Conveying the sense of an equal partnership between the public and private sectors in seed market regulation, public sector officials are entitled only to the same number of seats on the board as the private sector. Such privileged access allows firms to have direct inputs into policy-making.

Where more formal systems of private sector representation such as in INASE or CONABIA are absent, more informal dialogues, roundtables and exchanges with industry are commonplace. This happens within the *Dirección Nacional de Mercados Agroalimentarios* (DNMA), for example, which has input into decision-making about the commercial potential of particular applications and where contact with the private sector is, according to DNMA officials, ‘constant and iterative’.⁶⁹ Corporations are encouraged to submit comments and studies related to their exports. Access to commercial information is critical and corporations are obviously key ‘street-level bureaucrats’ in this sense.⁷⁰ Again, there are important differences in power and access, reflective of market share, between Cargill and other multinationals, and both the small producers and exporters and the broader associations of seed growers and farming interests such as the *Asociación de Cooperativas Argentinas* (ACA).

Food safety aspects of the technology (toxicological effects, allergenicity, nutritional value, etc.) are governed by the *Servicio Nacional de Sanidad y Calidad Agroalimentaria* (SENASA), which has a technical assessment committee regarding the use of GMOs. This receives reports and studies produced by

⁶⁸ Interview with senior regulatory affairs official of a multinational corporation, October 2006.

⁶⁹ Interview with Ruben Ciani and Federico Alais, DNMA, Sección de Comercio Internacional, 26 October 2006.

⁷⁰ Michael Lipsky, *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services* (New York, 1980).

companies on these issues, including previous information submitted as part of approvals in other countries. As with CONABIA, researchers represented on the technical assessment committee are meant to be independent of the private sector applications they are evaluating, although officials concede that some researchers inevitably do work for companies whose applications are being assessed.⁷¹ Applications are judged according to principles of substantial equivalence and methodologies promoted by the WTO-WHO Codex Alimentarius, whose task force has an Argentine representative from SENASA. Indeed, several passages of Resolution 412/02 'are directly lifted from the relevant Codex documents'.⁷² This resolution was drawn up by a committee comprising government officials, including CONABIA and the biotech and related industries represented by groups such as FAB. Here we can see evidence of a clear role for companies in 'domesticating' global policy, shaping the terms of implementation of international standards.⁷³

What is even more interesting is the extent to which those same multinationals are heavily implicated in shaping Codex standards. Corporate power exercised at the international level, therefore, serves to circumscribe the policy autonomy available to countries at the national level. At the same time, state autonomy to make use of national 'policy space' permitted within often loosely worded agreements can, in turn, be restricted by lobbying and veto roles performed by companies, who will often be expected to implement the regulations and fund the studies to prove that they have done so.⁷⁴ The global reach of multinational companies in particular, therefore, and their embeddedness within global policy networks means that not only are they better placed to outmanoeuvre commercial rivals, but also to outnumber under-resourced national governments that can often not afford to attend and effectively shape global standard-setting processes.

Just as important as formally proscribed roles, however, are the informal networks and exchanges that take place between company staff and members of government. *Charlas previas* and dialogues with government are available to those associations that are not directly represented in the key decision-making bodies. Events hosted by the organisation ArgenBio, part of the global network of 'Bio' industry associations to advance the interests of biotechnology multinationals, are important in this regard. Seminars provide an opportunity for people to come together, exchange gossip about latest

⁷¹ Interview, senior official, SENASA, November 2006.

⁷² Patrick van Zwanenburg, 'Risk Assessment Policies: Differences across Jurisdictions: Argentina' (ESTO Risk Assessment Policy Project, draft case study, April 2006), p. 20.

⁷³ Newell, 'Lost in translation?'

⁷⁴ Erik Millstone and Patrick van Zwanenburg, 'Food and Agricultural Biotechnology Policy: How Much Autonomy Can Developing Countries Exercise?', *Development Policy Review*, vol. 21, no. 5-6 (2003), pp. 655-67.

technological and political developments and changes of personnel, and seed new policy ideas. The ‘biotech breakfasts’ organised by FAB are said to have been the arena in which a number of policy initiatives were first floated and discussed, a safe space in which support for new ideas can be tested.⁷⁵

High levels of engagement between policymakers and business groups do not, of themselves, provide evidence of hegemony in practice. Examples, however, of high levels of involvement in reviewing commercial applications (even their own) and drafting key resolutions are indicative of direct influence upon policy outcomes. Privileged access, the exchange of personnel and the design of institutional mechanisms and policy processes aimed at promoting the technology also suggest a strong alignment of purposes with regard to biotechnology. As argued above, consensus around the desirability of the technology is not the same as consensus around the policies that distribute the profits it generates, or about the specific regulations which govern access and control over the technology. Within and between broad coalitions of corporate actors, each sector and firm has its own preferences which it seeks to advance when it comes to the detail of specific measures, even if agreement on the overall orientation of policy is secured. The government does not need to invite consultation or solicit representations about where the general interests of capital may lie. The details of policy and its implementation affect sectors and firms unevenly, however, and active participation in the channels available to firms, formal and informal, makes strong strategic sense.

