Introduction

In the contemporary world, the effects of power are deepening and broadening the biotechnology revolution. Human societies have used biotechnologies in plant breeding and fermentation for possibly as long as 8,000 years. Modern biotechnologies, which range from the relatively simple tissue culture to complex ‘genetic engineering’, are now used within numerous industries.¹ Modern biotechnologies can also be combined with conventional biotechnologies to achieve outcomes that would not otherwise have been attainable, or only over a much longer time period, with the use of conventional approaches alone.² The use of modern biotechnologies is expanding particularly in agriculture, pharmaceuticals, food production, mining and bio-remediation. This expansion is being facilitated by global governance. The development and use of gene technologies is increasing particularly, supported by international institutions, universities, governments, and the corporate sector.³

Estimates of the global value of biotechnology industries vary. In 1996 in the United States, agricultural biotechnology products generated an estimated US$304 million in revenue, while biotechnology-based pharmaceuticals generated $8.6 billion. In 1997 commercialised transgenic crops were grown on 12.8 million hectares in six countries. Between 1986 and 1997 approximately 25,000 transgenic crop field trials were conducted in 45 countries.⁴ Commentators estimate that about 25 per cent of medicines used in industrialised countries are based on plants and plant derivatives, while in less industrialised countries medicinal plants are a source of primary health care and the figure is at least 75 per cent.⁵ The international agricultural biotechnology sector continues to expand despite currently high levels of consumer scepticism in

¹ Genetic engineering or gene technology, involves manipulating molecules which carry inherited information, and segments of DNA (deoxyribonucleic acid) or RNA (ribonucleic acid) within those molecules. Today segments of DNA or RNA from one type of organism can be transplanted between organisms (including plants, animals, bacteria, and viruses) to produce modified living organisms (LMOs) or genetically-modified organisms (GMOs) with new combinations of inheritable traits.

² Measures to Promote and Advance the Distribution of Benefits from Biotechnology in accordance with Article 19, UN Doc. UNEP/CBD/COP/4/21, paras.12-16.


many countries about food containing genetically-modified organisms (GMOs).  

This thesis explores the location and nature of the power that is deepening and broadening this biotechnology revolution, and which is inherent in global governance, particularly for one type of genetic resource — plant genetic resources. It argues that transnational norms, values and knowledge are important aspects of power. Discursive power, and particularly the power inherent in discourses of sustainable development, security and human rights, are a central focus of the thesis. In this regard, the thesis challenges realist, neo-realist and other structural analyses of power which focus on relative distributions of power at the level of individual states or at the global level.

Governance is defined for the purpose of the thesis as the practices, mechanisms, techniques and social institutions that influence and regulate human conduct at or from the global level. To be governable is to be a site for technological and political interventions and the exercise of power, by diverse actors. Global governance embodies fluid, co-operative and collaborative governance amongst a range of actors who have a global influence, including states and their constituent parts (including corporate agencies within states), multilateral inter-governmental institutions, multinational corporations and business associations, universities, research institutes, individuals, social movements and transnational networks of non-government organisations (NGOs) and indigenous peoples' organisations (IPOs), the media, and the global capital market. In addition to actors, other constituents of global governance include formal and informal institutions and organisations, knowledge/power networks and discourses, norms, principles, rules and decision-making procedures, and programs and practices.

In order to examine the nature of power in the global governance of plant genetic

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7 Plant genetic resources can be defined as plant components which contain functional units of heredity of actual or potential value and which determine the range of genetic variability that is available to a plant population. Plants include any part of the flowers, seeds, or genetic or reproductive materials of a flowering plant or other plant species, including conifers, cycads, ferms or fern allies, moss, liverworts, algae, fungi and lichen.


9 The use and meaning of the terms indigenous issues, populations, communities, and people[s] is not yet agreed in international law, with existing instruments and UN agencies using different terms. Indigenous peoples is the writer’s preferred term.

resources, the thesis engages with some of the ideas developed by the French political theorist, Michel Foucault, as well as more recent works by reflectivist and constructivist theorists who write within the discipline of international relations. It does so for the reasons introduced here and elaborated in the next chapter.