Discursive Power

If the material contributions of biotechnology firms help to account for the degree of structural power that they have been able to exercise and institutional power provides the means to shape the details of policy, discursive power is important in deflecting challenges to biotechnology and the model of agricultural production of which it is a part, and in promoting its achievements. The third pillar of bio-hegemony, which is key to understanding the nature of the politics of agricultural biotechnology in Argentina, therefore, is discursive power. This power derives from and expresses itself in the ability to construct and reinforce dominant framings of issues. Gramsci placed significant emphasis in his work on the role of the media in normalising the perspectives and ideologies of ruling elites and thereby supporting the material base upon which their power ultimately rests. He suggests that the press constitutes ‘the most prominent and dynamic part’ in maintaining this ideological power.⁷⁶ In part, this role is played through

⁷⁵ Interviews with FAB director and other personnel, December 2006.

⁷⁶ David Forgas (ed.), *The Antonio Gramsci Reader* (New York, 2000), pp. 380–1.

managing a potentially unruly discursive terrain in a way which promotes the social acceptance of the technology. As Herbert Gottweis argues:

Any probing of the established framings of reality, such as the nature of the risks involved in genetic engineering, could potentially lead to the proliferation of new antagonisms that might trigger a crisis of the dominant rationalities justifying the process of policymaking.⁷⁷

Creating valid zones of conflict in public debate is indeed part of the construction of hegemony, of ensuring that challenges to the technology are manageable within existing structures of bureaucratic and political power. In this sense, ‘hegemony is not about the elimination of opposition; it focuses on the re-absorption of polarities into a system of “legitimate differences”’.⁷⁸

The access to and ability of firms to sponsor key mass media in Argentina plays a crucial role in generating and maintaining support for biotechnology and denying space to critical or dissenting voices. Media production routines and hierarchies of what counts as valid expertise serve to reinforce business framings of biotechnology and its benefits for Argentina. Industry coalitions concede that the media is both ‘supportive’ and ‘sensitive’ to their positions.⁷⁹ In a country where *el campo* generates powerful cultural resonances and is central to the nation’s identity, rural issues are guaranteed a high place on the political agenda and those able to promise gains in rural incomes, especially in the aftermath of a major financial crisis, are seen as national saviours rather than purveyors of a risky and untried technology in the way that they often are in Europe, for example. There is a high level of receptivity, therefore, to a media and public discourse which proclaims the benefits of agricultural biotechnology.

The hegemonic discourse in Argentina regarding agricultural biotechnology is that it represents an important, economically significant, socially beneficial, safe, and environmentally benign technology. This is sustained through government speeches and policy documents, the publicity work of individual companies and associations through seminars, conferences, press conferences, constant advertising in the media aimed at policy and public audiences, and through billboards in the countryside aimed at reaching farmers directly.⁸⁰ For reasons of space, I focus here on explaining why the media, print media in particular, cover the issue of agricultural biotechnology in the way they do, summarising key features and recurrent trends in the coverage. I briefly analyse four months of coverage of agricultural biotechnology in all sections of Argentina’s two leading newspapers, *La Nación*

⁷⁷ Gottweis, *Governing Molecules*, p. 264.

⁷⁸ *Ibid.*, p. 272.

⁷⁹ Interview with leading industry association, October 2006.

⁸⁰ SAgGPA, *Introducción a las negociaciones internacionales en biotecnología agropecuaria* (Buenos Aires, 2005).

and *Clarín*. *Clarín* is described as the most widely read newspaper in Spanish-speaking Latin America whose Sunday edition, for example, reaches up to 1.2 million readers. *La Nación*, meanwhile, described as ‘one of the most influential newspapers in the country’s history’, is read by around 800,000 people on a Sunday and around 630,000 daily.⁸¹

The analysis, conducted for the months of March through to the end of June 2008, reveals a series of dominant features of the reporting. First, the press is sensitive to the concerns of biotechnology companies and large export-oriented agricultural producers. Whole articles are devoted to highlighting their demands regarding, for example, stronger forms of IPR protection and the removal of trade barriers.⁸² Second, the coverage trumpets the value of the latest innovations in crop development and protection as stated by the companies themselves, described in one article as ‘responsible for the most formidable technological revolution that the country has had since its birth’.⁸³ More generally, emphasis is placed on the role of GM agriculture in overcoming the fiscal crisis and enhancing national development, while globally helping to tackle world hunger and climate change.⁸⁴ Third, the press aligns itself with the position of the producers in conflicts with the government, for example, over taxes on the export of GM crops.⁸⁵ This is underpinned by a series of starkly worded warnings about the dangers of a ‘state-based capitalist model’ of populist agrarian reform aimed at challenging what the government is said to view as ‘the hegemonic bloc’ of *el campo*.⁸⁶ Fourth, press reports discredit opposition to GM crops, reporting for example that consumer resistance to GMOs elsewhere in the world is

⁸¹ Data taken from the following media circulation sites: <http://www.pressreference.com/A-Be/Argentina.html>; <http://www.nationsencyclopedia.com/Americas/Argentina-MEDIA.html>.

⁸² *Clarín*, ‘Entre realidades y promesas’, Rural section, 17 May 2008; *La Nación*, ‘Una respuesta a la demanda de alimentos’, Campo section, 31 May 2008; *La Nación*, ‘El peronismo y el campo’, opinion piece, 2 April 2008.

⁸³ *Clarín*, ‘Entre los agroquímicos y también la biotecnología’, Rural section, 31 May 2008; *La Nación*, ‘La soya no es un yuyo’, main section, 2 April 2008; *La Nación*, ‘Las nuevas semillas que el mercado espera’, 24 February 2008; *La Nación*, ‘Se vienen más híbridos de maíz’, Campo section, 5 April 2008; *Clarín*, ‘Un mundo repleto de innovación’, Rural section, 12 April 2008; *La Nación*, ‘Importante avance en el cultivo de girasol’, Campo section, 21 June 2008; *La Nación*, ‘La soya no es un yuyo’, main section, 2 April 2008; *La Nación*, ‘Respeto por el campo’, opinion piece, 12 March 2008.

⁸⁴ *La Nación*, ‘El peronismo y el campo’, opinion piece, 2 April 2008; *La Nación*, ‘Proyecto agropecuario?’, opinion piece, 16 May 2008; *La Nación*, ‘Unidos no solo por la soja’, Campo section, 5 April 2008; *La Nación*, ‘El peronismo y el campo’, opinion piece, 2 April 2008; *La Nación*, ‘Una respuesta a la demanda de alimentos’, Campo section, 31 May 2008; *Clarín*, ‘Tecnología para cuidar el clima y ganar energía’, Rural section, 29 March 2008.

⁸⁵ *La Nación*, ‘Proyecto agropecuario?’, opinion piece, 16 May 2008; *La Nación*, ‘Unidos no solo por la soja’, Campo section, 5 April 2008; *La Nación*, ‘La soya no es un yuyo’, main section, 2 April 2008; ‘Respeto por el campo’, *La Nación*, opinion piece, 12 March 2008.

⁸⁶ *La Nación*, ‘El peronismo y el campo’, opinion piece, 2 April 2008.

waning in the face of rising food costs, while reiterating the global admiration which exists for Argentina's model of agricultural development.⁸⁷

There are very few dissenting voices regarding the benefits of agricultural biotechnology in the mainstream media in Argentina. The left-leaning critical *Página 12* newspaper and its associated magazine *Veintitres* have published articles which depart from the consensus, but these reach a relatively small proportion of the public, between one fifth and a third of the readership of *La Nación* and *Clarín*.⁸⁸ By contrast, heavy levels of advertising sponsorship for *La Nación* and *Clarín* from key agricultural producers help to ensure that the mainstream media remains responsive to their concerns. Each edition of the 'Campo' and 'Rural' sections is full of large adverts from Bayer, Monsanto and Syngenta, as well as a wide range of agro-chemical producers proclaiming the benefits of 'super-soja' with a muscle-bound superman soya pellet used to reinforce the point. The relationship between advertiser and client is reciprocated through sponsorship by *La Nación* and *Clarín* of the annual ExpoAgro business exhibition and trade fair. Photographs taken at such events, and featured in these supplements, line up senior government officials, heads of companies such as Monsanto, and leading journalists from the newspaper alongside one another, providing the newspaper with a way to demonstrate both its proximity to the centres of power and support for the agricultural sector.

Argentina's influential *Sociedad Rural* hosts an annual show in Buenos Aires which attracts agricultural interests from all over the country. Key leaders of farming associations, together with politicians anxious to align themselves with powerful rural lobbies, give speeches which articulate their key demands regarding support from government in the form of tax concessions and the like which are faithfully reported in *La Nación* the following day.⁸⁹ In terms of media production and the sourcing of news material, there is a hierarchy of sources to whom the press turns for information about biotechnology-related issues in Argentina. For news of latest scientific developments or to write opinion pieces, the media often come to groups such as ArgenBIO, which operates as a publicity outfit for multinational biotech firms including Monsanto and Syngenta, or directly to producer associations such as ASA, Federación Agraria, Acsoja, or the *Confederaciones Rurales Argentinas* (CRA), if not the firms themselves.⁹⁰ This is true of the mainstream daily newspapers

⁸⁷ *La Nación*, 'Apertura a los transgénicos', Campo section, 26 April 2008; *La Nación*, 'Respeto por el campo', opinion piece, 12 March 2008.