Drawing on Foucault's ideas, this thesis argues that power within governance and governed political communities is ubiquitous but diffuse, empowering and constraining. It is also inseparably linked with knowledge. Complex mediations of power/knowledge, or politico-epistemic practices, constitute new objects of knowledge and new subjects in relation to whom power is exercisable. Power is not state-centred but is located in numerous micro-relations. Power as a productive force can be embodied in networks of discourse and practice and is associative, conjunctive and dispersed. These are core concepts for the thesis, which argues that plant genetic resources are of increasing importance within the global political economy and global political ecology because of the power/knowledge networks contributing and responding to developments in the biotechnology sector.

The thesis argues that discourse and norms are central to power, and that there are diverse actors who exercise diffuse power in global governance. As a preliminary definition, discourses can be seen as socially embedded frameworks and matrices of thought, language, practices and rhetorical strategies, by which realities are made knowable, governable and true. Discourses can also be constitutive of identities and outcomes. Foucault defined discourses as 'practices that systematically form the objects of which they speak'. Discourses are also often overlapping, interwoven, multifaceted and contested, as explored further in Chapter Two. How they are framed or

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constructed also has important implications for governance. Which inter-govern-mental institution has primary carriage of an issue can determine the nature of the governance exercised in relation to that issue. Discourses can also include bodies of scientific knowledge and expert technical opinion. But they can also include norms, or ethical standards of ‘appropriate’ behaviour, and these can influence individual and group subjectivities. They can also be embodied in international legal and policy instruments, including binding international law such as treaties and customary inter-national law, and soft law, such as codes of practice, guidelines, standards, declarations of principles, and United Nations (UN) resolutions. Other studies have examined the role of scientific discourses in particular treaty negotiations, but this study is concerned with how broader discourses and norms of security, sustainable development and human rights influence the global governance of plant genetic resources.

The power through which norms are realised or instantiated within global governance is usually non-coercive but norms may also be enforced coercively. Foucault analysed both dominating power and productive power. He suggested that power is a ‘structure of actions’ which constrains free citizens, but which is also unstable and reversible. Power is inherent in the instruments, techniques and procedures that may be brought to bear on the actions of others. Such power can also be resisted and can give rise to ‘strategic games between liberties’, meaning that relatively free subjects can resist and reverse the exercise of power. The potential and actual exercise of coercive power pursuant to the World Trade Organization (WTO) and General Agreement on Tariffs and Trade (GATT) agreements is explored particularly in Chapter Six. Resistance is explored in Chapters Three, Four and Five.

Foucault’s archaeological and genealogical methods are used to examine the evolution of power/knowledge networks and the discourses by which the governance of plant genetic resources is effected or inhibited. By doing this the dynamics or powerful catalysts of political and legal change are revealed. Foucault’s archaeologies produce histories of thought, or archives, by focusing on the discursive, ideational structures which define the fields or domains within which actors exist, and by demonstrating how these change over time. These ideational structures can also authorise or validate the exercise of coercive power. This approach does not assume that history is a linear process of progress and development. Power conflicts contribute to the development, reorganisation and political deployment of knowledge, with political practices able to transform the conditions amenable to the emergence and functioning of particular discourses. Boundaries of truth and legitimacy can loosen following epistemic ruptures or intellectual/disciplinary shifts. Genealogies explore how configurations of power and governance have come to be, rather than taking them as a given, consistent with other

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15 Including Litfin, Ozone Discourses: Science and Politics in Global Environmental Cooperation.
critical theory approaches. This historical approach necessarily extends the time period across which discursive change has to be mapped so that influential dynamics can be revealed.

Adapting an approach developed by Shapiro, Bonham and Heradstveit, the thesis also analyses inter-state negotiations and collective decision making by assessing the relative influence of various discourses which proffer policy directions and options. This approach suggests that there is no epistemological location independent of perceptions of an issue, and that such perceptions can be understood as ‘a kind of discursive package deal that is competing for adherents’. This approach suggests also that the common distinction between ‘technical’ and ‘political’ issues cannot be sustained, as norms and values are inherent in any perception of an issue. How issues and policy options are ‘framed’ within policy discourse result in complex issues being constructed and interpreted within that frame, to the exclusion of the multiple interpretations available outside it. The question of whose ‘frame’ or ‘discursive package’ is accepted and incorporated within governance processes is also important to understanding the nature and location of power. This is addressed in the case-studies.

Chapter Two gives a brief overview of the contending frames or policy discourses advocated by diverse actors in relation to the global governance of plant genetic resources. Later chapters assess the extent to which these discourses are influential within selected institutional case-studies. The case-studies examine the negotiation of the International Undertaking on Plant Genetic Resources (IU) within the Commission on Genetic Resources for Food and Agriculture (CGRFA) in the Food and Agriculture Organization (FAO); the Draft United Nations Declaration on the Rights of Indigenous Peoples (DUNDRIP) and other UN human rights processes, the Convention on Biological Diversity (CBD) and its Cartagena Protocol on Biosafety, and selected Uruguay Round agreements administered by the WTO. The thesis thus brings discourse analysis to the study of inter-state negotiations within several international institutions.

22 In 1995 the FAO Conference endorsed a broadening of the mandate of the Commission on Plant Genetic Resources to cover all components of biodiversity of relevance for food and agriculture, and agreed that the Commission should become known officially as the Commission on Genetic Resources for Food and Agriculture. This broadened mandate brings within the Commission’s aegis domesticated animals and marine and aquatic resources.
The thesis challenges a number of conventional wisdoms which arise from more orthodox interpretations of power and global governance. In realism and neorealism, for example, states tend to be seen as rational unitary actors who seek to maximise power, and calculate their interests in terms of power.\textsuperscript{23} The most powerful states, acting unilaterally or in concert, are thought likely to have their interests met most often, given the superior attributes and resources that they can mobilise to affect outcomes. So-called ‘English school’ realism accepts this centrality of power but also recognises the importance of consent to its exercise, and the importance of norms and principles as legitimate constraints.\textsuperscript{24} In neorealism, states are seen as intent on preserving and strengthening their position relative to others in the anarchical international system. Those that are most capable in terms of power, either independently or when in coalition with others, can dominate or counterbalance the power of other states or coalitions in the international system. These approaches sees states as functionally alike, but with different capacities to assert power. Power-balancing is seen as a recurrent dynamic of the international system.\textsuperscript{25} But the inability of this ‘capability’ concept to explain various policy failures by great powers led Rosenau, Baldwin, and other transnationalists in the 1970s and 1980s to emphasise interdependence in the world order, and the need to recognise relational and interactive influence or control as a manifestation of power. This approach also recognised the plurality of power-holders and the role of non-state actors in global politics.\textsuperscript{26}

Other international relations scholars have emphasised the structural, non-state centred nature and location of power. Marxists, neo-Marxists and critical political economists, for example, locate power in the structure of production, the owners of capital or those in control of the dominant technologies in the global political economy.\textsuperscript{27} Other political economists have complicated the concept of power by analysing its components. Strange for example, saw power as embodying control over security, control over production, control over credit and control over knowledge, beliefs and ideas.\textsuperscript{28} But these approaches still see power as uni-dimensional and as enabling control and influence to be exercised to secure outcomes. Power is a capacity to act in realism, neorealism and Marxism, and in some forms of realism, a legitimate

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capacity to act. The approach taken in this thesis rather sees power as complex, inherent in structurating discourse, norms and principles, and as constitutive of macro- and micro-level subjectivities and effects. This approach goes beyond capacity and consent amongst states and rather examines the numerous locations of power and its effects. The effects of power in a Foucaultian approach include empowerment and resistance, and the constitution of interests by the interaction of global discourses with political actors at any level from the local to the global.