⁸⁸ *Veintitres*, 'El lado criminal del boom sojero', 23 November 2006.

⁸⁹ *La Nación*, 'Respeto por el campo', opinion piece, 12 March 2008.

⁹⁰ *La Nación*, 'Unidos no solo por la soja', Campo section, 5 April 2008; *Clarín*, 'Entre realidades y promesas', Rural section, 17 May 2008; *La Nación*, 'Una respuesta a la demanda de alimentos', Campo section, 31 May 2008; *Clarín*, 'Entre los agroquímicos y

as well as specialised magazines such as *Nuestro Campo* and *Ciencia Hoy*. Such media practices confer significant voice on ‘primary definers’, whom Anders Hansen defines as ‘those individuals and institutional representatives who are accessed in media coverage and who help frame and define not only what the issues are, but also and more importantly, the terms of reference for their discussion’.⁹¹

Rural issues also receive high levels of exposure on radio and television, in the latter case including a specialised TV channel, *La Rural*, which addresses the needs of the farming community through programmes about specific technologies and production techniques as well as broader features on issues of pressing concern, all heavily sponsored by purveyors of agricultural products wanting access to new and existing consumers. In general, therefore, across specialised and popular outlets, the mass media help to ensure that biotechnology remains a ‘non-issue’ in Argentina.

Conclusions

The case of Argentina presents a series of fascinating insights into the political economy of biotechnology and the role of hegemony in the governance of the environment and technology. Biotechnology corporations operate in an environment in which a strong state commitment to biotechnology exists alongside an almost total absence of contestation around the value of the products they produce. And yet still, through ties to other markets and through links to colleagues within the same firm but operating overseas, they are sensitised to the controversies which surround the technology. Hegemony, in this sense, needs to be continually secured, new coalitions forged, and fresh strategies adopted that accommodate the shifting nature of politics in Argentina and beyond. The pillars of hegemony which today are aligned so strongly in favour of the technology, could, in the future, be sites of more sustained conflict and upheaval.

Through their material contributions to the Argentine economy, access to the centres of decision-making, and extensive access and control over the media, the proponents and producers of agricultural biotechnology have been able to present support for the technology as a necessary and essential element of state economic strategy. At the same time, state support for biotechnology in Argentina has been unwavering in the context of an agricultural system disposed to the adoption of a technology oriented towards

también la biotecnología’ Rural section, 31 May 2008. Acsoja is the Asociación de la Cadena de la Soja.

⁹¹ Anders Hansen, *The Mass Media and Environmental Issues* (Leicester, 1993), p. xviii.

export markets, conducive to large-scale monocrop strategies, and offering the promise of reductions in labour costs and chemical inputs.

Using the concept of (bio)hegemony to understand the political economy of agricultural biotechnology has generated insights into the sources and manifestations of corporate power across the material, institutional, and discursive spheres and shown how each accounts for a distinct dimension of power, but which together produce the hegemonic effects documented in this paper. This framework has explained the startling degree of support for GM technology in Argentina, where elsewhere it has generated so much controversy; the ways in which material, institutional, and discursive power operate to entrench and reinforce support for the technology and delimit space for objections and alternative framings. But, consistent with the notion of hegemony, it was noted that support for biotechnology rests on an alignment of social and material forces which may be subject to change and for whom preservation of the broader structure of agro-hegemony takes priority over long-term commitment to a particular agricultural technology.

In an environment such as this we confront the limits of thinking critically about the implications of a model of agriculture led by multinational corporations. With material, institutional and discursive sources and forms of power so closely aligned, the policy space to reflect on the range of social and environment impacts being generated by this developmental path is extremely limited. Concessions to concerned groups have been made, but as Gramsci would argue, 'such sacrifices and such compromises cannot touch the essential ... in the decisive nucleus of economic activity', which in this case sustains 'bio-hegemony'.⁹² Although positive claims are made about the technology's potential to benefit the poor and reduce the environmental impacts of intensive agricultural development, fuller and more open forms of deliberation and public engagement about the technology and what might constitute appropriate forms of social control of it are almost impossible to envisage. If concerns about the sustainability of this trajectory of agricultural development are to register on the radar of government and business elites, it will more likely be via strong market signals, sent down supply chains or through trade restrictions imposed by other governments, rather than from within the country that some activists have dubbed '*La República Unida de la Soja*'.⁹³

⁹² Gramsci, *op.cit.* p. 212.

⁹³ Adolfo Boy, Grupo Reflexión Rural, speech at the meeting 'Enlazando Alternativas', Vienna May 2006.