The thesis also does not support the suggestion that democratic, hegemonic states, guided by ideas and information from universities, bureaucracies and advocacy groups, are most likely to lead other states and international institutions in rational decision-making and ‘learning processes’. The case-studies also refute realist and neo-realist suggestions that the world order at the close of the twentieth century is ‘uni-polar’ and dominated by the United States or a concert of great powers. Nor does it support Gramscian suggestions of ‘hegemonic domination’ by configurations of states, social classes and discourses. The thesis also redresses a ‘northern’ bias in the ‘policy transfer’ literature by arguing that many innovative policy options have been actively and successfully promoted by academics, non-governmental organisations (NGOs) and quasi NGOs such as the World Conservation Union (IUCN), indigenous peoples’ organisations (IPOs) and government agencies in developing countries. The policy transfer literature has tended to almost exclusively focus on ‘north-south’ transfers of ideas and policy information. Anthony Nedley describes the failure to acknowledge that the ‘south’ has its own policy entrepreneurs as a ‘fundamental flaw’ in the literature. The implementation of the ideas and policy proposals promoted by actors in or representing ‘the south’, when embodied in international instruments, may be resisted by donor states, as examined in Chapters Three, Four and Five, but they can still influence a wide range of other actors’ approaches to problem-solving and law and policy development.

Actors’ resistance to governance options which are constructed within a particular discourse may illuminate the tensions amongst contending discourses, and may also highlight the limitations of particular governance institutions. For example, whilst sustainable development/environmental economics has become an influential discourse

32 International Union for the Conservation of Nature and Natural Resources.
within many international agreements, some of its precepts such as the internalisation of costs hitherto seen as market externalities, are resisted by some actors. This is explored in Chapter Five, where members of the Miami Group of states which are involved in the export of genetically-modified products (GM products), resisted accepting liability obligations during the negotiation of the Cartagena Protocol on Biosafety. The reluctance of some governments to recognise a right of self-determination for indigenous people[s] is explored in Chapter Three. The resistance of some governments to finalising the Farmers’ Rights compromise within the FAO’s CGRFA is explored in Chapter Four. In each of these examples a tension between a state-centred security discourse and sustainable development or human rights discourse is identified. Political tensions over applicable norms and principles are a common feature in many inter-state negotiations. These tensions may reflect attempts by states to address or maintain disparities in power amongst various actors globally, or they may result from the exercise of power and influence by domestic constituencies or transnational organisations. Government negotiating strategies in inter-governmental fora need to be distinguished from broader conduct by diverse actors within states and governments however, who may implement projects and activities consistent with norms and principles still being negotiated by government delegations at international meetings.

The thesis suggests that the exercise of power in global governance is also manifest in ‘the order of discourse’, or the way that a discourse is defined by the exclusion of ‘taboo’ content.34 Foucault focused on exclusions such as death and sex, the views of people with mental illness, and statements lacking the rituals associated with willing statements to ‘truth’. But these exclusions can be more diverse. What is accepted as the boundaries of a discourse, or the legitimate range of policy options, is determined by the influence of the power/knowledge networks that define what is legitimate and serious knowledge, and what should be considered marginal. Power is located in the depiction and construction of issues and in the conceptual framing of problems. Policy making, as occurs within governance institutions, involves the discursive construction of boundaries, inter-subjective interpretations of common issues and experiences, and contests over the ideas that motivate people to act.35 These power and knowledge boundaries are explored particularly in Chapter Five, where the exclusion of biological weapons proliferation issues from the implementation of the Convention on Biological Diversity (CBD) and the Cartagena Protocol on Biosafety is discussed. This section suggests that security discourse under the CBD does not include traditional military security issues. This indicates the fundamentally optimistic nature of the power/knowledge constructing gene technology. The effect of power/knowledge boundaries is also noted in Chapter Six where various issues have not been recognised.

34 S. Mills, Discourse p.64.
within the ‘social clause’ debate.

**Contemporary policy discourse and frames: an overview**

This thesis assumes that security, sustainable development and human rights discourses are influential within global governance. The content of these discourses are explored insofar as they are most relevant to the global governance of plant genetic resources. It is beyond the scope of this thesis to provide genealogies of these discourses, but the power/knowledge domains and social movements which have brought these discourses to prominence within global governance, and in the case of security discourse, that have ‘problematised’ it, are explored in Chapters Two, Three, Four and Five. These chapters suggest that these discourses are the result of complex histories and interactions between local and global forces, and that they continue to evolve. Security discourse legitimises the global system of nation-states and the powers that they can and/or should exercise lawfully in relation to other actors. The peace movement, academics and inter-governmental institutions continue to challenge and problematise security discourse. Debate over its scope and referents remains active, as explored in Chapter Two. The institutionalisation within the UN of the sustainable development discourse advocated by scientific networks, the popular environmental movement and networks of IPOs particularly since the 1970s is explored in Chapters Two and Five. The evolution of human rights discourse, particularly concerning the rights of indigenous peoples and gendered individuals, is examined in Chapter Three. By way of introduction here, however, a brief overview of these discourses is provided.

Various constructions of ‘security’ are relevant to the governance of plant genetic resources. Although plants are just one of the interacting components of complex ecosystems which sustain the diversity of life on earth, they make vital contributions to the maintenance of life. This is important in terms of state-centred security, common and co-operative security, and human security. There are a number of debates and concerns about the increasing use of gene technologies. Some actors argue that biological diversity and local food security may be jeopardised because export-oriented agricultural intensification, which will increasingly use GM seeds, does not guarantee local and household food security. Many NGOs are also concerned that consolidation in the agrochemical and seed industries has led to a handful of multinational corporate groups claiming broad patents in those industries, inhibiting affordable access to technology for developing countries. Access, ownership and intellectual property rights (IPR) issues for private and public sector users of genetic resources are still

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unresolved internationally, as discussed in Chapters Two, Three, Five and Six. Some who are concerned about the rapid extent to which genetically-modified crops have been planted argue that inadequate biosafety regulations and weak adherence to the 'precautionary principle' will create risks that genetically modified plants may contaminate local environments and that herbicide-resistant weeds may spread.

Contemporary representations of relevant security concepts which support urgency claims for the maintenance of plant genetic diversity are elaborated in Chapter Two. Chapters Three and Five argue that several international institutions, including the FAO and the CBD, are attempting to promote co-operative and common security by ensuring that plant genetic resource conservation activities meet the needs of inter-dependent farmers. Chapter Three argues that the Commission on Human Rights (CHR) and other UN human rights processes are more concerned with cultural survival and human security issues. Chapters Five and Six argue that the CBD and the WTO are least actively engaged with new constructions of ‘security’ but that in both institutions more traditional concepts of security through economic development are influential.

Although ‘security’ concerns are shown to be important in many of the case-studies chapters, the power/knowledge networks that advocate increasing the conservation and use of genetic resources as a strategy for sustainable development are currently a more dominant force in the global governance of plant genetic resources. One of the themes of the thesis is that although the utility and value of plant genetic resources is contested, power/knowledge networks which posit that plant genetic resources are of high sustainable development value have been most successful in furthering their views within global institutions. Proponents of the rapid expansion of gene technology industries argue that these industries can offer sustainable development and food security for the world’s billions by increasing yield and reducing agro-chemical use. The uneven spread of plant diversity, which is found mainly in tropical developing

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38 Biosafety has been rather circuitously defined as ‘the safe and environmentally sustainable use of all biological products and applications for human health, biodiversity and environmental sustainability in support of improved global food security’: Biosafety Issues related to Biotechnologies for Sustainable Agriculture and Food Security; UN Doc. CGRFA-8/99/Inf.11.

countries, and the preponderance of gene technology companies in developed economies, significantly contour sustainable development debates. However, there is a high degree of global interdependence in plant genetic resources for food and agriculture particularly, and mechanisms for promoting relatively open access to genetic resources continue to be discussed. The influence of sustainable development discourse is explored in all of the chapters.

Another dominant way in which issues associated with plant diversity and the use of plant genetic resources are framed derives from UN human rights discourse. This discourse recognises groups of rights-bearing subjects, including indigenous people(s), minorities, and gendered individuals. This discourse has been particularly important in constituting the terms of indigenous peoples' and diverse women's groups' aspirations, as expressed in international fora, and discussed in Chapters Two, Four and Five. Local communities and farmers, who are subjects within the IU and the CBD\(^\text{40}\) are not specifically 'constituted' as politicised identities by human rights discourse, and this has had implications for governance discussions within the CBD. Broad international norms of non-discrimination and racial and gender equality inform a current campaign for the better recognition of traditional knowledge and indigenous peoples' intellectual and cultural property rights in relation to plants. Many institutions, NGOs and academics who are endorsing ethical statements and professional constraints when working with indigenous peoples and their cultural and natural heritage, commonly articulate their commitments using the language of international norms and principles. In Chapters Two, Four and Five, actors' subjectivities and identities are analysed in the context of human rights discourse.

Locating the thesis amongst other studies

Foucault's concepts of archaeologies and genealogies of discourse are being applied by a growing number of theorists within the post-1980 'critical theory school' in the international relations discipline.\(^\text{41}\) In the 1980s, liberal and neorealist schools within the discipline were challenged by a range of theorists who queried the value of systematising and rationalist approaches to global politics, and who advocated the adoption of post-structural, post-modern and post-positivist approaches.\(^\text{42}\) Critical

40 As 'defined' or identified in those instruments.
theorists tend to explore ‘the decentred interplay of knowledgeable practices in history’, rather than looking to more structural features such as founding intentions, natural laws or the objective interests of social classes. They are also sceptical about ‘objective’ theorising, suggesting that empirical studies were inevitably influenced by theoretical dispositions, and that the language in which reality is represented constrains the range of possible interpretations of that reality. Critical approaches tend to focus particularly on the constituted nature of identities deriving from dominant patterns of knowledge and power, and on inter-subjective values, norms and practices. They also unsettle the notion of objectivity in domestic and international law, and analyse law as ‘ideology’ or discourse.

There is a broad and rapidly growing body of writing which analyses the politics of discourses, power/knowledge, and multiple sites of contested power, such as is developed in this thesis. Early Foucaultian discussions of security discourse included works by Keeley, and Der Derian and Shapiro. Der Derian has also written a genealogy of diplomacy, and Bartelson, a genealogy of sovereignty. Walker, Campbell and Dillon have addressed the mutually constitutive relationship between domestic and international politics, and Dillon has examined sovereignty and governmentality in the post Cold War order. Diverse feminist approaches across several


disciplines tend to agree that dominant norms, rules, forms of knowledge and discourse privilege constructed ‘male’ perspectives. Price has explored the taboo against chemical weapons using genealogical methods, and Litfin has examined how scientific knowledge functions in international negotiations about ozone protection measures. Shapiro, Bonham and Heradstveit have examined discourses and collective decision-making. George has assessed the discipline of international relations using critical theory, including Foucaultian genealogical methods. Others have developed a Foucaultian analysis of knowledge, power and discourses in developing country contexts quite distinct from European democracies. There are several Foucaultian critiques of discourses of development, the ‘Green Revolution’, ecological governmentality and environmental discourses, science, colonial discourses and race relations, amongst many others.

There have been developments in the methodologically diverse discipline of international law which in some ways parallel the intra-disciplinary debates amongst theorists of international relations. Writers within the so-called ‘new approaches to


53 Litfin, Ozone Discourses: Science and Politics in Global Environmental Cooperation.


55 George, Discourses of Global Politics: A Critical (Re)Introduction to International Relations.


international law’ (NAIL) school are concerned with deconstructing the discursive content of international law, and particularly central doctrines such as sovereignty. They seek to re-incorporate marginalised or ignored perspectives. Analytical techniques such as the creation of ‘doubles’ to demonstrate the central binaries and indeterminacies of legal language, the personalisation of international law-making, and the use of literary language in critical writings, are hallmarks of ‘Newstream’ analyses. Post-colonial and so-called ‘third world’ approaches to international law (TWAIL) are also enriching the ‘new approach’ literature on international law. There is also increasing cross-disciplinary fertilisation across law and international relations disciplines.

Several writers within the broader critical theory school, as well as others who are not critical theorists, are ‘constructivists’. Some constructivists are particularly interested in analysing how states and other actors constitute their identities, and they question the international politics which flow from changing system-level norms. Some constructivists suggest that some shifts in state behaviour, and behaviour within states, can be explained by examining the influence of changing norms on states’ assessment of their interests. For Wendt, for a discourse to be constituting it must make possible features in an agent which that agent could not otherwise have acquired. He also suggests that ideas can be structurating, and that institutionalised discourses can constrain the behaviour of the communities a discourse ‘constitutes’. Other insights from constructivists are that interests and preferences are not given but emerge through interactive processes; structures and agency are mutually constitutive; ideas, beliefs and knowledge are important influences on state decision-making and are constitutive of interests, and that normative international society is a better description for international relations than anarchy. Since constructivism focuses on the effects of

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diffuse *ideational* power in politics rather than on concentrated and material state-based power, this approach fundamentally challenges those state-centric views of *material* military, economic and political power which have dominated the discipline of international relations for decades. The influence of diffuse ideational power and changing principles and norms are discussed throughout this thesis, and it is argued that these do have constitutive effects within global governance.

Several sceptics of critical theory constructivist approaches argue that substantive demonstrations of its legitimacy are needed. Albert Yee, for example, has argued that analyses need to go beyond assessing the ‘diagnoses and legitimations carried out by discursive practices’ and ‘need to specify better where these discourses come from, how discursive practices form, and how they perform their tasks’.

Goldstein and Keohane, similarly, have argued that the reflectivist tradition has an ‘anti-empiricist bias’ and that ‘ideas can and should be examined empirically with the tools of social science’. Legro invites constructivists to consider the potency of norms, and to analyse their effects by judging their specificity (how clearly actors understand the norm), durability (how long it has had legitimacy and influence) and concordance (how widely it is accepted). He also suggests that more research needs to be done on organisational culture and the internalisation of norms, and norms that dissipate, or are ineffective, in order to better understand how norms exert their influence. This thesis ‘empirically’ responds to some of these concerns by examining the emergence and mobilisation of particular discourses and specific norms and principles within political knowledge/power networks. It examines their constitutive effects in empowering some actors and in being embodied in negotiated instruments, international projects and work programs. It also examines some states’ and non-state actors’ resistance to particular norms and principles.

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This thesis pursues a Foucaultian and constructivist approach in a subject area that has not previously been analysed in this way. There are several studies which examine biotechnologies, IPRs and international politics, but I am not aware of any other studies which examine power and the global governance of plant genetic resources and which bring Foucaultian and constructivist perspectives to the selected discourses examined. In 1991 Wiegele argued that biotechnology is likely to have a significant effect on interstate activity and the functioning of the international system, particularly in the areas of international law, commerce and war. He focused on international and national regulatory approaches to trade and arms control, and included an examination of multinational corporate activity in the biotechnology sector. This study did not examine how power/knowledge influenced the development of international governance strategies. Sally Hayward has offered a more complex analysis of the political economy of biotechnology development in Europe, drawing on Susan Strange’s theoretical framework of mutually reinforcing and interlocking structures of power (finance, production, security and knowledge). Herbert Gottweis has developed a critical theory analysis of molecular biology and genetic engineering which explains how these have become objects of political intervention in the United States and Europe since the 1930s. He assesses dominant narratives and discursive struggle over biotechnology, particularly in Europe since the 1980s. He argues that more political space has to be created for the democratic negotiation of biotechnology issues, and that policy-makers need to ensure ‘tolerance of and respect for the multiplicity of socially available policy narratives and reality interpretations in a policy field’. Unlike this thesis, which examines selected aspects of global governance, Gottweis examines state and regional laws and policies. Heather Paull has also examined ‘whose knowledge matters’ in agricultural development, arguing that political power significantly influences the cultural and economic context in which research institutions operate and promote international agricultural development.

There are numerous non-Foucaultian studies of the political economy of plants and biotechnology, and many edited collections of law and policy papers that examine debates about access to plant genetic resources, benefit-sharing, and IPRs, as cited and discussed in subsequent chapters. But this thesis analyses these policy prescriptions using a critical theory framework and demonstrates why this reveals more about global governance than do liberal institutionalist, realist and neo-realist approaches.

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Overview of thesis chapters

Chapter One explores in more detail the Foucaultian and constructivist concepts and methods that inform the thesis. It also identifies similarities and differences between Foucaultian constructivism, and its study of the nature and location of power in the governance of plant genetic resources, and realist and liberal institutional approaches to global governance. It suggests that the study of multiple sites of power in genealogical approaches is nevertheless distinct from realists', neorealists' and some liberal institutionalists' focus on structural and state-centred power, although there has been a greater recognition of non-state actors within liberal institutionalism in recent years. It suggests that there are some similarities between the concept of 'learning' in liberal institutional theory, and the creation of disciplined subjectivities and social movements' political cultures using Foucaultian concepts. The thesis queries institutionalists' assumption that states are the primary actors of importance in global governance and that rationality guides their decision-making.

Chapter Two provides an overview of the power/knowledge networks of academics, NGOs and business associations and the discourses they have drawn on to influence, or attempt to influence, the global governance of plant genetic resources.

Chapter Three further amplifies the theoretical claims made in the next chapter about the mutually-constituting nature of discursive structures and political subjectivities. It is primarily concerned with the rights of indigenous peoples and gendered individuals because politicised indigeneity and gender have been important components of the politics of plant genetic resources. This chapter examines the political effectiveness of several processes underway within the CHR and its subsidiary bodies.

Chapter Four is the first case-study of the thesis. It examines the generation and influence of discourses about the need to conserve plant genetic resources, and about access and equity regarding those resources, particularly within the FAO. It argues that a small number of biologists, agronomists and rural sociologists catalysed reform within the FAO first in the mid-1960s and again from the mid-1980s, although Farmers' Rights issues as they relate to plant genetic resource conservation and equitable benefit-sharing are still being negotiated. Various security discourses have been influential in this site. This case-study also explores micro-conflicts about conservation approaches in the FAO. The chapter further argues that the gender dimension of human rights discourses have had limited constitutive effects during the renegotiation of the IU, although the FAO as an institution is a leading inter-governmental institution addressing gender issues.

Chapter Five examines the genealogy of the CBD and selected provisions which influence the governance of plant genetic resources. It examines the discursive politics of its promotion by the IUCN, leading academic commentators and other NGOs. It also examines discourses about the political economy of plant genetic resources, and the later state-based negotiation of the treaty. Issues of conservation, intellectual property
and benefit sharing are examined. This chapter argues that military security issues such as biological and chemical weapons proliferation have not been a concern for states in this fora, although issues of biosafety have been contentious. It argues that developing countries’ sustainable development concerns have been the driving force of the CBD, both in its development and concerning its implementation. Environmental economics is an influential disciplinary language in CBD debates and decisions. Human rights issues have been relatively minor in this site, but the rights of indigenous peoples have prevailed over other human rights issues. Gender concerns were largely ignored until 1997, and are still not a dominant issue.

Chapter Six examines selected governance aspects of international trade in plant genetic resources. It explores the interaction of sustainable development discourse and multilateral environmental agreements (MEAs) with the evolving governance of international trade. It examines the role of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in governing plant-related trade. It also explores the intellectual property rights implications of the Agreement on Trade-Related Aspects of Intellectual Property Rights, including Trade in Counterfeit Goods (TRIPS) administered by the WTO75 for plants and plant-related inventions in particular. It also examines several other international trade agreements which are relevant to trade in genetically-modified (GM) products in less detail.

In this chapter, the exercise of corporate power, and discourses of economic security in the United States, Japan and Europe particularly, are shown to have been more important in the negotiation of the TRIPS agreement than for any other instrument examined in the thesis. This chapter argues that sustainable development and human rights concerns have been relatively uninfluential in this site, although this is changing.

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75 The Final Act embodying the results of the Uruguay Round of Multilateral Trade Negotiations was concluded on 15 December 1993. It was signed by more than 120 states in Marrakesh, Morocco, in April 1994. The Final Act comprises the text of the Final Act, the agreement establishing the World Trade Organization (the WTO Agreement) and its annexes, and also other Ministerial decisions and declarations. The Uruguay Round agreements came into force from 1 January 1995: ‘General Agreement on Tariffs and Trade — Multilateral Trade Negotiations (the Uruguay Round): Final Act Embodying the Results of the Uruguay Round of Trade Negotiations, December 15, 1993’, with introd. by A. Porges, International Legal Materials, vol.33, 1994, pp.1-152 at p.2. The WTO had 132 members on 22 October 1997: <http://www.wto.org>. During the Uruguay Round, parties agreed to the term Multilateral Trade Organization but this was later replaced with the term World Trade Organization in the Final Act.
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